



**COMMONWEALTH OF THE BAHAMAS
MINISTRY OF EDUCATION & TECHNICAL & VOCATIONAL TRAINING**

**PRIMARY SCHOOL MATHEMATICS
CURRICULUM GUIDELINES**

GRADES: 4-6

2022-2027

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PREFACE

The Bahamas Primary Mathematics Curriculum focuses on fundamental mathematics concepts and skills, as well as on making connections between related mathematics concepts, between mathematics and other disciplines, and between mathematics and everyday life. It also supports new learning about mathematical modelling and financial literacy. Additionally, this curriculum is designed to help students build confidence in approaching mathematics and acquire a positive attitude towards the same, learn from their mistakes, work collaboratively with others towards a shared goal, value deep thinking and making connections, and become capable and confident mathematics learners.

The curriculum, with varying definitions, is said to be a plan of the teaching-learning process that students of an academic programme are required to undergo. It includes objectives and learning outcomes, course contents, teaching methodologies and methods of assessment of learning. Since knowledge in all disciplines and fields is expanding at a fast pace and new disciplines are also emerging; it is imperative that curricula be developed and revised accordingly.

In an effort to remain current with the national mathematics standards, advances in technology and the needs of an ever-evolving society, a timespan of five (5) years has been allocated for this document. **The period 2022 - 2027 DOES NOT indicate the demise and or extinction of this document, but instead reflects the quinquennial rotation of continuous revision, monitoring and assessment of the same.**

The Bahamas Primary Mathematics syllabus has been revised and will be put into effect during the Academic Year (2021 – 2022). The revised syllabus is aligned with the rationale and aims of the National Curriculum Framework and is also addressing feedback received on the current syllabus. Below are some changes that are prominent in the revised version:

- Inclusion of the Ministry of Education vision, mission and belief statements;
- Addition of Profile of the Ideal Graduate;
- Moving from six mathematical strands to five strands as prescribed by the National Council of Teachers of Mathematics;
- Insertion of various topics for a better flow of teaching the subject;
- Alignment of topics in the Pacing Guide with the strands and objectives; and
- Placement of number of weeks/ periods and time allocation on the Pacing Guide.

It is hoped that this curriculum document, prepared by the Curriculum Team, will serve the purpose of meeting our national, social and economic needs, and it would also provide the level of competency specified in the Department of Education's Framework to make it compatible with international educational standards.

A national document of this magnitude required many hours of dialogue, research, evaluating, and editing. The development and production of the Primary School Mathematics Curriculum Guidelines could not have been made possible without the hard work, dedication, and commitment of Senior Education Officers, principals, teachers and clerical officers.

The Department of Education is grateful for the commitment, dedication, efficiency, and professionalism of the following persons who have made this achievement possible.

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THE LATE MRS. JOANNE REDHEAD

During the early 1980’s, Mrs. Redhead formed a team which travelled extensively and gathered information to assist in the development of the original Mathematics curricula for primary schools. The first draft of the completed document was released into schools in 1992 and was the guide that was used to aid the teaching of Mathematics from 1992 to 1998.

During this period, Mrs. Redhead worked continuously, and oversaw the development and production of the revised 1999 Primary Mathematics Curriculum Guidelines draft which replaced the original draft (1992 -1998). Thank you, Mrs. Redhead and may your soul find rest.

MINISTRY OF EDUCATION

VISION AND MISSION STATEMENTS

Vision

Our vision is for a Bahamian Education system that will foster academic excellence and equip students with multiple literacies that will enable them to make meaningful contributions as nation builders who are globally competitive.

Mission

The mission of the Ministry/Department of Education is to provide opportunities for all persons in The Bahamas to receive the education and training that will equip them with the necessary beliefs, attitudes, knowledge and skills required for work and life in an interdependent, ever changing world.

BELIEF STATEMENTS

We believe that:

1. the learning environment should be student centered;
2. at each grade level students should acquire specific skills to prepare them for the succeeding grade level;
3. all students should have equal opportunity to learn based on their needs, interests and abilities;
4. students should have opportunities to question, analyze, reason and make decisions as well as to develop self - confidence and greater freedom of expression;
5. all students should acquire essential survival skills enabling them to function well in society;
6. technology should be integrated into content and instruction;
7. content should be culturally relevant while still allowing a global perspective;
8. the methods used for assessing achievement should reflect the teaching and learning strategies employed in the curriculum;
9. student success is integrally linked to parental involvement and community support;
10. students will be able to communicate mathematically; and
11. students will become mathematical problem solvers.

PROFILE OF THE IDEAL GRADUATE

The **principal objective of the Bahamian education system is to develop productive citizens capable of caring for themselves and contributing positively to the national development process.** Based on its consultation with stakeholders, the Ministry of Education has developed a profile for the ideal graduate. Among other qualities, the ideal graduate should:

- ✓ possess relevant knowledge in core disciplines/learning areas to be functionally literate;
- ✓ think critically, be an innovative problem solver and show initiative;
- ✓ demonstrate creativity and innovation;
- ✓ communicate effectively and collaborate willingly;
- ✓ demonstrate flexibility and adaptability;
- ✓ utilize social skills effectively;
- ✓ appreciate Bahamian culture and utilize the appropriate cultural skills;
- ✓ work productively and diligently with high level competency;
- ✓ guide and inspire others to do their best;
- ✓ have an appropriate awareness of the forces that shape and influence his/her life and surroundings;
- ✓ exhibit civic responsibility and display behaviours that benefit the wider community;
- ✓ appreciate his/her role in and responsibility to the local community, The Bahamas, the Caribbean Region, the Commonwealth of Nations and the world;
- ✓ demonstrate integrity and ethical behaviour at all times;
- ✓ possess digital literacy, appreciate the role of technology and innovation in national development;
- ✓ display skills and competencies that reflect career and college readiness;
- ✓ possess ability to work effectively in teams; and
- ✓ embrace his/her role as an environmental steward.

RATIONALE

Mathematics is a vital component in the development of science, technology, industry, commerce, the day to day living in society/world and is essential to the quality of life of our people. Mathematics requires thinking, reasoning, and understanding of principles, thoughts, ideas, and patterns in our environment. Therefore, emphasis should be placed on the development of mathematical concepts. Its specific focus is to prepare students to explore, discuss, develop, test, and apply mathematical concepts in the further growth and development of society.

The rationale of the Mathematics Curriculum is in alignment with United Nations' Sustainable Developmental Goal Number 4, which highlights the broad area of Education. Listed below are components from the curriculum that support Goal Number 4.

- Develop critical and engaged approach towards learning;
- Make connections between their own lives and those of others throughout the world;
- Identify own learning needs for personal development;
- Impact of cognitive skills on individual earnings and on national economic growth (Hanushek and Woessmann 2008); and
- Support of technology and shared knowledge to enhance the teaching and learning of mathematics.

MATHEMATICAL EXPECTATIONS GRADES 1 – 12

A DISCUSSION

In order to understand the expectations of the mathematics curriculum more fully, the curriculum writing team offers the following mathematics processing standards to consider as you strive to reach these goals with your students/children. The mathematics processing standards incorporate the **4Cs of Learning and Innovative Skills: Critical Thinking and Problem Solving, Creativity, Collaboration and Communication**, as well as the **profile of a graduate of The Bahamas education system in the 21st century**.

1. **Students will become mathematical problem solvers.** Every Mathematics lesson should have some element of problem solving to challenge the students. There are two main types of problems: routine and non-routine. Routine problems are usually application problems and can be solved by applying an operation of a formula. We teach children to reason and think critically with these problems when we work on reading for understanding. Teaching key words such as **‘altogether means to add,’ does not lead to understanding and is an inappropriate problem solving technique**. Asking students to draw a picture of what is happening in the story helps students make connections to the concept of the operations and involves reasoning. Have students apply developing problem-solving strategies as they pose and solve problems and conduct investigations, to help deepen their mathematical understanding.

Non-routine problems tend to be more open-ended, may have more than one answer or solution and usually require a strategy to solve the problem. These problems require reasoning and not simply application of operations. A teacher with a well-balanced mathematics programme uses a combination of problems with his/her students.

2. **Students will be able to communicate mathematically.** In order for students to achieve this goal, they must be encouraged daily to communicate in class through small and large group discussions and writing. Oral and written presentations, creating their own story problems and **explaining HOW they arrived at solutions** are ideal ways to achieve this goal and are methods supported through the activities in this curriculum/resource guide.
3. **Students will develop self-confidence with Mathematics.** In order to develop self-confidence, students and teachers need to have success in Mathematics. Build on your students’ previous experiences and draw on your own.
4. **Students will learn to value Mathematics.** Students will achieve this goal over time if they see the enthusiasm for the subject. School-wide projects such as Math Day or “One Hundred Day” celebrations in primary schools and “Invention Day” in the high schools or national projects like Math at the Mall that will assist in developing this goal. Speakers with jobs that use Mathematics (which is most careers) are also helpful. Finding examples of Mathematics used properly or improperly on TV, social media and in the newspapers is another worthwhile connection.

5. **Students will be able to make connections within the field of Mathematics, and with Mathematics in the real world.** Students should understand Mathematics as a necessary set of skills and concepts for the real world; therefore, teachers are encouraged to integrate Mathematics teaching with other subjects. Also when working with one strand, use skills from other strands. For example, **Data Analysis and Probability and Number and Operations blend well together.**
6. **Students will learn to work cooperatively.** Most jobs that require a mathematical background are those where people must collaborate. Therefore, the activities in the curriculum support peer tutoring, cooperative learning, pairing of students, group projects, group presentations and activities in which each student in the class participates.
7. **Students will become more proficient in the use of technology and other mathematical tools.** While calculator and computers are the primary pieces of technology used in Mathematics, students should also learn how to use the rulers, compasses, protractors and other tools. In addition, students also need to learn which tool is appropriate for a given situation. These learning tools allow students to investigate mathematical ideas and to solve problems.

DEFINITION OF CURRICULUM TERMS

Attitudes	Way a person views something or tends to behave towards it. Mathematical attitudes include showing confidence in using mathematics, perseverance in solving problems, a positive attitude, and a willingness to work. These attitudes will enable success in the teaching and learning of mathematics.
Concepts	Scheme or plan for Mathematics. Key mathematical concepts include addition, subtraction, division, multiplication, and fractions,
Content Standards	Cover what students are to learn in various subject areas, such as Mathematics and Science.
Essential Questions	Develop foundational understandings. They provide the fundamental organizing principles that bound an inquiry and guide the development of meaningful, authentic tasks. Essential questions have several key components: • Attempts to answer essential questions and allow people to explore the connection between their personal, individual, unique experience of the world and its exterior objective, held-in-common dimensions. In exploring essential questions together, people are able to find expression for their own strongest gifts and interests at the same time that they are able to establish a sense of community with others. • Essential questions allow us to explore what knowledge is, how it came to be, and how it has changed through human history. • An essential question is always posed at the boundary of the known and the unknown. While permitting fruitful exploration of what others before us have learned and discovered, attempts to answer an essential question open up mysteries that successively reveal themselves the more we come to "know". • An essential question reaches beyond itself. It is embedded in ideals of freedom, strength, and possibility that permit people to come-to-know without becoming trapped in constructs that are unfair or no longer useful. Essential questions arise from an implicit commitment to human efficacy: to a belief that individuals can make a difference, that knowledge can both be acquired and changed. • An essential question engages the imagination in significant ways. Without imagination, we could not ask the questions that drive science forward. We would have no art, no stories, no mathematics, no philosophy. Moreover, it is questions that spark the imagination that permit young and old to journey together into unknown realms. Imagination knows no bounds, no restrictions; nor do the questions we pose when we cultivate our powers of imagination. An essential question that arises from imaginative engagement is an important way to bring teacher, student, and subject matter together in ways that enrich all three.

Overarching Goal	Outlines the intended purpose of the curriculum document. It defines the overall outcome of the curriculum, in this case the Primary Mathematics Curriculum.
Pacing Guide:	The guide lays out expectations of the material to be covered in each strand at each grade level. Additionally, it provides the timeline on how long to remain on a particular skill. In fact, the pacing guide is tied to benchmark assessments further delineating what teachers must teach and when they must teach it.
Performance Standards	Specify what levels of learning are expected.
Scope and Sequence	A map outlining the objectives for each level, showing the progression and overview of the work to be accomplished.
Scope of Work	Develops each objective with suggested content, activities, assessment and resources to facilitate and enhance the teaching/learning process.
Skills	Learned capacity to carry out pre-determined results often with the minimum time. The following skills are central to Mathematics: researching, evaluation, analysis, synthesis, application, comparing and contrasting, role-playing, interpreting, and calculating.
Standards	Outline learner outcomes and expectations for each sub-goal. They indicate student progression from one attainment level to another.
Sub-goals	Indicate the main objective for the various strands of the curriculum.
World-class Standards	Content and performances that are expected of students in other industrialized countries. This term is also attached to the movement in the United States to bring U.S. students' academic achievement and knowledge on par with students' accomplishments in the other industrialized countries.

DEFINITION OF STRANDS

The National Council of Teachers of Mathematics (NCTM) proposed five strands/standards that are content oriented. For the content standards/strands, the goals are further broken down into objectives.

Number and Operations: Deals with the proficiency of numbers and understanding of how numbers operate. It involves an understanding of how different types of numbers, such as fractions, decimals, and percent are related to each other, and how each can best be used to describe a particular situation. Further, it includes the more traditional category of school mathematics curriculum called numeration (process of counting or numbering) and thus includes the important concepts of place value, number base (decimal, multiple, binary) magnitude, approximation and estimation and calculating using the four rules. Knowing how to represent numbers, recognizing 'how many' are in a group, and using numbers to compare and represent, paves the way for grasping number theory, place value and meaning of operations and how they relate to one another. Estimation is a process that is used constantly by mathematically capable adults, and one that can be easily mastered by children. It involves an educated guess about a quantity or an intelligent prediction of the outcome of a computation. The growing use of calculators makes it more important than ever that students know when a computed answer is reasonable. The best way to make that determination is through the use of strong estimation skills. Equally important, is an awareness of the many situations in which an approximate answer is as good as, or even preferable to an exact one. Students can learn to make these judgments and use mathematics more powerfully as a result.

This strand emphasizes the understanding of numbers, number patterns, counting, and estimation. Such understanding is best developed through purposeful, concrete experiences and the use of manipulatives. These are the fundamental basis of all mathematics, and teaching this critical area is the first content standard. All students must be taught to understand numbers, ways of representing numbers, relationships among numbers, and number systems; understand meanings of operations and how they relate to one another; [and] compute fluently and make reasonable estimates. The ability to perform mental calculations and to calculate answers on paper is "essential."

Algebra: Algebra is the ability to sort, order objects or numbers, and recognize and build on simple patterns. Algebra provides the language through which one communicates the patterns in mathematics. Algebra is more than a set of procedures for manipulating symbols. It provides a way to explore, analyze, and represent mathematical concepts and ideas. Additionally, it describes relationships that are purely mathematical or ones that arise in real-world phenomena and are modeled by algebraic expressions. From the earliest age, students should be encouraged to investigate the patterns that they find in numbers, shapes, and expressions, and, by doing so, make mathematical discoveries. They should have opportunities to analyze, extend, create a variety of patterns, use pattern-based thinking to understand and represent mathematical and other real-world phenomena. The function concept is one of the most fundamental unifying ideas of modern mathematics. Students begin their study of functions in the primary grades, as they observe and study patterns. As students grow and their ability to abstract matures, students form rules, display information in a table or chart, and write equations which express the relationships they have observed. In high school, they use the more formal language of algebra to describe these relationships. Learning algebra helps students make connections in varied mathematical representations, mathematics topics, and disciplines that rely on mathematical relationships.

The Algebra strand develops student ability to recognize, represent, and solve problems involving relations among quantitative variables (unknown letter). The key algebraic models in the curriculum are linear, exponential, power, polynomial, logarithmic, rational, and periodic functions. Each algebraic model is investigated in four linked representations - verbal, graphic, numeric, and symbolic - with the aid of technology. Attention is also given to modeling with systems of equations, both linear and nonlinear, and to symbolic reasoning and manipulation.

Measurement: Accentuates the investigation of concepts such as length, area, volume, capacity, mass, time, and temperature. Students begin to learn how to measure by working with non-standard units and then progress to using the basic metric and customary units. Students also become familiar with telling and computing elapsed time (the amount of time that has passed since a particular process started). Telling time and using money link to an understanding of the number system and represent an important life skill. Measurement offers an opportunity for learning and applying other mathematics skills, including number operations, geometric ideas, statistical concepts, and functions. It highlights connections within mathematics and connections between mathematics and areas outside mathematics, such as Social Studies, Religious Studies, Science, Music, Art, and Physical Education.

Geometry and Spatial Sense: Stresses the development of students' spatial awareness through active involvement in working with two- and three-dimensional shapes. The primary goal of the Geometry and Spatial Strand is to develop visual thinking and student ability to construct, reason with, interpret, and apply mathematical models of patterns in visual and physical contexts. Geometry is a natural place for the development of students' reasoning and justification skills. The focus is on describing patterns with regard to shape, size, and location; representing patterns with drawings or coordinates; predicting changes in shapes under geometric transformations; and organizing geometric facts and relationships through deductive reasoning. Geometric ideas are useful in representing and solving problems in other areas of mathematics and in real-world situations. Geometric representations can help students make sense of area and fractions. Bar graphs and scatter plots (a graph of plotted points that show the relationship between two sets of data) can give insights about data. Some geometry skills are used in many everyday tasks, such as reading a map, describing the shape of an object, arranging furniture so that it fits in a room, or determining the amount of fabric or construction materials needed for a project

Data Analysis and Probability: Emphasizes the collection, organization, and interpretation of data. The primary role of the Data Management and Probability strand is to develop students' ability to analyze data intelligently, to recognize and measure variation, and to understand the patterns that underlie probabilistic situations. The ultimate goal is for students to understand how inferences can be made about a population by looking at a sample from that population. As children collect information about the world around them, they will find it useful to display and represent their knowledge in the form of tables and graphs. Utilizing probability, students need to understand the fundamental concepts so that they can interpret weather forecasts, avoid unfair games of chance (gambling, buying raffle tickets), and make informed decisions about traveling or going on a field trip. They should regularly be engaged in predicting and determining probabilities, often based on experiments (like flipping a coin 100 times), but eventually based on systematic counting strategies. High school students should use probability models and solve problems involving compound events and sampling. Probability is also linked to other mathematical content areas such as counting techniques (number and operation), ratios of areas and volumes (geometry), and relationships between functions and the area under their graphs (algebra, data analysis).

OVERARCHING GOAL

Students will develop self-confidence and display proficiency in logical, critical and analytical reasoning as well as become proficient in the use of technology and other mathematical tools. They will also demonstrate mastery of problem solving, communicating mathematically, working cooperatively, and learning to value mathematics while incorporating classroom experiences with real life situations.

SUB - GOALS

The Mathematics programme, as outlined in the curriculum guidelines, requires that all students in The Bahamas achieve the following:

1. Demonstrate and apply knowledge and sense of numbers, including numeration, patterns, ratios and proportions. Additionally, compute fluently and making reasonable estimates.
2. Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.
3. Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.
4. Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.
5. Collect, organize, and analyze data using statistical methods: predict results; and interpret uncertainty - using concepts of probability.

To achieve these sub - goals, all students must have varied experiences, through which they read, write, discuss, make conjecture, and test solutions to complex, practical problems.

This curriculum document is intended to foster an understanding of the “whys” of Mathematics as well as appropriately meet the current and future needs of the student population in schools across The Bahamas. The use of current research in Mathematics and a working knowledge of entry requirements for programmes at The University of The Bahamas and Colleges in the United States, Canada, Great Britain and the University of the West Indies as well as adherence to our own goals, constituted the basis used by curriculum developers to formulate the objectives/content of this document.

It is our intention that teachers and parents use this document to guide their teaching of Mathematics, supplementing it with activities from texts and other resources to help our students attain the goals that are outlined within this document.

BENCHMARKS: GRADES 1 - 3

- Recall the basic addition and subtraction facts (3 seconds or less per fact).
- Compare and order whole numbers using concrete materials, drawings and ordinals.
- Use addition and subtraction facts to solve problems.
- Use a calculator as a tool in problem solving.
- Explain the concept of tens and ones.
- Investigate the attributes of three-dimensional figures and two-dimensional shapes using concrete materials and drawings.
- Identify, extend and create linear and non-linear geometric patterns, number and measurement patterns and patterns in their environment.
- Explain the relationship between number of parts and the size of fractions.
- Explain basic operations involving whole numbers.
- Estimate and calculate sums and differences up to two digit numbers by applying strategies.
- Explain the inverse relationship between addition and subtraction.
- Use a metric ruler to measure to the nearest centimeter.
- Identify and draw points, lines and segments using rulers and straight edges.
- Estimate, measure and record the perimeter and the area of two dimensional shapes, and compare the perimeters and areas.
- Tell time accurately.
- Identify common shapes by listing properties.
- Collect, organize and analyze data using a simple bar graph.
- Interpret displays of data, present the information using mathematical terms (e.g. mean, median, mode and range).
- Relate meaningful experiences about probability.
- Solve non-routine problems by applying strategies.

BENCHMARKS: GRADES 4 - 6

By the end of grade 6, all students should know and be able to perform the following:

- Recall basic multiplication and division facts (3 seconds or less per fact)
- Estimate and calculate whole number and decimals products and quotients by applying strategies.
- Represent and explore relationships between decimals, mixed numbers, and fractions using concrete materials and drawings.
- Compare, order and represent decimals, percentages, and ratios using concrete materials and drawings.
- Estimate and calculate fraction sums, differences, and products by applying strategies.
- Apply patterning strategies to problem-solving situations.
- Explain the relationship among whole numbers, fractions, decimals, and percentages.
- Estimate and measure length, volume, area, mass, and temperature in metric units.
- Classify types of triangles, quadrilaterals, and angles by properties.
- Use mathematical language effectively to describe geometric concepts, reasoning and investigations, and coordinate systems.
- Justify and verify method chosen for calculations with whole numbers, fractions, decimals and percentages.
- Use a fraction-type calculator as a tool.
- Use processes for telling time, counting money, and measuring length, weight and temperature, using basic standard and non-standard units.
- Collect, organize and analyze data using several types of graphs and measures of central tendencies (mean, median, mode, and range)
- Make reasonable predications about the outcomes of an event using simple probability rules.
- Examine the concepts of possibility and probability.
- Decipher between pertinent and irrelevant information when solving problems.
- Solve routine and non-routine problems by applying strategies.
- Make reasonable predictions about the outcomes of an event using simple probability rules.

HOW TO USE THIS GUIDE

Mathematics is a highly interconnected and cumulative subject. The Mathematics curriculum introduces skills and concepts in sequence, which contribute to and serve as building blocks for each other across grade levels. The curriculum also gives focus to important mathematical strands that will prepare students for continued study, and problem solving at school, home, and even work settings. Instead of seeing mathematics as a set of disconnected topics, students should be able to view, understand, and appreciate the relationships among mathematical skills and concepts. When students build connections and skills, their understanding deepens and expands.

Students should have opportunities to learn mathematical skills and concepts as they progress through the grades and as such, should not spend a significant part of their instructional time reviewing mathematics content. Teachers at each grade level should know what mathematical concepts their students have already studied and will study in future grades to ensure that topics and skills taught at the present grade level are aligned with the past and perceived mathematical experiences.

The objectives at each grade level are divided into 5 strands: **Number & Operations, Algebra, Measurement, Geometry & Spatial Sense, and Data Analysis & Probability.**

While each of the five strands deal with a different area of mathematics at the respective grade levels, objectives from the strands should be integrated. For example, while teaching computation, it is natural to look at patterns and concepts from number sense. While teaching statistics, it is natural to ask questions that will require students to compute data presented in graph form.

In the Scope and Sequence, there are acronyms to advise teachers when a skill is to be introduced, developed, maintained, and advanced. The letter **I = Introduce, D = Develop, M = Maintain, and A = Advance**. Proficiency is achieved if students comprehend skills and concepts with at least 56% accuracy as stipulated by the Department of Education. Following the Scope and Sequence is a suggested pacing guide for each grade level. The pacing guide is to assist teachers in planning for the year in order to include all of the content necessary for meeting the standards in teaching mathematics. Teachers are reminded that there are 10 periods of Mathematics scheduled for the lower primary grades and 8 periods for the upper primary grades on the Time Table per week. Using the scheduled time wisely, will enable teachers to complete the content at their grade level. At the beginning of each Scope of Work are essential questions that will guide the teaching and learning of the strands. At the end of the strands, students should be able to answer all of the questions.

Teachers are not expected to teach the objectives in the order presented. Instead, teachers are encouraged to take the objectives and work them into their yearly plan in a manner **that integrates the strands with one another, and with other subjects**. There are an unlimited number of combinations and each teacher should put together lessons that allow students to make sense of the material presented. If students attain the learning objectives in the time frame given, then move on. If not, move on and use other avenues in the document that will allow students to acquire the knowledge and skills.

Teachers of grades 4 - 6 could begin the academic year with another strand other than **Number and Operations** if students would have been exposed to the skills earlier. During the period of 2005 - 2010, it has been proven (by the Primary Mathematics Unit) that students in the upper grades enjoy Measurement and Geometry and Spatial Sense Strands at the beginning of the academic year. It is not feasible to list every objective in the pages of The Scope of Work of each strand in grades K-7 of the Mathematics Curriculum. Therefore, the Scope of Work for the year in which it is introduced at subsequent grade levels is reinforced and extended.

THEORETICAL FRAMEWORK

The major theoretical framework that guides the Primary Mathematics Curriculum is the constructivist theory. Constructivism emphasizes a hands-on approach to mathematics where students are more actively involved with teachers in creating new meanings. Additionally, constructivism often utilizes collaboration and peer criticism as a way of provoking students to reach a new level of understanding. During instruction, teachers focus on having students make connections between facts and developing new understanding. Further, teachers modify their teaching strategies to students' responses which encourage students to analyze, interpret, and predict information. Teachers depend on open-ended questions for discussions and encourage extensive dialogue among students. The curriculum promotes the following:

- Acceptance of student independence and initiative;
- Utilization of interactive and physical manipulatives or materials;
- Use of cognitive terminology by teachers such as "classify," "analyze," and "create" when planning;
- Responses of students to drive lessons, shift instructional strategies, and alter content;
- Inquiry concerning students' understanding of concepts before sharing their own understanding of those concepts ;
- Dialogue of students with the teacher and with one another;
- Inquiry by asking thoughtful, open-ended questions and encourage students to ask questions of each other;
- Elaboration of students' initial responses;
- Allowance for wait time after posing questions; and
- Time for students to construct relationships and create descriptions.

PROBLEM - SOLVING

FOUR PHASES IN SOLVING A PROBLEM

In solving any problem, it helps to have a working procedure. You might want to consider this four-step procedure: *Understand, Plan, Try It, and Look Back.*

- **Understand:** Before you can solve a problem you must first understand it. Read and re-read the problem carefully to find all the clues and determine what the question is asking you to find.
 - What is the unknown?
 - What are the data?
 - What is the condition?
- **Plan:** Once you understand the question and the clues, it's time to use your previous experience with similar problems to look for strategies and tools to answer the question.
 - Do you know a related problem?
 - Look at the unknown! Try to think of a familiar problem having the same or a similar unknown.
- **Try It:** After deciding on a plan, you should try it and see what answer you come up with.
 - Can you see clearly that the step is correct?
 - Can you also prove that the step is correct?
- **Look Back:** Once you've tried it and found an answer, go back to the problem and see if you've really answered the question. Sometimes it's easy to overlook something. If you missed something check your plan and try the problem again.
 - Can you check the result?
 - Can you check the argument?
 - Can you derive the result differently?
 - Can you see it at a glance?

Problem Solving Skills in Mathematics

- Estimation and approximation
- Mental calculation
- Communication
- Use of mathematical tools
- Arithmetic manipulation
- Algebraic manipulation
- Handling data
- Choose the Operation
- Draw Conclusions
- Estimate Exact Answer
- Interpret the Remainder
- Make Generalizations
- Solving Multi-Steps Problems
- Reasonable Answers
- Sequence Events
- Too Much/Too Little Information
- Use a Table/Graph
- Identifying Relationships

Problem Solving Strategies

- Draw a Picture
- Make a Table
- Look for a Pattern
- Make an Organized List
- Try, Check, Revise
- Write a Number Sentence
- Act it Out
- Use Reasoning
- Work Backward
- Solve a Simpler Problem
- Make a Graph

BEST PRACTICES IN IMPROVING STUDENT ACHIEVEMENT IN MATHEMATICS

Best practices in mathematics focus on allowing students to be actively *doing mathematics* so that they can build and enhance their understanding of mathematical ideas. The following links will provide more information on current NCTM math standards and best practices in mathematics. Programs should provide a curriculum that is based on research findings on how best to improve student achievement in mathematics. Those findings are summarized by Grouws and Cebulla in an ERIC Digest, January 2002. Programmes should be designed to offer supplemental instruction, which expands students' exposure to mathematical skills and concepts. Strong correlations between opportunity to learn (OTL) and the mean of student achievement scores is documented in several international studies cited by Grouws and Cebulla. Other best practices identified in this study include:

- Daily problem-solving inclusive of multiple steps problems;
- Opportunities to discover and invent new knowledge;
- Opportunities for student interaction and discussion;
- Whole-class discussion following individual and group work;
- Instructional focus on number sense;
- Provision of differentiated classroom instruction using a variety of instructional methods and intervention;
- Use of manipulatives and technology;
- Use of cooperative learning strategies/peer tutoring;
- Integration of mathematics strands and other subjects;
- Use of probing and questions skills;
- Lessons that are student oriented;
- Link to prior knowledge;
- Fostering active inquiry and supportive interaction;
- Emphasizing the real life relevance of Mathematics;
- Monitoring students' progress and revise their instructional plan as needed;
- Allowing students to reason mathematically and to communicate and justify their thinking; and
- Drawing on students' discovery and creativity to keep them interested.

SUGGESTED STRATEGIES TO IMPROVE NUMERACY IN THE PRIMARY SCHOOL

- Give pre and post-tests from grades 1-6. Pre-tests are given at the beginning of the academic year and are used to assess and group students according to their needs and direct teaching practices. Teachers of grade 4 should use the Grade Level Assessment Test (GLAT) results to identify weaknesses and strengths of their students.
- Teach to the needs of each group of students during guided mathematics activities.
- Integrate mathematics across the curriculum.
- Give tests at the end of a concept or unit. This will identify students learning and the effectiveness of teacher strategies/practices
- Give post-test at the end of the school year to determine students' successes.
- Record results from the assessments in teachers' Mark Book, portfolios, and formal reports.
- Host Mathematics competitions to give students the opportunity to compete with their peers and solidify skills and concepts taught.
- Teacher training/upgrading in mathematics instruction.

ASSESSMENT STRATEGIES

The Assessment Principle

Assessment should support the learning of mathematics, furnish useful information to both teachers and students, and be more than merely a test at the end of instruction to gauge learning. It should be a part of instruction that guides teachers and enhances students' learning.

Teachers should continuously gather information about their students through questions, interviews, writing tasks and other means. They can make appropriate decisions about such matters as reviewing materials, reteaching a difficult concept, or providing something more or different for students who are struggling or need enrichment.

Assessment is the standardized process of measuring students' performance to gather information for future developmental use. At the primary school level, National Examinations are used to assess the status of the CURRICULUM to gather qualitative information that pinpoint and diagnose strengths and weaknesses. As the examinations are diagnostic in nature, for the students to excel, they must initially be exposed to all the content areas across each strand of the Mathematics curriculum as this aspect of teaching and learning is critical to their overall success. Assessment should focus on understanding as well as procedural skills. Students learn in different ways, therefore, multiple ways of assessment should be utilized.

Secondly, students must become confident in their ability to apply the skills across all of the cognitive levels of learning. Alexander Bloom (1956), identified six levels within the cognitive domain which must be acquired if students are going to fully develop their critical thinking skills. These levels range from remembering facts, as the lowest level to the creating and judging of material that is classified as the highest level. The levels and accompanying skill structures are as follows:

Remembering: Is remembering previously learned material or information. At this level, all that is required is the recall or bringing to mind the information that was previously taught.

Understand: Is the ability to grasp the meaning of material. This skill assesses the students' ability to effectively manipulate information. Mastery of this skill is shown by the students' ability to effectively:

- translate material from one form to another (words to numbers etc.),
- interpret material (explain or summarize procedures etc.), and
- estimate future trends (predicting consequences or effects and/or draw mathematical conclusions).

Learning outcomes at the comprehension level go one step beyond the simple remembering of material, and represent the lowest level of understanding.

Apply: Is the ability to use previously learned material or information in new and or concrete situations. This includes the application of such things as:

- rules
- methods
- concepts
- principles
- laws
- theories

Learning outcomes in this area require a higher level of understanding than those under **Understand**.

Analyze: Is the ability to break down material into its component parts so that its organizational structure may be understood. This includes:

- the identification of the individual parts of geometrical shapes, structures and units;
- the analysis of the relationships between parts and of parts to the whole structure or unit; and
- recognition of the organizational principles involved in the operation of the individual parts and the structure or unit as a whole.

Learning outcomes here represent a higher intellectual level than comprehension and application because they require an understanding of both the content and the structural form of the material presented.

Evaluate: Is the ability to judge the value of material (statement, novel, poem, research report etc.) for a specific purpose. The judgments are to be based on definite criteria which the student may determine or be given.

Learning outcomes in this area stress creative behaviors, with major emphasis on the formulation of new patterns or structures.

Create: Is the ability to put parts together to form a new whole. This involves the:

- assembling or creating of a graph, table, geometric shape, patterns etc.;
- organizing or arranging of a set of objects with abstract relations (scheme for classifying information etc.);
- putting together a plan of operation (research proposal); and
- production of a speech, play, recital etc.

Learning outcomes in this area are highest in the cognitive hierarchy because they contain elements of all the other categories, plus conscious value judgments based on clearly defined criteria.

BLOOM’S TAXONOMY TYPICAL TASKS CHART

- **CREATE** originate, predict, design
- **EVALUATE**.....defend, revise and measure
- **ANALYZE**..... examine, deduce and compare
- **APPLY** classify, organize and solve
- **UNDERSTAND** describe, paraphrase and summarize
- **REMEMBER** identify, select and state

LEVELS OF QUESTIONING

Additionally, national assessments expose students to various types of questions. Hence, students must develop an appreciation for answering appropriately different types of questions among which could be found the following types of questions:

- **MULTIPLE CHOICE QUESTIONS:** Questions of the four-type option type that consist of a stem with one correct answer and three distracters.
- **MATCHING QUESTIONS-ONE-TO-ONE PAIRING:** Column aligned questions in which students must match options in column ‘A’ with those in column ‘B’.
- **SHORT ANSWER / COMPLETION QUESTIONS:** Questions that require the completing of a statement or question using a single word or a well-constructed sentence, or a multi-faceted mathematical process.

- **STRUCTURED QUESTIONS:** Questions in which sub-question branches follow from a common stem with the easiest question first and the difficulty level increasing with the progression of the structure. These would include such skills as the interpretation of information from graphs and follow through questions.
- **FREE RESPONSE (ESSAY) QUESTIONS:** Questions that require explanation, discussion or calculation on material for which the examiner has not provided a pattern of response. In their response to this type of question, the students are expected to demonstrate communication, planning and organizational skills.

Exposure to the various questioning types allows for an in-depth assessment of students' knowledge on the various subject matters as well as their ability to apply critical thinking skills. Further, National Assessments promote the use of timed tests. As success in this mode requires discipline on the part of the students, continual practice in working with timed tests and quizzes throughout the school year will provide students with regular practice in working within the allocated time frames for the various components of the examination. Given continued exposure to all curriculum content areas, the different levels of the assessment objectives, the various questioning techniques and timed tests/ quizzes on a continual basis, students will be equipped with the skills and practices that are necessary to prepare them mentally and physically to confidently write National Examinations.

STRATEGIES FOR TEACHING STUDENTS WITH SPECIAL NEEDS

In Accommodating Math Students with Learning Disabilities, author Rochelle Kenyon lists the following strategies for teaching students with math-related learning disabilities:

1. Avoid memory overload. Assign manageable amounts of work as skills are learned;
2. Provide supervised practice to prevent students from practicing misconceptions and ‘misrules’;
3. Make new learning meaningful by relating practice of subskills to the performance of the whole tasks;
4. Reduce processing demands by pre-teaching component skills of algorithms and strategies;
5. Use visual and auditory examples;
6. Use real-life situations that make problems functional and applicable to everyday life.
7. Use uncluttered worksheets to avoid too much visual information;
8. Challenge critical thinking about real problems with problem solving;
9. Focus instruction on building understanding, proficiency and maintenance of mathematics;
10. Reduce note taking and writing;
11. Engage students in multiple ways of doing mathematics; and
12. Use manipulatives and technology.

PROBLEMS OF THE DAY

Students of all ages should be given the challenge to solve problems in mathematics class every day. It is only through solving problems that they will become proficient problem solvers. Therefore, to help teachers find appropriate grade level problems, in the appendix is a collection of about 100 problems for your grade level. **Some problems have the answers and for others you have the opportunity of working them out with your students.**

How you use these problems is up to the individual teacher. Below are a few suggestions:

- i. Post a Problem of the Day (POD) in your classroom every morning and let students work on it individually or in groups throughout the day and for homework. The next day, discuss the previous day's solution and post a new POD;
- ii. Start each mathematics class with a POD. Let student work on it when they finish assignments. Discuss solutions at the end of the class;
- iii. Set aside 15 minutes per day for students to work in assigned groups on the POD;
- iv. Post a POD every other day and let students work on it after they complete other class assignments;
- v. Assign a POD for homework and give extra credit to students who show evidence of attempting a solution;
- vi. Post the same POD for an entire grade level every day or every other day. Let students collect points for every problem well attempted (Which class gathers the most points?); and
- vii. Open every faculty meeting or department meeting with a POD just for fun!

Problems of the Day

Give students a problem daily. Instead of solving the problem, break down the task. This makes it easier to model all steps in the problem-solving process. Students can

- tell what the question is asking them to do
- underline key words in the question that indicate the mathematical operation to be performed
- delete extraneous information
- identify the parts in the question
- find the best problem-solving strategy and explain why it is the best
- describe two different ways a problem could have been solved
- have students develop questions from graphic information
- share student-generated questions
- ask other students to solve the problem and justify their answers

*NOTE: No matter how you use your PODs, it is imperative that there be a class discussion of the solution(s) where students present solutions with justifications.

**NOTE: It is fun to solve problems with the class when you do not know the solution in advance Try it!

Commonwealth of The Bahamas

Ministry of Education

Scope and Sequence

Primary School Mathematics

Grades K-7

**SCOPE AND SEQUENCE
MATHEMATICS CURRICULUM
NUMBER AND OPERATIONS**

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operation and make reasonable estimates.

Key: I = Introduce, D= Develop, M= Maintain, A= Advance

Objectives	Preschool	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
1. Identify and count “how many” objects are in a set.	I	D	A	A	M	M	A	A
2. Identify, count, write, and associate numerals and number words.	I	D	A	A	A	M	A	A
3. Connect number words and numerals to the quantities they represent (using various physical models).	I	D	A	A	A	M	A	M
4. Identify, write, and count using Roman Numerals.				I	D	A	D	M
5. Develop a sense of the position and degree of whole numbers and differentiate between the various classes of numbers e.g. cardinal and ordinal numbers, odd and even numbers, prime and composite, and triangular numbers etc.	I	D	M	A	D	D	A	M
6. Identify various representations of the same number /quantity and generate them by composing, and decomposing numbers.		I	D	D	M	M	M	A
7. Identify and use number values and place values within the base-ten number system.	I	D	A	A	A	M	A	M
8. Represent and compare whole numbers, decimals, and percentages.			I	A	M	M	A	M
9. Identify and represent commonly used fractions such as $\frac{1}{4}$, $\frac{1}{3}$, and $\frac{1}{2}$. and use models, benchmarks, and equivalent forms to judge the size of fractions.	I	D	D	A	M	M	A	M
10. Relate/name fractions as parts of unit wholes, as parts of a collection, as locations on number lines, and as divisions of whole numbers.			I	D	A	D	M	D
11. Identify, name/write equivalent forms of commonly used fractions, and decimals, and find percentages of different amounts.				I	D	D	A	M
12. Compare and order fractions, decimals, and percentages and find their approximate locations on a number line.				I	D	D	A	M

**SCOPE AND SEQUENCE
MATHEMATICS CURRICULUM
NUMBER AND OPERATIONS**

Sub-goal 1 Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operation and make reasonable estimates. **(Continued)**

Key: I = Introduce, D= Develop, M= Maintain, A= Advance

Objectives	Preschool	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
13. Simplify and convert fractions, decimals and percentages.				I	D	M	A	M
14. Identify, write, and convert improper fractions to mixed numbers.					I	D	A	M
15. Compare and order fractions, decimals, and percentages.				I	D	D	M	M
16. Explain the meaning of addition, subtraction, multiplication, and division and identify them with the specific vocabulary of each rule of number.	I	D	D	A	A	D	M	M
17. Use multiplication arrays to differentiate between various multiplication problems.			I	D	D	A	M	M
18. Explore positive and negative integers on a number line.						I	D	A
19. Describe integers, represent, and compare quantities with them.						I	D	A
20. Identify and differentiate between prime and composite numbers.						I	D	D
21. Find the LCM and HCF of numbers.					I	D	M	M
22. Identify and use ratios and proportions to represent quantitative relationships.					I	D	A	M
23. Use appropriately exponential notations.						I	D	D
24. Identify squares and square roots of numbers.					I	D	M	D
25. Use factors, multiples, prime factorization to solve problems.				I	D	A	M	M

**SCOPE AND SEQUENCE
MATHEMATICS CURRICULUM
NUMBER AND OPERATIONS**

Sub-goal 1 : Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates. **(Continued)**

Key: I = Introduce, D= Develop, M= Maintain, A= Advance

Objectives	Preschool	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
26. Add and subtract whole numbers, decimals, and money, and explain their effects.	I	D	D	A	A	M	A	M
27. Estimate and round numbers and use the strategies to add, subtract, multiply, and divide whole numbers, decimals and money.				I	D	A	M	M
28. Choose and use appropriate strategies to estimate the results of whole number computations and judge the reasonableness of each result.					I	D	M	A
29. Explain and demonstrate situations that entail multiplication and division, such as sharing equally and equal groupings of objects. .				I	D	D	M	A
30. Develop and use strategies for whole–number computations, with focus on addition and subtraction.		I	D	M	A	M	M	M
31. Select appropriate methods and tools for computing whole numbers: mental computation, estimation, use of calculators, paper and pencil regarding the context and nature of the computation.			I	D	M	A	A	M
32. Use a variety of methods and tools to compute, including: objects, mental computation, estimation, paper, pencil, and calculators.		I	D	M	A	M	M	A
33. Use the divisibility rule for division.						I	D	M
34. Explain how to multiply and divide whole numbers.			I	D	D	M	A	M
35. Describe and create relationships between operations, using division as the inverse of multiplication and addition the inverse of subtraction to solve problems.				I	D	M	A	M
36. Explain and use properties of operations, such as the distributives of multiplication over addition and addition over subtraction (BODMAS).						I	D	D

SCOPE AND SEQUENCE
MATHEMATICS CURRICULUM
NUMBER AND OPERATIONS

Sub-goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates. **(Continued)**

Key: I = Introduce, D= Develop, M= Maintain, A= Advance

Objectives	Preschool	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
37. Develop fluency with basic number combinations for multiplication and division, and use these combinations to compute mentally related problems such as 30 x 50.				I	D	M	A	A
38. Apply fluency in algorithms using addition, subtraction, multiplication and division of whole numbers.				I	D	M	M	A
39. Apply and use strategies to estimate computations involving fractions and decimals in situations relevant to students’ experience.				I	D	A	D	M
40. Use visual models, benchmarks, and equivalent forms to add and subtract commonly used fractions and decimals.				I	D	M	M	A

**SCOPE AND SEQUENCE
MATHEMATICS CURRICULUM
ALGEBRA**

Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.

Key: I = Introduce, D= Develop, M= Maintain, A= Advance

Objectives	Preschool	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
1. Identify, describe, and extend various patterns such as sequences of sounds, shapes, or simple numeric patterns.	I	A	A	A	M	D	D	A
2. Describe, extend, and generalize about geometric and numeric patterns.		I	D	M	A	A	D	D
3. Analyze how both repeating and growing patterns are generated.	I	A	A	A	M	D	D	A
4. Use concrete, pictorial, and verbal representations to develop an understanding of invented and conventional symbolic notations.	I	A	D	M	A	A	M	A
5. Model situations that involve addition and subtraction of whole numbers, using objects, pictures, and symbols.		I	A	A	D	D	M	A
6. Identify and construct squared, rectangular, triangular, oblong and L-shaped numbers.					I	D	D	A
7. Describe qualitative and quantitative change using various attributes (e.g. students growing taller; students growing 2 inches taller).).	I	D	D	M	A	M	M	D
8. Represent and analyze patterns and functions using words, tables, and graphs.			I	D	M	A	A	D
9. Identify and illustrate general principles and properties such as commutative, associative and distributive, and use them to compute with whole numbers.				I	D	D	M	M
10. Represent a variable as an unknown quantity using a symbol or letter.				I	D	A	A	M
11. Express Mathematical relationships using equations.				I	D	A	M	D
12. Model problem situations with objects and use representations such as graphs, tables, and algebraic equations to draw conclusions.		I	D	D	M	A	A	D

**SCOPE AND SEQUENCE
MATHEMATICS CURRICULUM
MEASUREMENT**

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy (**Continued**).

Key: I = Introduce, D = Develop, M = Maintain, A = Advance

Objectives	Preschool	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
1. Explain and model attributes of length, area, weight, volume, and size of angle and select the appropriate type of unit for measuring.	I	D	D	A	A	D	M	M
2. Identify the attributes of length, volume, weight, area, perimeter and time, and compare and order objects according to these attributes	I	D	D	A	A	D	M	M
3. Measure objects using non-standard units e.g. multiple copies of units of the same size, such as paper clips laid end to end.		I	M	A	D	M	M	A
4. Differentiate and use standard units: customary and metric.		I	M	A	D	A	M	A
5. Develop common referents (similarities) to measure and make comparisons and estimations.	I	D	D	M	M	A	A	D
6. Compare relationships among units and convert from one unit to another within the same system.				I	D	D	M	M
7. Explore what happens to measurements of a two-dimensional shape such as perimeter and area when sizes change.					I	D	D	M
8. Identify coins and bills, and make change for given amounts.		I	A	D	D	A	D	M

**SCOPE AND SEQUENCE
MATHEMATICS CURRICULUM
MEASUREMENT**

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

Key: I = Introduce, D= Develop, M= Maintain, A= Advance

Objectives	Preschool	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
9. Use strategies for estimating the perimeters, areas, and volumes of irregular shapes.				I	D	D	M	M
10. Select and apply appropriate standard units and tools to measure length, area, volume, weight, time, temperature, and size of angles.				I	D	A	M	A
11. Use formulae to find the area of rectangles and related triangles and parallelograms.				I	D	M	A	A
12. Develop strategies to determine the surface areas and volumes of rectangular solids.		I	M	D	M	A	M	D
13. Identify, select, and use units of appropriate methods for estimating measurements.				I	M	D	A	M
14. Select and apply techniques and tools that would accurately find length, area, volume, and angle (measures should be precise).					I	D	M	A
15. Use formulae to determine the circumference of circles and the area of triangle, parallelograms, trapezoids, and circles.							I	D
16. Solve simple problems related to measurement.	I	D	D	M	A	A	D	M

**SCOPE AND SEQUENCE
MATHEMATICS CURRICULUM
GEOMETRY AND SPATIAL SENSE**

Sub-goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

Key: I = Introduce, D= Develop, M= Maintain, A= Advance

Objectives	Preschool	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
1. Sort, classify, and order objects by size, amount, and other properties.	I	D	A	A	M	M	M	A
2. Identify, name, build, draw, compare, and sort geometric objects and two- and three-dimensional shapes.	I	D	D	A	D	D	M	M
3. Describe attributes and parts of two-and three-dimensional shapes.		I	D	A	D	M	A	D
4. Investigate and predict the results of putting together and taking apart two-and three-dimensional shapes.		I	D	D	M	A	D	D
5. Classify two-and three-dimensional shapes according to their properties and develop definitions of classes of shapes such as triangles and pyramids.		I	D	A	D	D	A	M
6. Name, describe, interpret relative positions in space, and apply ideas to relative positions		I	D	D	M	D	M	A
7. Find and name locations with simple relationships such as ‘near to’ in coordinate systems such as maps.	I	D	D	A	M	D	D	A
8. Identify and apply slides, flips, and turns to objects and shapes.			I	D	M	D	M	A
9. Predict and describe the results of sliding, flipping, and turning two-dimensional shapes.				I	D	D	A	A
10. Describe sizes, positions and orientation of shapes under transformation such as flips, turns and slides.					I	D	D	M
11. Identify and create shapes that have symmetry	I	D	D	A	M	M	A	D
12. Create mental images of geometric shapes using spatial memory and spatial visualization.			I	D	D	A	D	M
13. Identify and represent shapes from different perspectives.	I	D	D	A	M	D	D	A
14. Relate ideas in geometry to ideas in number and measurement.				I	D	D	M	A

**SCOPE AND SEQUENCE
MATHEMATICS CURRICULUM
GEOMETRY AND SPATIAL SENSE**

Sub-goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space **(Continued)**.

Key: I = Introduce, D= Develop, M= Maintain, A= Advance

Objectives	Preschool	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
15. Identify geometric shapes and structures in the environment and specify their locations.	I	D	D	A	M	M	D	D
16. Investigate, describe, and reason about the results of subdividing, combining, and transforming shapes.				I	D	A	M	M
17. Describe location and movement using common language and geometric vocabulary.			I	D	A	D	M	M
18. Make and use coordinate systems to specify locations, to describe paths and find the distance between points along horizontal and vertical lines of a coordinate system.				I	D	D	M	M
19. Explore congruence and similarity.				I	D	D	M	D
20. Make and test conjectures about geometric properties and relationships and develop; logical arguments to justify conclusions.							I	D
21. Describe a motion or a series of motions that will show that two shapes are congruent.						I	D	D
22. Identify and describe line and rotational symmetry in two-and three-dimensional shapes and designs				I	D	D	A	A
23. Build and draw geometric objects.	I	D	D	A	A	M	D	D
24. Create and design mental images of objects, patterns, and paths.				I	D	D	M	A
25. Identify and build a three-dimensional object from two-dimensional representations of that object.			I	D	D	M	A	A
26. Describe, classify, and associate/understand relationships among types of two-and three dimensional objects using their defining properties.						I	D	D

SCOPE AND SEQUENCE MATHEMATICS CURRICULUM GEOMETRY AND SPATIAL SENSE

Sub-goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space **(Continued)**.

Key: I = Introduce, D= Develop, M= Maintain, A= Advance

Objectives	Preschool	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
27. Use geometric models to solve problems in other areas of mathematics, such as number, and measurement.				I	D	D	A	M
28. Identify and apply geometric ideas and relationships to other disciplines (Art, Science, Social Studies etc.) and problems that arise in the classroom or in everyday life.				I	D	D	A	M
29. Explain relationships among the angles, side lengths, perimeters, areas, and volumes of similar objects.						I	D	D
30. Use coordinated geometry to represent and examine the properties of special geometric shapes such as polygons or those with perpendicular and parallel lines.						I	D	D

**SCOPE AND SEQUENCE
MATHEMATICS CURRICULUM
DATA ANALYSIS AND PROBABILITY**

Sub-Goal 5: Collect, organize and analyze data using statistical methods: predict results; and interpret uncertainty-using concepts of probability.

Key: I = Introduce, D= Develop, M= Maintain, A= Advance

Objectives	Preschool	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7
1. Formulate and pose questions about themselves and their surroundings.	I	D	D	M	M	A	D	M
2. Collect and analyze data about themselves and their surroundings.	I	D	D	M	M	A	D	M
3. Sort and classify objectives according to their attributes and organize data about the objects.	I	D	D	M	M	A	D	M
4. Represent data using concrete objects, pictures, and graphs.	I	D	D	M	M	A	D	M
5. Represent data using tables and graphs (picture, bar, pie, line and Venn diagrams up to three circles).			I	D	A	D	M	M
6. Describe parts of the data and the set of data as a whole to determine what the data show.			I	D	D	M	M	A
7. Collect data using observations, surveys, and experiments.			I	D	D	M	M	A
8. Describe the shape and important features of a set of data and compare related data sets, with emphasis on how the data are distributed.					I	D	D	M
9. Compare different representations of the same data and evaluate how well each representation shows important aspects of the data.						I	D	D
10. Propose and justify conclusions and predictions that are based on data and design studies to further investigate the conclusions or predictions.						I	D	D
11. Describe events including students' experiences as likely or unlikely and discuss the degree of likelihood with words such as <i>certain, equally, likely, and impossible</i> .				I	D	A	M	M
12. Predict the probability of outcomes of simple experiments and test the predictions.				I	D	A	M	M
13. Formulate questions, design studies, and collect data about a characteristic shared by two populations or different characteristics within one population.							I	D

Primary School Mathematics

Suggested Topic Pacing Guide

Grades: 4-6

**MINISTRY OF EDUCATION
PRIMARY SCHOOL MATHEMATICS CURRICULUM
TOPIC PACING GUIDE
GRADE: 4**

KEY: N= Number and Operations

A= Algebra

M = Measurement

G= Geometry Spatial Sense

D= Data Analysis and Probability

STRAND	TOPICS AND OBJECTIVES	DURATION				
		Day 1		2	1	2
		35 mins.	60 mins.	Days	Week	Weeks
Number and Operations	1. Place Value of Digits In Whole Numbers (N:1)			√		
	2. Numerals and Word Names Up to Millions (N:2)			√		
	3. Rounding Whole Numbers to The Nearest Hundred Thousand (N:3)			√		
	4. Compare Fraction, Decimals and Whole Numbers (N:4 , 29)			√		
	5. Fractions and Decimals Using Concrete Material (N:5)			√		
	6. Write Decimals Through Thousandths (N:6)			√		
	7. Decimal as a Part of a Whole (N:7, 16)			√		
	8. Round Decimals to The Nearest Whole, Tenth, and Hundredth (N:8, 17)			√		
	9. Compare and Order Decimals Through Thousandth (N:9, 18)				√	
	10. Add and Subtract Columns of Numbers-Three Digits (N: 5, 10)			√		
	11. Add and Subtract Decimal Numbers (N:11, 19)			√		
	12. Addition and Subtraction of Metric Units (N:12)			√		
	13. Word Problems Involving Addition and Subtraction of Metric Units (N:13)			√		
	14. Interpret the Language of Mathematics In Problem Solving (N:13, 14)			√		
	15. Multiplication and Division Facts: Three Seconds (N:15)			√		
	16. Multiplication Word Problems (N:16)			√		
	17. Product of Two Whole Numbers (N:17)			√		
	18. Multiply Up to Three Digits (N:18)				√	
	19. Multiply Decimals by Single Digit Whole Numbers (N:19)			√		
	20. Division as the Inverse of Multiplication (N:20)					
	21. What a Remainder Means in a Division Problem (N:21)				√	
	22. Three- Digits Dividend by One Digit Divisor (N:22)			√		
	23. Through Estimation, Add, and Multiply, Up to Two Digits by Three Digits (N:23)			√		
	24. Solve One and Two Step Problems Involving the Four Operations Including Money (N:24, 25)			√		
	25. The Role of The Numerator and Denominator In Fractions (N:26)		√			

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PRIMARY SCHOOL MATHEMATICS CURRICULUM
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GRADE: 4**

KEY: N= Number and Operations

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STRAND	TOPICS AND OBJECTIVES	DURATION				
		Day 1		2	1	2
		35 mins.	60 mins.	Days	Week	Weeks
Number and Operations	26. Relationship between Fractions and Whole Numbers (N:27)			√		
	27. Equivalent Fractions (N:28)			√		
	28. Simplify Fractions (N:30)			√		
	29. Write and Illustrate Mixed Numbers (N:31)			√		
	30. Mixed Numbers with Like Denominators Without Regrouping (N:32)				√	
	31. Like Denominators in Fractions (N:32,33)			√		
	32. Add and Subtract Like Fractions and Mixed Numbers (N:32)				√	
	33. Solving Problems Involving Addition and Subtraction of Fractions (N:34)			√		
	34. Writing Roman Numerals to M (N:35)			√		
	35. Adding and Subtracting Fractions/Mixed Numbers with Unlike Denominators (N:35)			√		
Algebra	1. The Difference Between Odd and Even Numbers (A:1)			√		
	2. Counting to 100 by 6s, 7s ,and 8s (A:2)			√		
	3. Pictorial and Numeric Patterns (A:3)			√		
	4. Pattern of Remainders In Division by 2, 3, and 4 (A:4)			√		
	5. Creating Squared Numbers (A:5)			√		
	6. Non-routine Problems: Finding a Pattern (A:6)				√	
Measurement	1. Measuring Length in Kilometres, Metres, Decimetres; Inches, Feet, Yards and Miles (M:1, 4)				√	
	2. Relationship Among the Metric and Customary Units (M:2)			√		
	3. Converting Metric and Customary Units of Length, Mass and Capacity (M:3)				√	
	4. Measurement Using Millilitre and Litre; Cups, Pints, Quarts and Gallons (M:4)				√	
	5. Using Grams and Kilograms to Estimate and Determine Mass (M:5)				√	
	6. Perimeter of Shapes in Metric and Customary Units (M:6)				√	

**MINISTRY OF EDUCATION
PRIMARY SCHOOL MATHEMATICS CURRICULUM
TOPIC PACING GUIDE
GRADE: 4**

KEY: N= Number and Operations

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STRAND	TOPICS AND OBJECTIVES	DURATION				
		Day 1		2	1	2
		35 mins.	60 mins.	Days	Week	Weeks
Measurement	7. Calculating Area of Objects and Shapes Using Appropriate Units (M:7)			√		
	8. Calculating the Area of Rectangles Using Arrays (M:8)			√		
	9. Volume Concept of a Litre by Construction (M:9)				√	
	10. Selecting The Appropriate Unit for Estimating and Measuring Volume (M:10, 11)			√		
	11. Reading the Thermometer in Celsius and Fahrenheit (M:12)				√	
	12. Convert Temperature in Celsius and Fahrenheit (M:13)			√		
	13. Measuring Time Needed to Perform a Task (M:14)				√	
	14. Using A.M. and P.M. Appropriately (M:15)				√	
	15. Writing Time to the Nearest Minute (M:16)			√		
	16. Writing Time to Twenty-Four Hour Clock (M:17)			√		
	17. Converting Hours to Minutes and Vice Versa (M:18)			√		
	18. Solving Problems Involving Elapse Time (M:19)			√		
	19. Elimination of Bahamian Penny: Rounding (M:19)		√			
	20. Solving Real World Problems (M:20)			√		
Geometry & Spatial Sense	1. Naming and Drawing Points, Line, Segments, Rays and Angles (G:1)		√			
	2. Identifying Parallel and Perpendicular Lines (G:2)		√			
	3. Identifying Right, Acute, and Obtuse Angles (G:3)			√		
	4. Identifying and Drawing up to 10 Sided Polygons (G:4)			√		
	5. Identifying Shapes with Multiple Lines Of Symmetry (G:5)			√		
	6. Translating Reflection and Rotation (G:6)			√		
	7 Solid Shapes (G:7)			√		
	8. Parts of a Solid (Faces, Edges, Vertices) (G:8)			√		

**MINISTRY OF EDUCATION
PRIMARY SCHOOL MATHEMATICS CURRICULUM
TOPIC PACING GUIDE
GRADE: 4**

KEY: N= Number and Operations

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STRAND	TOPICS AND OBJECTIVES	DURATION				
		Day 1		2	1	2
		35 mins.	60 mins.	Days	Week	Weeks
Data Analysis and Probability	1. Using Graph Data on a Line Graph (D:1)			√		
	2. The Different Uses of Bar and Line Graphs (D:2)		√			
	3. Recording, Organizing, and Analyzing Data For Bar and Line Graphs (D:3)				√	
	4. Calculating the Average Arithmetical Mean of a Set of Data (D:4)			√		
	5. Averaging /Mean of a Set of Data Using Mental Arithmetical (D:5)			√		
	6. Identifying The Mode, Median, and Range of a Set of Data (D:6)				√	
	7. Simple Experiment and Record Probability (D:7)			√		
	8. Writing Probability as a Fraction or Ratio (D:8)			√		

**MINISTRY OF EDUCATION
PRIMARY SCHOOL MATHEMATICS CURRICULUM
TOPIC PACING GUIDE
GRADE: 5**

KEY: N= Number and Operations

A= Algebra

M = Measurement

G= Geometry Spatial Sense

D= Data Analysis and Probability

STRAND	TOPICS AND OBJECTIVES	DURATION				
		Day 1		2	1	2
		35 mins.	60 mins.	Days	Week	Weeks
Number and Operations	1. Numerals and Word Names to Millions (N:1)			√		
	2. Place Value of Digits in Whole Numbers (N:2)			√		
	3. Ordering Whole Numbers, Fractions, and Decimals (N:3)				√	
	4. Fractions, Decimals, Whole Numbers in Ascending and Descending (N:4)			√		
	5. Difference, Between Even/ Odd Numbers (N:5)		√			
	6. Terms Sum, Difference, Product, Quotient, Factor, Divisor (N:6)				√	
	7. Equivalent Fractions and Decimals (N:7)				√	
	8. Simplifying Fractions to Lowest Terms (N:8)				√	
	9. Relationship Between, Fractions and Whole Numbers (N:9)				√	
	10. Writing Decimals Through Thousandths (N:10)				√	
	11. Fractions to Decimals and Vice-Versa (N:11)				√	
	12. Rounding Decimals to Nearest Tenths, Hundredths and Thousandths (N:12)			√		
	13. Decimals as Part of a Whole (N:13)			√		
	14. Ordering of Decimals Through Thousandths (N:14)			√		
	15. Identifying Factors and Multiples (N:15)				√	
	16. Identifying L.C.M and G.C.F of Two Numbers (N:16)				√	
	17. Products of Prime Numbers Using Exponential Notation (N:17)				√	
	18. Interpreting the Language of Mathematics in Problem Solving (N:18)				√	
	19. Using Answers to Solve Single and Multi-Step Problems (N:19)				√	
	20. Using Several Methods to Solve Problems Including Rounding (N:20)				√	
	21. Recalling Basic Addition, Subtraction, Multiplication and Division Facts (N:21)			√		
	22. Add and Subtract Whole Numbers with and without Regrouping/Renaming (N:22)				√	

**MINISTRY OF EDUCATION
PRIMARY SCHOOL MATHEMATICS CURRICULUM
TOPIC PACING GUIDE
GRADE: 5**

KEY: N= Number and Operations

A= Algebra

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STRAND	TOPICS AND OBJECTIVES	DURATION				
		Day 1		2	1	2
		35 mins.	60 mins.	Days	Week	Weeks
Number and Operations	23. Add and Subtract Decimals with and without Regrouping/Renaming (N:23)				√	
	24. The Meaning of Multiplication and Division in Words and Pictures (N:24)			√		
	25. Multiplying up to Two Digits by Three Digits (N:25)				√	
	26. Applying Different Forms of Division (N:26)				√	
	27. Dividing up to Four Digit Dividends by Two-Digit Divisor (N:27)				√	
	28. Using Divisibility Rules For 2, 3, 5, and 10 (N:28)				√	
	29. Multiplying and Dividing by Multiples and Powers of 10 (N:29)				√	
	30. Checking Answers to Multiplication and Division Problems (N:30)				√	
	31. Applying the Rules of Order of Operations (N:31)				√	
	32. Multiply Decimals by a Decimal Number (N:32)				√	
	33. Divide Decimals by a Whole Number (N:33)				√	
	33. Adding and Subtracting Fractions and Mixed Numbers (N:34)				√	
	34. Solving Problems Involving Addition and Subtraction of Decimals (N:35)				√	
	35. Solving Whole Numbers Decimals and Money Computation Problems (N:36)				√	
	36. Roman Numerals (N:37)				√	
Algebra	1. Describing and Extending Numerical and Geometric Patterns (A:1)				√	
	2. Using Concrete Objects Pictures or Numbers (A:2)				√	

**MINISTRY OF EDUCATION
PRIMARY SCHOOL MATHEMATICS CURRICULUM
TOPIC PACING GUIDE
GRADE: 5**

KEY: N= Number and Operations

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STRAND	TOPICS AND OBJECTIVES	DURATION				
		Day 1		2 Days	1 Week	2 Weeks
		35 mins.	60 mins.			
Measurement	1. Measuring Length Using Metric Units-Kilometre, Metre (M:1)			√		
	2. Metric Measure Using Decimals (M:2)			√		
	3. Solving Problems Involving Linear Measure (M:3)				√	
	4. Measuring Perimeter of Objects (M:4)			√		
	5. Linear Measure Using Multiples and Submultiples (M:5)			√		
	6. Describing the Circumference of a Circle (M:6)		√			
	7. Calculating the Area of Rectangles and Squares (M:7)				√	
	8. Differentiating Between Applications of Area and Perimeter (M:8)		√			
	9. Measuring Volume With Appropriate Units (M:9)			√		
	10. Expressing Millimetres as Litres (M:10)		√			
	11. Elimination of Bahamian Penny: Rounding (M:11)		√			
	12. Solving Problems With Capacity Measures (M:12)				√	
	13. Standard Units to Estimate Mass (M:13)			√		
	14. Solving Problems Involving Mass Measurement (M:14)		√			
	15. Comparing and Measuring Time (M:15)			√		
	16. The Relationship Among Seconds, Minutes, Hours (M:16)		√			
	16. Recording the Data in SI Format (M:17)		√			
	18. Writing Times to the Nearest Minute on a Twelve Hour Clock (M:18)			√		
	19. Converting Hours to Minutes and Vice Versa (M:19)			√		
	20. Solving Problems Involving Elapsed Time (M:20)				√	
	21. Converting From Degrees Celsius to Fahrenheit (M:21)				√	

**MINISTRY OF EDUCATION
PRIMARY SCHOOL MATHEMATICS CURRICULUM
TOPIC PACING GUIDE
GRADE: 5**

KEY: N= Number and Operations

A= Algebra

M = Measurement

G= Geometry Spatial Sense

D= Data Analysis and Probability

STRAND	TOPICS AND OBJECTIVES	DURATION			
		Day 1		2	1
		35 mins.	60 mins.	Days	Week
Geometry and Spatial Sense	1. Describing Points, Lines, and Line Segments (G:1)			√	
	2. Open and Closed Curves (G:2)		√		
	3. Estimating the Various Sizes of Different Angles (G:3)			√	
	4. Measuring Angles to 180° Using a Protractor (G:4)				√
	5. Using the Sum of Angles in a Circle and on a Straight Line (G:5)				√
	6. Classifying Polygons Up to 10 Sides (G:6)			√	
	7. Differences Between Regular and Non-Regular Polygons (G:7)			√	
	8. Using Various Motions as a Translation (G:8)				√
	9. Identifying Acute, Obtuse, and Right Angles (G:9)				√
	10. Investigating, Classify, and Naming Solid Shapes (G:10)				√
Data Analysis and Probability	1. Finding the Mean, Median, Mode and Range (D:1)				√
	2. Analyzing Data to Make Decisions (D:2)			√	
	3. Interpreting Double Bar Graphs (D:3)			√	
	4. Interpreting Venn Diagrams (D:4)				√
	5. Verifying by Doing Trials in an Experiment (S:5)				√
	6. Fraction and Ratio (D:6)			√	
	7. Situations Involving Chance (D:7)			√	

MINISTRY OF EDUCATION
PRIMARY SCHOOL MATHEMATICS CURRICULUM
TOPIC PACING GUIDE
GRADE: 6

KEY: N= Number and Operations

A= Algebra

M = Measurement

G= Geometry Spatial Sense

D= Data Analysis and Probability

STRAND	TOPICS AND OBJECTIVES	DURATION				
		Day 1		2	1	2
		35 min	60 min	days	week	weeks
Number and Operations	1. Writing Numbers Through Billions (N:1)			√		
	2. Whole Numbers Through Billion Using the Symbols <, >, and = (N:2)			√		
	3. Rounding of Whole Numbers Using Several Methods (N:3)			√		
	4. Using Mental Math Strategies in Addition and Subtraction (N:4)		√			
	5. Calculating Using Addition and Subtraction (N:5)			√		
	6. Using Mental Math Strategies in Multiplication and Division (N:6)		√			
	7. Multiply up to 3-Digits by 3-Digits (N:7)			√		
	8. The Divisibility Rules for 2, 3, 4, 5, 6, 8, 9, 10 (N:8)			√		
	9. Divide up to 4-Digits by 2-Digits (N:9)			√		
	10. Calculating Using Multiplication and Division (N:10)			√		
	11. Identifying Decimals Through Thousandths (N:11)			√		
	12. Decimals through Thousandths Using the Symbols >, <, = (N:12)			√		
	13. Rounding Decimals (N:13)			√		
	14. Multiplying and Dividing by Powers of Ten (N:14)				√	
	15. Adding, Subtracting, Multiplying and Dividing Decimals/Money (N:15)				√	
	16. Calculating Decimals Using Addition, Subtraction, Multiplication and Division (N:16)			√		
	17. Even, Odd, Factors, Multiples, Square, Square Root, Prime and Composite Numbers (N:17)		√			
	18. Representing Integers on the Number Line (N:18)			√		
	19. Finding LCM and HCF (N:19)				√	
	20. Products of Prime Numbers Using Exponential (N:20)			√		
	21. Square Roots of Non-Perfect Squares (N:21)			√		
	22. Ordering Whole Numbers, Fractions and Decimals (N:22)			√		
	23. Using HCF to Simplify Fractions (N:23)			√		
	24. Improper and Mixed Fractions (N:24)		√			
	25. Rules of Addition, Subtraction, Multiplication and Division to Fractions and Mixed Numbers (N:25, 26, 27)				√	

**MINISTRY OF EDUCATION
PRIMARY SCHOOL MATHEMATICS CURRICULUM
TOPIC PACING GUIDE
GRADE: 6**

KEY: N= Number and Operations

A= Algebra

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G= Geometry Spatial Sense

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STRAND	TOPICS AND OBJECTIVES	DURATION				
		Day 1		2	1	2
		35 min	60 min	days	week	weeks
Number and Operations	26. Equivalent Relationship Among Fractions, Decimals & Percent (N:28, 29)			√		
	27. Computing the Percent of a Number (N:30)				√	
	28. Solving Problems Using Fraction and Decimals (N:31)				√	
	29. Comparing Two Sets of Data Using Ratios and Appropriate Notations (N:31)			√		
	30. Representing Ratios in Decimal Form (N:32)			√		
	31. Identifying Pi As a Special Ratio (N:33, 34)			√		
	32. Applying Rules of Order of Operations (N:35)				√	
	33. Roman Numerals to 3 999 (N:36)			√		
Algebra	1. Constructing Patterns Relating to Rectangular, Square, Oblong and Triangular Numbers (A:1)			√		
	2. Solving Non-Routine Problems Using Finding a Pattern as a Strategy (A:2)			√		
	3. Using Patterns to Make Computation More Efficient (A:3)			√		
	4. Using Pictures and Abstraction (A:4)			√		
	5. Solving Story Problems Using Algebraic Equations (A:5)				√	

**MINISTRY OF EDUCATION
PRIMARY SCHOOL MATHEMATICS CURRICULUM
TOPIC PACING GUIDE
GRADE: 6**

KEY: N= Number and Operations

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STRAND	TOPICS AND OBJECTIVES	DURATION				
		Day 1		2 days	1 week	2 weeks
		35 min	60 min			
Measurement	1. Measurement of Length ((M:1,2,3,4,7)				√	
	2. Measurement of Capacity (M:1,2,3,4,7)				√	
	3. Measurement of Mass (M:1,2,3,4,7)				√	
	4. Measurement of Temperature (M:1)			√	√	
	5. Measurement of Volume (M:1, 12)			√		
	6. Other Countries Measure (time and money) (M:5)			√		
	7.Exemption of Bahamian Penny (M:6)		√			
	8. Recording the Date in SI Format (M:8)			√		
	9. Solving Non-Routine Problems Involving Measures (M:9)			√		
	10. Area and Perimeter of Triangles and Rectangles (M:9,10)			√		
	11. Measuring Area of Regular and Irregular Polygons (M:11)			√		
	12. Solving Problems Using Distance, Speed and Time (M:13)				√	
	13. Interpreting Scales On Maps (M:14)			√		
Geometry and Spatial Sense	1. Angles Through Measurement and Estimation as Acute, Obtuse and Right (G:1)			√		
	2. Naming Triangles as Scalene, Isosceles, and Equilateral (G:2)			√		
	3. Classifying and Naming Triangles as Right, Acute, and Obtuse (G:3)			√		
	4. Calculating Missing Angles in Triangles (G:4)			√		
	5. Types of Quadrilaterals and Their Properties (G:5)			√		
	6. Symmetry in Polygons (G:6)			√		
	7. Parts of a Circle (G:7)			√		
	8. Identifying Motions as Translation, Reflection of Rotation (G: 8, 9)				√	

**MINISTRY OF EDUCATION
PRIMARY SCHOOL MATHEMATICS CURRICULUM
TOPIC PACING GUIDE
GRADE: 6**

KEY: N= Number and Operations A= Algebra M = Measurement G= Geometry Spatial Sense D= Data Analysis and Probability

STRAND	TOPICS AND OBJECTIVES	DURATION				
		Day 1		2	1	2
		35 mins.	60 mins.	Days	Week	Weeks
Data Analysis and Probability	1. Types of Graphs Most Suitable for Display (D:2)			√		
	2. Collecting, Organizing, Graph, and Analyzing a Set of Data (D:3)			√		
	3. Interpreting Circle Graphs (D:1)			√		
	4. Solving Problems Involving Mean, Median and Mode (D:4)			√		
	5. Interpreting Venn Diagrams (D:5)			√		
	5. Verifying the Probability of an Outcome and Writing it as a Fraction (D:6)			√		
	6. Using Probability to Make Reasonable Predictions (D:7)			√		
	7. Describing a Fair Game (D:8)			√		

Primary School Mathematics

Suggested Weekly Pacing Guide

Grades: 4-6

**MINISTRY OF EDUCATION
PRIMARY SCHOOL MATHEMATICS CURRICULUM
WEEKLY PACING GUIDE
GRADE: 4**

NOTE: Integrate Word Problems in each topic.

Textbook: Bahamas Primary Mathematics Bk. 4

TERM	TEACHING SEQUENCE		PAGE REFERENCE
Christmas Term	WEEK	TOPIC	
	1	Review Skills from Previous Grade/ Pretest	Textbook: pgs. 1 – 4
	2	- Writing Numbers through Millions (N:1, N:2) ✓ Place and Value of Digits ✓ Forms of Numbers - Addition and Subtraction of Whole Numbers with and without Regrouping (N:10)	Textbook: pgs. 5 – 10 Textbook: pgs. 71 – 76
	3	- Comparing and Ordering Whole Numbers (N:4) - Addition and Subtraction of Whole Numbers with and without Regrouping (N:10)	Textbook: pgs. 5 – 10 Textbook: pgs. 71 – 76
	4	- Rounding and Estimating Whole Numbers (N:3) - Addition and Subtraction of Whole Numbers with and without Regrouping (N:10, N:23, N:24, N:25)	Textbook: pgs. 47 – 49 Textbook: pgs. 71 – 76, 92
	5	- Multiplication of Whole Numbers (N:15, N:16, N:17, N:18, N:23, N:24, N:25, A:2) ✓ Multiplication Facts ✓ Products of Two Whole Numbers ✓ Multiplying 2-Digits by 2 Digits ✓ Multiplying 3-Digits by 2-Digits ✓ Multiplication through Estimation ✓ Counting by 6s, 7s and 8s ✓ Word Problems	Textbook: pgs. 98 – 104, 55, 67 – 70, 92

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NOTE: Integrate Word Problems in each topic.

Textbook: Bahamas Primary Mathematics Bk. 4

TERM	TEACHING SEQUENCE		PAGE REFERENCE
Christmas Term	WEEK	TOPIC	
	6	- Multiplication of Whole Numbers (N:15, N:16, N:17, N:18, N:23, N:24, N:25, A:2) ✓ Multiplication Facts ✓ Products of Two Whole Numbers ✓ Multiplying 2-Digits by 2 Digits ✓ Multiplying 3-Digits by 2-Digits ✓ Multiplication through Estimation ✓ Counting by 6s, 7s and 8s	Textbook: pgs. 98 – 104, 55, 67 – 70, 92
	7	- Division of Whole Numbers (N:15, N:20, N:21, N:22, N:24, N:25, A:4) ✓ Division Facts ✓ Division as the Inverse of Multiplication ✓ Dividing 3-Digits by 1-Digit - Patterns of Remainders in Division by 2, 3 and 4	Textbook: pgs. 67 – 70, 105 – 111
	8	- Division of Whole Numbers (N:15, N:20, N:21, N:22, N:24, N:25, A:4) ✓ Division Facts ✓ Division as the Inverse of Multiplication ✓ Dividing 3-Digits by 1-Digit - Patterns of Remainders in Division by 2, 3 and 4	Textbook: pgs. 67 – 70, 105 – 111
	9	- Decimals through Thousandths (N:7, N:16) ✓ Decimals using Concrete Materials ✓ Decimals as Part of a Whole Number - Adding Decimals with and without Regrouping (N:11, N:19, N:24, N:25)	Textbook: pgs. 31 – 33

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TERM	TEACHING SEQUENCE		PAGE REFERENCE
Christmas Term	WEEK	TOPIC	
	10	- Decimals through Thousandths (N:5, N:6) ✓ Place and Value of Digits ✓ Forms of Numbers - Subtracting Decimals with and without Regrouping (N:11, N:19, N:24, N:25)	Textbook: pgs. 31 – 35
	11	- Comparing and Ordering Decimals (N:9) - Adding and Subtracting Decimals with and without Regrouping (N:11, N:19, N:24, N:25)	Textbook: pgs. 36 – 38
	12	- Rounding Decimals (N:8, N:17) - Elimination of Bahamian Penny: Rounding (M:19) - Addition and Subtraction of Metric Units (N:12) - Word Problems Involving Addition and Subtraction of Metric Units (N:13)	Textbook: pgs. 50 – 52
	13	- Multiplying of Decimals/ Money (N:19) ✓ Multiplying Decimals by Single Digit Whole Numbers	

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TERM	TEACHING SEQUENCE		
Easter Term	WEEK	TOPIC	PAGE REFERENCE
	1	Roman Numerals (N:35)	Textbook: pgs. 53 – 54
	2	- Fractions (N:5, N:26, N:27, N:29) ✓ The Role of the Numerator and Denominator in Fractions ✓ Pictorial Representations ✓ Relationship between Fractions and Whole Numbers ✓ Compare and Order Fractions	Textbook: pgs. 21 – 23
	3	- Fractions (N:28, N:30, N:31) ✓ Equivalent Fractions ✓ Simplifying Fractions ✓ Mixed Numbers	Textbook: pgs. 24 – 26
	4	- Fractions (N:32, N:33, N:34, N:36) ✓ Adding and Subtracting Like Fractions ✓ Adding and Subtracting Mixed Numbers with Like Denominators ✓ Adding and Subtracting Fractions/ Mixed Numbers with Unlike Denominators (N:36)	Textbook: pgs. 120 – 125
	5	- Points, Line, Segments, Rays and Angles (G:1) - Parallel and Perpendicular Lines (G:2) - Angles (G:3)	Textbook: pgs.60 – 66
	6	- Polygons (G:4, G:5, M:6, M:7) ✓ 10-Sided Polygons ✓ Lines of Symmetry ✓ Perimeter and Area of Shapes	Textbook: pgs. 39 – 43, 137 – 144

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TERM	TEACHING SEQUENCE		
Easter Term	WEEK	TOPIC	PAGE REFERENCE
	7	- Shapes (G:6, G:7, G:8) ✓ Translation, Reflection and Rotation ✓ Solid Shapes ✓ Parts of a Solid Shape (Faces, Edges and Vertices)	✓ Textbook: pgs. 44 – 46, 132 – 136
	8	- Bar Graphs (D:2, D:3, D:4, D:5, D:6) ✓ Purpose of Bar Graphs ✓ Recording, Organizing and Analyzing Data - Mean, Median, Mode and Range	✓ Textbook: pgs. 81 – 85
	9	- Line Graphs (D:1, D:2, D:3, D:4, D:5, D:6) ✓ Purpose of Bar Graphs ✓ Recording, Organizing and Analyzing Data - Mean, Median, Mode and Range	✓ Textbook: pgs. 77 – 88
	10	- Probability (D:7, D:8) ✓ Simple Experiment and Record Probability - Writing Probability as a Fraction or Ratio	✓ Textbook: pgs. 145 – 150
	11	- Measuring Length (M:1, M:2, M:3, M:6) ✓ Measuring Customary and Metric Units ✓ Converting Customary and Metric Units - Perimeter of Shapes using Length	✓ Textbook: pgs. 94 – 97, 152 – 153
	12	- Measuring Mass (M:2, M:3, M:5) ✓ Measuring Customary and Metric Units ✓ Converting Customary and Metric Units	✓ Textbook: pgs. 27 – 30, 154

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NOTE: Integrate Word Problems in each topic.

Textbook: Bahamas Primary Mathematics Bk. 4

TERM	TEACHING SEQUENCE		
Summer Term	WEEK	TOPIC	PAGE REFERENCE
	1	- Measuring Capacity (M:2, M:3, M:4) ✓ Measuring Customary and Metric Units ✓ Converting Customary and Metric Units	✓ Textbook: pgs. 127 – 128, 155
	2	- Perimeter and Area (M:6, M:7, M:8) ✓ Perimeter ✓ Array ✓ Area	✓ Textbook: pgs. 137 – 144
	3	- Volume (M:9, M:10, M:11) ✓ Using Words and Pictures ✓ Estimating ✓ Using Litres	✓ Textbook: pgs. 129 – 131
	4	- Temperature (M:12, M:13) ✓ Reading Thermometer ✓ Converting Temperature	✓ Textbook: pgs. 17 – 20
	5	- Measuring Time (M:14, M:15, M:16) ✓ Measuring Time Needed to Perform a Task ✓ Using A.M and P.M. Appropriately ✓ Time to the Nearest Minute - Time on the Twenty-Four Hour Clock	✓ Textbook: pgs. 112 – 116

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Textbook: Bahamas Primary Mathematics Bk. 4

TERM	TEACHING SEQUENCE		
Summer Term	WEEK	TOPIC	PAGE REFERENCE
	6	- Measuring Time (M:18, M:19) ✓ Converting Time ✓ Elapsed Time	✓ Textbook: pgs. 117 - 119
	7	Square Numbers (A:5)	✓ Textbook: pgs. 56 – 58
	8	- Patterns (A:3, A:6) ✓ Pictorial and Numeric Patterns ✓ Non-Routine Problems: Finding a Pattern	✓ Textbook: pgs. 11 – 16

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GRADE: 5**

NOTE: Integrate Word Problems in each topic.

Textbook: Bahamas Primary Mathematics Bk. 5

TERM	TEACHING SEQUENCE		PAGE REFERENCE
Christmas Term	WEEK	TOPIC	
	1	• Review Skills from Previous Grade/Pretest	✓ Textbook: pgs. 2-4
	2	• Recalling Basic Addition, Subtraction, Multiplication and Division Facts (N:21) • Mathematical Terms: Sum, Difference, Product, Quotient, Factor, Divisor (N: 6) • Difference between Even/Odd Numbers (N:5) • Recording the Date in SI Format (M:17)	✓ Textbook: pgs. 74, 75 ✓ Textbook: pg. 109 ✓ Textbook: pg. 11
	3	• Writing Numbers through Millions (N:1, N:2) ✓ Place and Value of Digits ✓ Forms of Numbers • Addition of Whole Numbers with and without Regrouping (N:18, N:19, N:22) • Perimeter of Shapes (M:4)	✓ Textbook: pgs. 5-7 ✓ Textbook: pgs. 74-82 ✓ Textbook: pg. 152
	4	• Comparing and Ordering Whole Numbers (N:3) • Subtraction of Whole Numbers with and without Regrouping (N:18, N:19, N:22)	✓ Textbook: pgs. 8 – 10 ✓ Textbook: pgs. 74 – 82
	5	• Rounding and Estimating Whole Numbers (N:20) • Addition and Subtraction of Whole Numbers with and without Regrouping (N:18, N:19, N:22)	✓ Textbook: pgs. 51 – 55 ✓ Textbook: pgs. 74 – 85
	6	• Multiplication of Whole Numbers (N:24, N:25, N:29, N:30, M:9) ✓ Multiplication Facts ✓ Multiplying by Powers of 10 ✓ Multiplying 3-Digits by 2-Digits ✓ Counting by 6's, 7's and 8's ✓ Area of Shapes ✓ Volume	✓ Textbook: pgs. 109 – 111 ✓ Textbook: pgs. 74, 75 ✓ Textbook: pgs. 114-115 ✓ Textbook: pgs. 116, 117 ✓ Textbook: pgs. 154, 155 ✓ Textbook: pg. 142

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NOTE: Integrate Word Problems in each topic.

Textbook: Bahamas Primary Mathematics Bk. 5

TERM	TEACHING SEQUENCE		PAGE REFERENCE
Christmas Term	WEEK	TOPIC	
	7	• Multiplication of Whole Numbers (N:24, N:25, N:29, N:30, M:9) ✓ Multiplication Facts ✓ Multiplying by Powers of 10 ✓ Multiplying 3-Digits by 2-Digits ✓ Counting by 6's, 7's and 8's ✓ Area of Shapes ✓ Volume	✓ Textbook: pgs. 109 – 111 ✓ Textbook: pgs. 74, 75 ✓ Textbook: pgs. 114-115 ✓ Textbook: pgs. 116, 117 ✓ Textbook: pgs. 154, 155 ✓ Textbook: pg. 142
	8	• Division of Whole Numbers (N:24, N:26, N:27, N:28 N:29, N:30) ✓ Division Facts ✓ Divisibility Rules ✓ Different Forms of Division ✓ Dividing 4-Digits by 2-Digits ✓ Dividing by Powers of 10	✓ Textbook: pgs. 109, ✓ Textbook: pg. 110 ✓ Textbook: pgs. 112, 113 ✓ Textbook: pgs. 118-120
	9	• Decimals through Thousandths (N:10, N:13) ✓ Reading Decimals through Thousandths ✓ Decimals as Part of a Whole Number • Language of Mathematics (N:18) • Adding Decimals with and without Regrouping (N:23)	✓ Textbook: pgs. 32 – 34 ✓ Textbook: pgs.95-97 ✓ Textbook: pgs. 136-140
	10	• Decimals through Thousandths (N:10) ✓ Place and Value of Digits ✓ Forms of Numbers • Subtracting Decimals with and without Regrouping (N:18, N:19, N:23)	✓ Textbook: pgs. 32 – 34, 136 ✓ Textbook: pg. 33 ✓ Textbook: pgs. 136-140

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TERM	TEACHING SEQUENCE		PAGE REFERENCE
Christmas Term	WEEK	TOPIC	
	11	- Comparing and Ordering Decimals (N:4, N:14) - Adding and Subtracting Decimals with and without Regrouping (N:18, N:19, N:24, N:33:, N:34) - Multi-Step Word Problems (N:19)	✓ Textbook: pgs. 35 – 36 ✓ Textbook: pgs. 136-140
	12	- Converting Between Fractions and Decimals (N:11) - Rounding Decimals (N:12, N:21) - Elimination of Bahamian Penny: Rounding (M:11) - Metric Units using Decimals (M:2)	✓ Textbook: pgs. 37 – 39 ✓ Textbook: pgs. 51- 55
	13	- Multiplying and Dividing of Decimals/ Money (N: 33, N:35, N: 36) ✓ Multiplying Decimals by 2-Digit Whole Numbers ✓ Dividing Decimals by a Single Digit Whole Number	

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TERM	TEACHING SEQUENCE		PAGE REFERENCE
Easter Term	WEEK	TOPIC	
	1	• Roman Numerals (N:37) • Factors and Multiples (N:15) • Multiplying of Decimals/ Money • Multiplying Decimals by 2-Digit Whole Numbers and Decimals	✓ Textbook: pgs. 136, 137 ✓ Textbook: pgs. 42, 43
	2	• Fractions (N:4, N:9) ✓ Types of Fractions ✓ Pictorial Representations of Mixed Numbers ✓ Relationship between Fractions and Whole Numbers ✓ Compare and Order Fractions	✓ Textbook: pgs. 22 – 27 ✓ Textbook: pg. 22 ✓ Textbook: pg. 22 ✓ Textbook: pgs. 23, 24 ✓ Textbook: pgs. 25-27
	3	• Fractions (N7, N:8, N:9) ✓ Compare and Order Fractions ✓ Equivalent Fractions ✓ Simplifying Fractions • LCM and GCF of Two Numbers (N:16)	✓ Textbook: pgs. 24 – 27 ✓ Textbook: pgs. 57-59
	4	• Fractions (N:17, N:32, N:33, N:34) ✓ Product of Prime ✓ Adding and Subtracting Like Fractions ✓ Adding and Subtracting Mixed Numbers with Like Denominators ✓ Adding and Subtracting Fractions/ Mixed Numbers with Unlike Denominators	✓ Textbook: pgs. 131 – 135
	5	• Points, Line, Segments (G:1) • Compare and Estimate Sizes of Angles (G:2) • Open and Closed Curves (G:3) • Angles (G:4, G:5, G:6, G:10)	✓ Textbook: pgs. 64 ✓ Textbook: pg. 41 ✓ Textbook: pgs. 67-73

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Textbook: Bahamas Primary Mathematics Bk. 5

TERM	TEACHING SEQUENCE		PAGE REFERENCE
Easter Term	WEEK	TOPIC	
	6	2-Dimensional Shapes (G:7, G:8, G:9, M:4, M:7) ✓ 10-Sided Polygons ✓ Quadrilaterals ✓ Regular and Irregular Polygons - Translation, Reflection and Rotation - Area and Perimeter of Shapes	✓ Textbook: pgs. 42 – 46, 147 – 155 ✓ Textbook: pgs. 147-149 ✓ Textbook: pgs. 151-155
	7	- Circle (M:6) ✓ Parts of a Circle ✓ Circumference - Reflection, Translation and Rotation (G:9)	✓ Textbook: pgs. 156 – 158 ✓ Textbook: pgs. 147-149
	8	3-Dimensional Shapes (G:10, M:9) ✓ Solid Shapes ✓ Parts of a Solid Shape (Faces, Edges and Vertices) - Volume	✓ Textbook: pgs. 47 – 50, 142 ✓ Textbook: pgs. 141, 142
	9	- Double Bar Graphs (D:1, D:2, D:3) ✓ Recording, Organizing and Analyzing Data - Mean, Median, Mode and Range	✓ Textbook: pgs. 86 – 94 ✓ Textbook: pgs. 86-88
	10	- Venn Diagrams (D:1, D:2, D:4) ✓ Purpose of Bar Graphs ✓ Recording, Organizing and Analyzing Data - Mean, Median, Mode and Range	✓ Textbook: pgs. 86 – 94 ✓ Textbook: pgs. 86-88

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TERM	TEACHING SEQUENCE		PAGE REFERENCE
Easter Term	WEEK	TOPIC	
	11	- Probability (D:5, D:6, D:7) ✓ Simple Experiment and Record Probability - Writing Probability as a Fraction or Ratio	✓ Textbook: pgs. 159 – 163
	12	- Measuring Length (M:1, M:2, M:3, M:4, M:5, M:7, M:8) ✓ Measuring Customary and Metric Units ✓ Converting Customary and Metric Units - Perimeter and Area of Shapes using Length	✓ Textbook: pgs. 103 – 108, 152 – 153 ✓ Textbook: pgs. 151-155

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TERM	TEACHING SEQUENCE		PAGE REFERENCE
Summer Term	WEEK	TOPIC	
	1	- Measuring Mass and Volume (M:9, M:13, M:14) - Measuring Customary and Metric Units - Converting Customary and Metric Units - Volume	✓ Textbook: pgs. 28 – 30, 142
	2	- Measuring Capacity (M:10, M:12) - Measuring Customary and Metric Units - Converting Customary and Metric Units	✓ Textbook: pgs. 127 – 128, 155
	3	Area, Perimeter and Volume (M:7, M:8, M:9)	✓ Textbook: pgs. 142, 151 – 158
	4	Temperature (M:21)	✓ Textbook: pgs. 17 – 20
	5	- Measuring Time (M:15, M:16, M:17, M:18) ✓ Measuring Time ✓ Relationship among Seconds, Minutes and Hours ✓ Time to the Nearest Minute ✓ SI Format	✓ Textbook: pgs. 127 – 132
	6	- Measuring Time (M:19, M:20) ✓ Converting Time ✓ Elapsed Time	✓ Textbook: pgs. 127 - 132

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NOTE: Integrate Word Problems in each topic.

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TERM	TEACHING SEQUENCE		PAGE REFERENCE
Summer Term	WEEK	TOPIC	
	7	- Exponential Notations (N:17) - Orders of Operations (N:31) - Simple Expressions (A:2) - Single Variable Equations (A:3)	✓ Textbook: pgs. 121 – 126 ✓ Textbook: pg. 98
	8	- Patterns (A:1) ✓ Pictorial and Numeric Patterns ✓ Triangular and Square Numbers ✓ Powers of Ten	✓ Textbook: pgs. 11 – 16

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NOTE: Integrate Word Problems in each topic.

Textbook: Bahamas Primary Mathematics Bk. 6

TERM	TEACHING SEQUENCE		
Christmas Term	WEEK	TOPIC	PAGE REFERENCE
	1	Review Skills from Previous Grade/ Pretest	✓ Textbook: pgs.1 – 4
	2	- Writing Numbers through Billions (N:1) ✓ Place and Value of Digits ✓ Forms of Numbers - Comparing and Ordering Whole Numbers (N:2, N:22) - Addition and Subtraction of Whole Numbers with and without Regrouping/Renaming (N:4, N:5)	✓ Textbook: pgs.5 – 10 ✓ Textbook: pgs.56 – 59, 79 – 87
	3	- Rounding and Estimating Whole Numbers (N:3) - Addition and Subtraction of Whole Numbers with and without Regrouping/Renaming (N:4, N:5)	✓ Textbook: pgs.50 – 55 ✓ Textbook: pgs.56 – 59, 79 – 87
	4	- Multiplication of Whole Numbers (N:6, N:7, N:10, N:14) ✓ Multiplication Strategies ✓ Multiplying 3-Digits by 3-Digits ✓ Multiplying by Powers of Ten	✓ Textbook: pgs.56 – 59, 100 – 107
	5	- Division of Whole Numbers (N:6, N:8, N:9, N:10, N:14) ✓ Division Strategies ✓ Divisibility Rules ✓ Dividing 4-Digits by 2-Digits ✓ Dividing by Powers of Ten	✓ Textbook: pgs.56 – 59, 100 – 107
	6	- Decimals through Thousandths (N:11) ✓ Place and Value of Digits ✓ Forms of Numbers - Adding and Subtracting Decimals with and without Regrouping/Renaming (N:16)	✓ Textbook: pgs.34 – 36 ✓ Textbook: pgs.126 - 128

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TERM	TEACHING SEQUENCE		
Christmas Term	WEEK	TOPIC	PAGE REFERENCE
	7	- Comparing and Ordering Decimals (N:12, N:22) - Rounding Decimals (N:13) - Elimination of Bahamian Penny (M:6) - Adding and Subtracting Decimals with and without Regrouping (N:16, N:31)	✓ Textbook: pgs.34 – 36 ✓ Textbook: pgs.50 – 55 ✓ Textbook: pgs.126 - 128
	8	- Multiplying and Dividing Decimals/ Money (N:14, N:15, N:16, N:31) ✓ Multiplying and Dividing by Powers of Ten ✓ Multiplying and Dividing Decimals	✓ Textbook: pgs.129 – 133
	9	- Positive and Negative Integers (N:18) - Factors (N:17) - Products of Prime Numbers using Exponential Notations (N:20)	✓ Textbook: pgs.30 – 33 ✓ Textbook: pgs.60 – 62
	10	- Types of Numbers (N:17, N:19, N:21) ✓ Even and Odd Numbers ✓ Prime and Composite Numbers ✓ Square and Square Roots ✓ LCM and GCF	✓ Textbook: pgs.60 – 65
	11	- Fractions (N:23, N:24) ✓ Equivalent Fractions ✓ Simplifying Fractions ✓ Converting between Mixed and Improper Fractions	✓ Textbook: pgs.24 – 26

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TERM	TEACHING SEQUENCE		
Christmas Term	WEEK	TOPIC	PAGE REFERENCE
	12	Comparing and Ordering Fractions (N:22)	✓ Textbook: pgs.27 – 29
	13	Adding and Subtracting Fractions (N:25, N:31)	✓ Textbook: pgs.120 – 122

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TERM	TEACHING SEQUENCE		
Easter Term	WEEK	TOPIC	PAGE REFERENCE
	1	• Multiplying Fractions (N:26, N:31)	✓ Textbook: pgs.123 – 124
	2	• Dividing Fractions (N:27, N:31)	
	3	• Fractions, Decimals and Percent (N:28, N:29, N:30) ✓ Relationship between Fractions, Decimals and Percent ✓ Convert from Fractions to Decimals to Percent ✓ Percent of a Number	✓ Textbook: pgs.37 – 39, 58
	4	• Ratio (N:32, N:33, N:34) • Roman Numerals (N:36)	✓ Textbook: pgs.93 – 96
	5	• Order of Operations (N:35) ✓ Whole Numbers ✓ Fractions	✓ Textbook: pgs.116 – 119
	6	• Angles (G:1, M:10) • Perimeter Review • Area of Irregular Polygons (M:11)	✓ Textbook: pgs.41 – 42 ✓ Textbook: pgs.137 – 139

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NOTE: Integrate Word Problems in each topic.

Textbook: Bahamas Primary Mathematics Bk. 5

TERM	TEACHING SEQUENCE		
Easter Term	WEEK	TOPIC	PAGE REFERENCE
	7	- Triangles (G:2, G:3, G:4, M:10, M:11) ✓ Naming and Classifying Triangles as Scalene, Isosceles and Equilateral ✓ Naming Triangles as Right, Acute and Obtuse ✓ Perimeter of Triangles ✓ Perimeter of Angles	✓ Textbook: pgs.43 – 44, 134 – 139
	8	- Quadrilaterals (G:5, M:11) ✓ Properties of Quadrilaterals ✓ Perimeter of Quadrilaterals ✓ Area of Quadrilaterals	✓ Textbook: pgs.45 – 46, 134 – 139
	9	- Symmetry (G:6) - Circles (G:7, N:34) ✓ Parts of a Circle ✓ Circumference	✓ Textbook: pgs.47 – 48, 108 – 110, 140 – 141
	10	Transformation (G:8, G:9)	✓ Textbook: pgs.111 – 115
	11	- Special Number Patterns (A:1, A:3) ✓ Rectangular, Square, Oblong and Triangular Numbers ✓ Patterns to Make Computation Easier	✓ Textbook: pgs.11 – 17
	12	Expressions and Equations (A:4, A:5)	✓ Textbook: pgs.88 – 91

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NOTE: Integrate Word Problems in each topic.

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TERM	TEACHING SEQUENCE		
Summer Term	WEEK	TOPIC	PAGE REFERENCE
	1	- Measuring Length and Mass (M:1, M:2, M:3, M:7 M:9) ✓ Temperature ✓ Estimation of Metric and Customary Units ✓ Conversion ✓ Word Problems ✓ Non-Routine Problems	✓ Textbook: pgs.18 – 23
	2	- Measuring Capacity and Volume (M:1, M:2, M:3, M:7, M:9, M:12) ✓ Temperature ✓ Estimation of Metric and Customary Units ✓ Conversion ✓ Metric and Customary Units using Decimal Notation	✓ Textbook: pgs.18 – 23
	3	- Measuring Time (M:8, M 9) ✓ Time ✓ S. I. Format	✓ Textbook: pgs.19, 155 – 156
	4	- More Measures (M:1, M:5, M:9) ✓ Measuring Temperature ✓ Other Countries Measure	✓ Textbook: pgs.20, 152 – 153

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Textbook: Bahamas Primary Mathematics Bk. 6

TERM	TEACHING SEQUENCE		
Summer Term	WEEK	TOPIC	PAGE REFERENCE
	5	- Speed, Distance and Time (M:13) - Scales on a Map (M:14)	✓ Textbook: pgs.142 – 145 ✓ Textbook: pgs.66 – 69, 97 – 98, 152 – 153
	6	- Statistics (D:1, D:2, D:3, D:4, D:5) ✓ Collecting, Organizing and Analyzing a Set of Data ✓ Types of Graphs (Circle Graphs, Line Plot, Stem and Leaf Plot, Venn Diagram) ✓ Mean, Median and Mode	✓ Textbook: pgs. 70 - 77
	7	- Statistics (D:1, D:2, D:3, D:4, D:5) ✓ Collecting, Organizing and Analyzing a Set of Data ✓ Types of Graphs (Circle Graphs, Line Plot, Stem and Leaf Plot, Venn Diagram) ✓ Mean, Median and Mode	✓ Textbook: pgs. 70 - 77
	8	- Probability (D:6, D:7, D:8) ✓ Probability Written as a Fraction or Ratio ✓ Fair Game	✓ Textbook: pgs.146 – 151

Scope of Work

Primary School Mathematics

Grade 4

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 4

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

Essential Questions

1. How does place value help me understand numbers?
2. How can we compare and contrast numbers?
3. What are the different ways to read and write a number?
4. What is the relationship between fractions and whole numbers?
5. How do you simplify a fraction?
6. What is the importance of using and interpreting the language of mathematics in problem solving?
7. How can we decide when to use an exact answer and when to use estimation?
8. How are the four basic operations related to one another?
9. How can making equivalent fractions be used to add and subtract fractions?
10. What is the need for a multi-step problem?
11. How do you know when to multiply or divide in a problem solving situation?

SCOPE OF WORK
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STRAND: NUMBER AND OPERATIONS
GRADE: 4

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OBJECTIVE	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT														
1. Identify place value of digits in whole numbers up to the millions.	- You can write numbers in different ways e.g. Standard form, expanded form, and word form. E.g.: Standard form = 248, Expanded form = 200 + 40 + 8 Word form = two hundred forty eight. - Vocabulary: digits, standard form, expanded form and word form <table><tr><td>Millions</td><td>Hundred thousands</td><td>Ten thousands</td><td>Thousands</td><td>Hundreds</td><td>Tens</td><td>Ones</td></tr><tr><td>4</td><td>6</td><td>1</td><td>5</td><td>3</td><td>9</td><td>2</td></tr></table> Note: 6 is in the hundred thousands place. The value of 6 is 600 000	Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones	4	6	1	5	3	9	2	- Use a place value chart to show larger numbers. - Tell and write the value of a digit using base ten blocks. Game: “It’s in the bag” - Practice reading and writing numbers in the three forms. - Use place value models to show and read numbers. - Use place value chart and number line to show larger numbers. Quizizz https://quizizz.com/admin/quiz/5f7a66e095d14f001f4b bcfa	- Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pgs. 11-13 ✓ Textbook: pgs. 8 & 9 ✓ Workbook: pgs. 4 &5	- Write the place value positions of the zeros in the number 70,010 (thousands, hundred, ones). Lesson Quiz: Write in standard form E.g: 80 000 (eighty thousand). 3 000 (three thousand). - Write numbers in expanded and word form. Quiz E.g. 300 090= 300 000 +90 -Fifty one thousand- 51000
Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones												
4	6	1	5	3	9	2												
2. Write numerals and word names up to millions.	A number tells you how many or how much, a number can be written in words or symbols. The symbols 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9 are called digits. Example: 4 636 192 = four million six hundred thirty-six thousand, one hundred ninety-two	Tell how greater numbers are used in everyday life. e.g.: distance to other countries, lengths, height, population of cities etc. Quizizz https://quizizz.com/admin/quiz/5d549985262a40001a94f29d https://quizizz.com/admin/quiz/5d4b8c58057a3a001b3a8ff2	- Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pgs. 11-13 ✓ Textbook: pgs. 5-10 ✓ Workbook: pgs. 4 &5	Discussion: What is the difference between the way you would write 900,000, the way you would write 90,000 and the way you would write 9,000 in standard form? - Discuss other numbers in the same way.														

**SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 4**

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
3. Round whole numbers to the nearest thousand, ten thousand and hundred thousand (Continued).	- Rounding is a method used to replace a number with another number that tells about how many or how much. Rounding Rules - Find the place to which you want to round. Look at the digit to its right. If the digit is less than 5, the digit in the rounding place stays the same. If the digit is 5 or more, the digit in the rounding place increases by 1. -Note: All digits to the RIGHT of the rounding place become zeros. All digits to the LEFT of the rounding place remain the same. Examples: Round 374 to the nearest ten. - Find the rounding place, Tens - Ask: i. What digit do I look at? The digit in the ones place -4. - Is it less or more than 5? It is less than 5. - What happens to the digit in the ones place? It remains the same-7. - What happens to the digit to the left of the tens place? It remains the same-3.	Rounding Riddle I am now the number 360 000. I was rounded to the nearest ten thousand. I was the number between 352 678 and 352 680. What number was my original name? - The same principle applies for rounding to the nearest ten thousand and hundred thousand. Rounding Concentration Have two sets of cards: One set with the original numbers and the other set with the matching rounded numbers. - Guide students to match pairs of cards and explain choice of selection.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 27 & 28 ✓ Textbook: pgs. 47-49 ✓ Workbook: pgs. 26 & 27	- Discussion: Explain steps to complete rounding a number to the nearest thousand? - Write in math journal. Draw a number line to show how you would round 543 267 to the nearest thousand. - Create a round robin game.

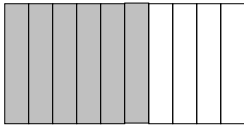
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 4

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
3. Round whole numbers to the nearest thousand, ten thousand and hundred thousand.	v. What happens to the digit to the right of the tens place? It becomes a zero. Therefore, 374 rounded to the nearest ten is 370. Round 374 to the nearest hundred - Find the rounding place: hundreds. Ask: - What digit do I look at? The digit in the tens place: 7 - Is it (7) less or more than 5? It is more than 5 - What happens to the digit in the hundreds place? It increases by 1 ($3 + 1$). - What happens to the digits to the right of the hundreds place? They become zeros. Therefore, 374 rounded to the nearest hundred is 400. - Round 2641 to the nearest thousand. To round to the nearest thousand, follow the rounding rules. Therefore, 2 641 rounded to the nearest thousand is 3 000.	Quizizz https://quizizz.com/admin/quiz/59ac8451d5471e110095e7de	Video/Content https://youtu.be/KkswD4iPyO0	Quiz Round numbers to the nearest thousand, ten thousand and hundred thousand.

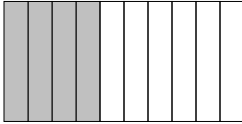
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 4

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
4. Order and compare whole numbers up to millions using the symbols =, >, and <.	Order numbers by comparing the digits in the same place value position from left to right. Example: 1364; 1364: 1634: 1694	Use the number line to compare numbers. Quizizz https://quizizz.com/admin/quiz/5f59eefc0b52ac001be421b6	Videos/Content Comparing Numbers https://youtu.be/3OA6t-e29Mc Ordering Numbers https://www.liveworksheets.com/yx1065395fg Liveworksheets Comparing Numbers https://www.liveworksheets.com/lp1065418he Word problems https://www.liveworksheets.com/bn1074162hz	Discussion: How would you compare 786 and 787 to find the greater number?
5. Equate fractions and decimals using concrete material or pictorial.	- Equate numbers, word name, standard form and expanded form. Example: word name: sixth tenth = $\frac{6}{10}$  Standard form: 0.75 = seventy-five hundredth Expanded form: $3 + 0.7 + 0.06 + 0.002 = 3.762$ - Equate one dollar to percent.	- Working in pairs, have students draw pictures to illustrate fractions or decimals. Have them exchange their drawings and write the fractions and decimals. - Use graph paper to show fractions and decimals.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 22 & 23 ✓ Textbook: pgs. 31-32 ✓ Workbook: pgs. 18-22	Have students write fractions and decimals from pictorial representations.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
6. Read and write decimals through thousandths.	- A decimal is a number with one or more digits to the right of the decimal point. A decimal uses place value to show values of numbers less than 1 such as tenths, hundredth and thousandths.  Fraction Write: $\frac{4}{10}$ Decimal Write: 0.4 READ: four tenths READ: four tenths - The fraction $\frac{4}{10}$ and 0.4 name the same amount.	- Have students use money to model decimals. a. One dollar b. one dime c. one penny 100 cents 10 cents 1 cent Decimal Concentration - Have students match decimals with their pictorial representations. Quizizz https://quizizz.com/admin/quiz/5e9b481cb0f397001bc4b7cc	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 22 & 38 ✓ Textbook: pgs. 31-38 ✓ Workbook: pgs. 18-22	Quiz

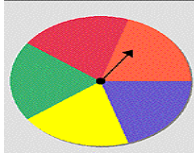
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 4

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT						
7. Use words, pictures or concrete materials to represent a decimal as part of a whole.	- A whole can be divided into 100 equal parts called hundredths. - Six parts out of the 100 equal parts is 6/100 (6 hundredth) as a fraction and 0.06 as a decimal.	- Use decimal models to show part of a whole. Example: 2/10 or 0.20  - Below your decimal model, write the fraction and decimal amount you have shown 2/10 or 0.2 - Use place value chart to show fraction and decimals E.g. 7/10 or seven tenths or 0.7 <table><tr><td>Ones</td><td>.</td><td>tenths</td></tr><tr><td>0</td><td>.</td><td>7</td></tr></table> Quizizz https://quizizz.com/admin/quiz/5e41b3d58bd75f001e12031c	Ones	.	tenths	0	.	7	- Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pgs. 22 & 23 ✓ Textbook: pgs. 31-38 ✓ Workbook: pgs. 18-22	- Use graph paper to draw decimal models. - Write fractions as a decimals Example: 19/100 = 0.19 - Write decimals as a fraction 0.04 = 4/100
Ones	.	tenths								
0	.	7								

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
8. Round decimals to the nearest whole, tenth, and hundredth.	- Steps involved in rounding decimals. - Find the rounding place. Look at the digit to the right of the rounding place. - If the digit is 5 or greater, add 1 to the rounding digit. If the digit is less than 5, leave the rounding digit as it is. - Make the digits to the right of the rounding digit zeros. Examples -Round \$7.42 to the nearest dollar. It is closer to \$7.00 than \$8.00. -Round 15.54 to the nearest tenth. Answer: 15.50 -Round 8.639 to the nearest hundredth. Answer: 8.640	Wheel of Decimals - Design a sectioned wheel with a spinner and decimal numbers.  - Guide student to spin the spinner and round the number that the spinner lands on to the nearest whole number, tenth, or hundredth. Food Store Shopping - Create a food store setting with priced items. - Have students go on a shopping spree where they estimate the cost of specific items to the nearest whole, tenth, or hundredth Quizizz https://quizizz.com/admin/quiz/5953e7bab96e581100aa3198	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pg. 28 ✓ Textbook: pgs. 50 & 51 ✓ Workbook: pg. 27	- Quiz: Round decimals to the nearest whole, tenth, and hundredth. - Discussion: Steps to take when rounding decimal numbers. - Create a Round Robin game

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
9. Compare and order decimal through thousandths.	Use place value. Start at the left. Look for the first place where the digits are different. Example: 0. 472 ; 0. 679 9 thousandths > 2 thousandths 0. 6790 > 0.472	- Use place value to solve word problems A penny made in 1982 weighs about 0.129 ounce. A penny made in 2006 weighs about 0.120 ounce. Which penny weighs more, a 1982 or 2006 penny? a. Use place value to solve problem. 0.129 ; 0.120 - Start at the left. Look for the first place where the digits are different. 9 thousandths > 0 thousandths 0.129 > 0.120 Therefore, a penny made in 1982 weighs more than a penny in 2006. - Students can also use the hundred grid. Quizizz https://quizizz.com/admin/quiz/5c54617e9d473b001bbc1e90	Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pg. 23 ✓ Textbook: pgs. 36-37 ✓ Workbook: pg. 22	Order and compare fractions and decimals from greatest to least and vice- versa. Example: Order $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{3}{4}$ from greatest to least.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
10. Add and subtract columns of numbers.	Steps for Addition Example: 43 56 + 21 - Add the ones. Regroup if needed. - Add the tens. Regroup if needed. Mental-Find the difference 36 - 25 Think: 36 = 30 + 6 25 = 20 + 5 -Subtract the tens:-30 – 20 = 10 -Subtract the ones: 6-5 = 1 -Add the differences 10 + 1= 11 Therefore, 36-25 = 11 Addition and subtraction of weeks and days Example: Weeks Days 8 2 +5 6 14 1 Weeks Days 12 0 - 9 3 2 4 Maintain skill of addition and subtraction by using hours and minutes.	Using a shop setting, with priced items, have students use specific methods to add or subtract. Quizizz https://quizizz.com/admin/quiz/5f3fe03cf64d54001b0482ae	- Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pgs. 35-37 ✓ Textbook: pgs. 71-76 ✓ Workbook: pgs. 37-39	Create some word problems where students have to decide whether to add or subtract to solve the problem.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
11. Add and subtract decimal numbers.	- Step by step guide to add and subtract decimals. - Line up the numbers. - Add zeros to have the same number of digits for both numbers if necessary. - Add or subtract using column addition or subtraction. Example: $\begin{array}{r} 1.5 \\ + \quad 2.14 \\ \hline \end{array}$ - Use zeros to have the same number of digits for both numbers - Start with the hundredths place - Continue with tenths and then add the ones place $\begin{array}{r} 1.50 \\ + \quad 2.14 \\ \hline 3.64 \end{array}$	Quizizz https://quizizz.com/admin/quiz/59dee811f7cef011007b3f50	Videos/Content https://www.youtube.com/watch?v=n-OcbG1FIBQ https://youtu.be/sso6x5VLZhc Worksheets https://www.liveworksheets.com/worksheets/en/Math/Decimals/Adding_and_Subtracting_Decimals_cg1327624sp https://www.liveworksheets.com/worksheets/en/Math/Decimals/Adding_Decimals_with_Word_Problems_jj415740li Quizizz https://quizizz.com/admin/quiz/5f94d513156afc001b2dfc6c	Each cooperative learning group in the class will create a set of six problems for the other groups to solve.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
12. Addition and subtraction of metric units.	- Adding and subtracting metric units is similar to adding and subtracting whole and decimals numbers. - Steps - Write the units at the top. - Write the numbers in the proper place below the units. Write zeros in empty places. - Regroup or rename where necessary. Examples: $ \begin{array}{r} \text{Km} \qquad \text{m} \\ 45 \qquad 034 \\ + 34 \qquad 005 \\ \hline 79 \qquad 039 \end{array} $ $ \begin{array}{r} \text{Km} \qquad \text{m} \\ 35 \qquad 045 \\ -15 \qquad 030 \\ \hline 20 \qquad 015 \end{array} $	Activity https://www.ixl.com/math/grade-4/add-and-subtract-metric-mixed-units	Video/Content https://www.youtube.com/watch?v=J7szLguSLWg&t=45s	Students measure areas within their school's campus (e.g. basketball court, flower bed, pavilion, walkways, etc.) using a trundle wheel and/or measuring tape. They will record the measurements and use them to create number problems to be solved.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
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Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
13. Solve problems which require the addition and subtraction of metric units.	• Understand: What you are asked to find? What information will you need? • Plan: What strategy can be used to solve the problem? • Solve: How can you use the strategy? • Check: What other strategy could you use? • Metric units follow the same format as the addition and subtraction of whole numbers. $\begin{array}{r} 4\text{m} \quad 20\text{ cm} \quad 4.20\text{ m} \\ + 5\text{m} \quad 85\text{ cm} \quad \underline{5.85\text{ m}} \\ 10 \quad 05 \end{array}$ • Heavenn lives 3 562 km from her best friend Sherry, who lives in another country. If Heavenn visits Sherry and returns home, how many kilometers did she travel in all? Example: $3\,562 \times 2 = 7\,124\text{ km}$	• Students are placed in groups. Each group is given a section of the Real Estate Ads in the newspaper. Each group finds the total amount of the land for sale in kilometer. They will find the difference between the sums of their total and another group's total.	• Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 54 & 55 ✓ Textbook: pgs. 126-131 ✓ Workbook: pgs. 60- 62 • Newspaper	• Solve addition and subtraction problems involving the metric units.

SCOPE OF WORK
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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
14. Use and interpret the language of mathematics in problem solving.	- Understand what the problem is asking. - Figure out what information you know and what you need to know to solve the problem. - Key words in word problems indicate which operation/s are involved. - Some key words for addition are <i>increase by, more than, total of, sum, in all, and altogether.</i> - Some key words for subtraction are <i>less than, difference of, how many are left, how many more and how many less.</i> - Some key words for multiplication are <i>times and every.</i> - Some key words for division are <i>each, share, quotient, and average.</i>	In groups, have students solve problems.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. Nil ✓ Textbook: pg. 89 ✓ Workbook: pg. 46 Worksheet https://www.liveworksheets.com/worksheets/en/Math/Word_problems/Word_Problems_-_all_operations_lc322797nk	Journal Writing: Write how to solve a problem giving reasons for selecting the problem solving strategy and the operation to solve the problem.

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STRAND: NUMBER AND OPERATIONS
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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
15. Recall multiplication and division facts working toward a goal of 3 seconds or less per fact.	- The answer in a multiplication problem is called the product. E.g. $8 \times 9 = 72$ $\uparrow$ $\uparrow$ $\uparrow$ Factor Factor Product Dividend is a number that is divided by another number. Divisor is the number that divides the dividend. Quotient is the answer in a division problem. Example: $36 \div 4 = 9$ $\uparrow$ $\uparrow$ $\uparrow$ dividend divisor quotient	- Divide students into “n” teams and stand one behind the other. Teams must provide products for set of facts within “n” minutes. a. Place fact cards on a pile face down. The first person on the line will remove a card and tell the product. If the answer is correct, the person places the card in an area for the Used Cards. The player then runs and tags the person at the back of the line. The tagged person runs to the front of the line and begins this round by removing the card from the top of the Unused pile. The tagged person tells the product for the multiplication fact. NB: If a student provides an incorrect product, he/she must place the card face up on the Unused Pile. He/she then runs and tags the student at the back of the line. Quizizz https://quizizz.com/admin/quiz/59fb034777a18e10006045cb	Multiplication and division flash cards	- Complete each number sentence. Draw an array to help. a. $\square \times 5 = 20$ b. $8 \times \square = 24$ c. $2 \times \square = 14$ d. $14 \div 2 = \square$ - Illustrate pictorial representation (arrays) of multiplication and division facts in math journals.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
16. Create and solve multiplication story problems.	Steps in Problem Solving • Read the problem carefully • Underline clue words e.g. product, total, area, times • Ask yourself if you've seen a problem similar to this one. If so, what is similar about it? • What do you need to do? • What facts are you given? • What do you need to find out? • Define and try your strategy. • Solve Problems • Reflect: Does it seem probable?	• Draw arrays on grid paper to model problem. • Students will work in small groups to create story problems. Students will show a solution to the problem using manipulatives and pictures. Students will make a final copy so it will be published in a class book. Quizizz https://quizizz.com/admin/quiz/5be9750134419f001bb658d6	• Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 40 & 41 ✓ Textbook: pg. 92 ✓ Workbook: pgs. 46	• Create and solve story problems • Create multiplication word problems task cards

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
17. Find the product of 2 whole numbers when one factor has 2 digits or less and the other has 3 digits or less. (Use estimation, paper, pencil and calculator).	- To find about how many, you can estimate. You can use rounding or front-end estimation to estimate products. E.g. 178×13. -Round each number. $\begin{array}{r} 178 \\ \times 13 \\ \hline \end{array}$ Multiply $\begin{array}{r} 200 \\ \times 10 \\ \hline 2\ 000 \end{array}$ - When numbers are large and the problem involves regrouping, paper, pencil, and calculator are good choices.	- In cooperative groups, students are given flash cards with the multiplier and the multiplicand to find the estimated product. - Students complete problems and report findings to the class.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 44 & 45 ✓ Textbook: pg. 99 ✓ Workbook: pg. 49 - Newspapers Quizizz https://quizizz.com/admin/quiz/5fef24cedde9f8001b670fe3	- Students create and solve multiplication problems using priced articles from newspapers or magazines. - Have students write about the importance of estimating numbers.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
18. Multiply up to 2 digits by 3 digits (Continued).	Steps involved in multiplication Example: Find 37×240 $\begin{array}{r} 37 \\ \times 240 \\ \hline 000 \\ 1480 \\ + 7400 \\ \hline 8880 \end{array}$ a. Multiply by the ones. Regroup if necessary. b. Multiply by the tens. Regroup if necessary.	Writing to explain - The ferry makes 38 one way trips on Saturday and carries an average of 310 people - How many people were ferried on Saturday? - If the amount of trips were cut in half, how many people would be ferried on Saturday? a. Students are placed into two groups and are allowed to use calculators. b. Group A challenges group B to complete a similar problem given above by multiplying two digit numbers by three digit numbers. The activity is timed. The group that completes the activity in the shortest time wins. Quizizz https://quizizz.com/admin/quiz/5f5678495c6c50001b321c57	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 44 & 45 ✓ Textbook: pgs. 102 & 103 ✓ Workbook: pg. 50	Complete worksheet designed by teacher. Example: Multiply and find the product. a. 23×120 b. 97×385

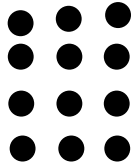
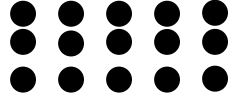
SCOPE OF WORK
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STRAND: NUMBER AND OPERATIONS
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Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
18. Multiply up to 2 digits by 3 digits.	c. Multiply by the hundreds. d. Add the partial products.	- Play a Multiplication Fly Swap Game - Teacher places students in groups and reads the problem for them. - In groups, students will work out the problem. - One student from each group will go to the board with the fly swap and hit the correct answer that is posted. - The first person who hits the correct answer with the fly swap is the winner.	Calculator	Multiplication Relay: Students take turns solving multiplication problems on the board. Each problem is worth a set number of points. The first team to complete all of their problems, wins (each student will have an opportunity to complete at least five problems. The teacher will record students' points as they solve the problems.
19. Multiply decimals by single digit whole numbers (Continued).	Steps: - Multiply the numbers by ignoring the decimal point - Put the decimal point before as many places in the product as there are in the decimal number. Example: $\begin{array}{r} 45 \\ \times 3 \\ \hline \end{array}$ - Carryout the multiplication by ignoring the decimal point. $\begin{array}{r} 45 \\ \times 3 \\ \hline 135 \end{array}$	Quizizz https://quizizz.com/admin/quiz/58d545b5bec3a25458eb8afe	Video/Content https://youtu.be/XXkXXzJD3UM Activity Sheet https://www.mathworksheets4kids.com/decimals/multiplication/whole1.pdf	

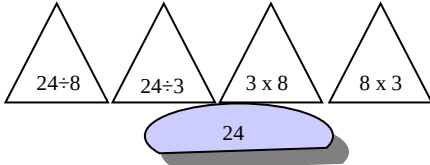
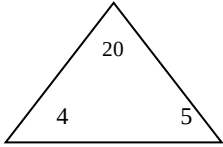
SCOPE OF WORK
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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
19. Multiply decimals by single digit whole numbers.	Place in product an equal number of decimal points as are in the decimal number. Here, the number of decimal places is 1. $\begin{array}{r} 4.5 \\ \times 3 \\ \hline 13.5 \end{array}$	Interactive Online Skills Practice https://www.iknowit.com/lessons/e-multiplying-decimals.html	Activity Sheet https://www.dadsworksheets.com/worksheets/multiplication/multiplication-with-decimals-1-v2.html	Students complete an online worksheet at https://www.liveworksheets.com/kq1603709kf
20. Explain division as the inverse of multiplication (Continued).	- There is an inverse relationship between division and multiplication just like there was between addition and subtraction. Example: The equation $45 \div 5 = 9$ has the inverse relationships: $5 \times 9 = 45$ $9 \times 5 = 45$ - Similar relationships exist for multiplication. The equation $3 \times 7 = 21$ has the inverse relationships $21 \div 3 = 7$ $21 \div 7 = 3$	- Draw pictures to show that division is the inverse of multiplication.  $4 \times 3 = 12$ $12 \div 4 = 3$ - Given a specific number of counters, have students arrange them in an array and write the corresponding multiplication and division equations. Example  $3 \times 5 = 15$ $15 \div 3 = 5 \text{ or } 15 \div 5 = 3$	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 46-48 ✓ Textbook: pg. 106 ✓ Workbook: pgs. 52 & 53	Complete each number sentence. Draw an array to help. a. $2 \times \square = 14$ b. $14 \div 2 = \square$

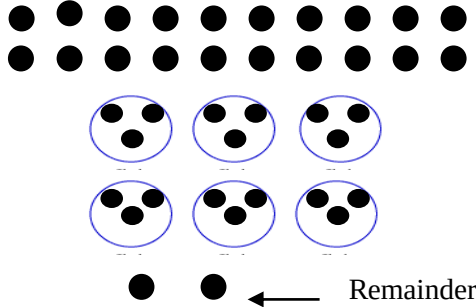
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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
20. Explain division as the inverse of multiplication	Multiplication and division are opposite or inverse operations.	Junkanoo Mathematics Given Junkanoo hat templates with a number written in the centre, have students write the multiplication and division equations for the number.  - Use triangle fact cards to write fact families. e.g. (triangle with 4, 5 and 20 in each corner)  $4 \times 5 = 20$ $5 \times 4 = 20$ $20 \div 5 = 4$ $20 \div 4 = 5$ Quizizz https://quizizz.com/admin/quiz/5fa9684b6121e6001bc8d9c3	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 46-48 ✓ Textbook: pg. 106 ✓ Workbook: pgs. 52 & 53	Journal Writing: Explain division as the inverse of multiplication.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
21. Explain what a remainder means in a division problem (Continued).	- To divide means to share a number of items to find how many equal groups can be made or how many items will be in each group. Sometimes you cannot divide numbers or numbers of object evenly. REMAINDER is the amount that is left over when a number cannot be divided evenly. $\begin{array}{r} 6 \text{ r } 1 \\ 6 \overline{) 37} \\ \underline{- 36} \\ 1 \end{array}$ - Divide 37 by 6 - Multiply 6 by 6 - Subtract 36 from 37 - Compare $1 < 6$ The quotient is 6 and the remainder is 1 NB: The difference must be less than the divisor. - Interpreting the remainder is a necessary skill in solving division word problems.	- Use counters to show remainders. Example: use 20 counters. Draw 6 circles  Dividing History: Variation of Jeopardy - Teacher divides the class into teams and has students complete division questions with remainders. Categories: The Lucayans, Columbus Landing, The Loyalists Sample Question: Twenty-seven Lucayans needed to paint their faces. There were 4 bowls of paint. One bowl of paint can decorate 6 faces. How many Lucayans were able to have their faces painted? Explain.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 46-48 ✓ Textbook: pg. 107 ✓ Workbook: pgs. 52 & 53	- Write missing numbers on the fact card for division problems. - Discuss: when do you have a remainder in a division problem?

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21. Explain what a remainder means in a division problem.	Sometimes the answer is the remainder, sometimes the remainder is dropped, and sometimes the quotient is increased. Example: thirty-five oranges are placed in crates. A crate can hold 8 oranges. Every crate is filled except one. - How many full crates are there? 4 - How many oranges are in the unfilled crate? 3 - How many crates are needed for all 35 oranges? 5 $\begin{array}{r} 4 \text{ r } 3 \\ 8 \overline{) 35} \\ \underline{- 32} \\ 03 \end{array}$	Quizizz https://quizizz.com/admin/quiz/5df0db8fba2ab3001ba5d0f5	Video/Content https://youtu.be/mAvuom42NyY - Primary Social Studies Bk. 4 - Tourism Education for The Bahamas	Record and solve division problems that have remainders
22. Divide up to a 3-digit dividend by 1- digit divisor with and without remainders (Continued).	Steps for division Example: Divide 178 by 3 $\begin{array}{r} 59 \\ 3 \overline{) 178} \\ \underline{- 15} \downarrow \\ 28 \\ \underline{- 27} \\ 1 \end{array}$ a. Divide 17 by 3. Place the answer in the tens place.	- Create a rap, poem, or song about dividing with remainders. - Game: Division Wheel - Class is divided into groups. - Students spin a wheel with division problems and solve them. - The group with the most correct answers wins the game.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 46-48 ✓ Textbook: pgs. 108-110 ✓ Workbook: pgs. 52 & 53 - Primary Social Studies Bk. 4 - Tourism Education for The Bahamas	Discussion: The Importance of Alignment in Division Problems - Solve three-digit dividend by one digit divisor with and without remainders.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
22. Divide up to a 3-digit dividend by 1- digit divisor with and without remainders.	b. Multiply by 3 c. Subtract 15 from 17. d. Bring down 8 ones. Divide the 28 ones. e. Multiply 9 by 3 f. Subtract 27 from 28. g. Compare $1 < 3$ -The quotient is 59 and the remainder is 1	Quizizz https://quizizz.com/admin/quiz/5af2f77a02fd7c0019e3f563	Video/Content https://youtu.be/ITpzAicMmqo	Create a BINGO division game or task cards.
23. Estimate addition and multiplication up to two digits by three digits.	- There are many ways to estimate like using compatible numbers, rounding and using front-end estimation. - Front end estimation involves rounding and adding, subtracting or multiplying numbers in the leftmost place or the very last number on the left. - This means that all numbers in other places will be zeros except the number in the leftmost place after the numbers are rounded Example: $ \begin{array}{rcl} 2\ 354 & \longrightarrow & 2\ 000 \\ +\ 1\ 677 & \longrightarrow & +\ 2\ 000 \\ \hline & & 4\ 000 \end{array} $	Quizizz https://quizizz.com/admin/quiz/5bde62ad1d6394001b1b36dc/multiplication-estimation https://quizizz.com/admin/quiz/5f889eae334f11001b8ca11d/estimation-sums-and-differences	Online Resource https://www.math10.com/teachers/word-problems-product-estimate.html	Students solve addition and multiplication problems, identifying the estimation strategy used for each problem.

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24. Create and solve one and two step problems involving the four operations.	- One operation is used to solve one-step problems. - Two or more operations are used to solve multi-step problems. Review clue words for the four rules with students.	Math Baseball - Divide class into 2 equal teams. If there is 1 person left over, assign a job (read problems, keep score, etc) - Give each team a name and choose a captain. - Set up bases in 4 areas of the classroom. The first team forms a batting line. The second team gives a word problem. E.g. Wanda eats 2 dillies every day. How many will she eat in 9 days? *The first team member chooses the operation and solves the problem. If the answer is correct, the team player advances to the 1st base. As in a baseball game, players may advance once teammates answer correctly. If a member fails to answer correctly, he/she gets a strike. Three strikes means the team is OUT. - The second team bats and the first team ask the questions.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 35-37; 41 ✓ Textbook: pgs. 71-76; 92 ✓ Workbook: pgs. 37-39; 46 - Newspapers - Magazines Quizizz https://quizizz.com/admin/quiz/587f90bdf8860f615d782ac9 https://quizizz.com/admin/quiz/5dd5266c1082ea001d22ea87	Create and solve multi-step problems in their mathematics journals.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
25. Solve real world problems involving the +, -, x, and ÷ of money	- Adding and subtracting money amounts is similar to adding and subtracting whole numbers. - Multiplying and dividing money amounts is similar to multiplying and dividing whole numbers	- In groups, have students solve various problems and report findings. - Find the total price by adding the amounts. E.g. \$ 3.95 + \$4.64 = _____ - Write the difference in dollars and cents. E.g. \$ 50.00 - 28.98 - Find the product. \$3.95 x 4 = _____	Liveworksheets https://www.liveworksheets.com/vf1743721cv https://www.liveworksheets.com/rc1959638hc	Lessons Quiz E.g. \$1.53 + 2.27 \$ 142. 39 - 21. 51 Write: Explain how you would solve this problem: \$4.42 + \$ 3.65 = \$8.07
26. Identify and explain the role of the numerator and denominator in fractions.	- The numerator tells how many parts are being counted. - The denominator tells how many equal parts are in the whole. Example: $\frac{5}{9}$ numerator 9 denominator	Concentration Match Game: - Have students match a fraction with the pictorial representation. 1/2	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 18 & 19 ✓ Textbook: pgs. 21-26 ✓ Workbook: pgs. 11-16	Journal Writing Draw and write the fraction for a part of a group or part of a shape. Explain your answer.

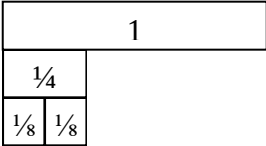
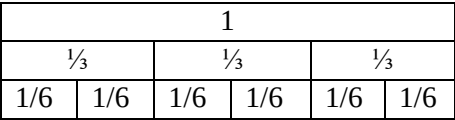
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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
27. Explain the relationship between fractions and whole numbers.	- Whole numbers can be expressed as fractions. Example: 4 – whole number $\frac{4}{1}$ - fraction - Fractions such as $\frac{2}{2}$ as $\frac{3}{3}$ are equal to 1 whole. - Fractions are extension of the place value system.	Have students cut apples or oranges to show fractions. Quizizz https://quizizz.com/admin/quiz/5e8398130d13c0001b4e0ecc	- Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pgs. 18 & 19 ✓ Textbook: pgs. 21-26 ✓ Workbook: pgs. 11-16 - Fractional Cutouts	Have students write in Math Journal explaining the relationship between fractions and whole numbers using examples.
28. Identify, read and write equivalent fractions (Continued).	- Two or more fractions that name the same amounts are called equivalent fractions. - Multiply the numerator and denominator by the same number to find an equivalent fraction. Example: $\frac{1}{4} \times 2 = \frac{2}{8}$ $\frac{1}{4} = \frac{2}{8}$	Fraction Monkey: Students match equivalent fractions. - Divide students into groups. - Place fraction flashcards and its equivalent face down on the table. - The group that finishes first with the correct responses is the winner.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pgs. 18 & 19 ✓ Textbook: pgs. 21-26 ✓ Workbook: pgs. 11-16 Fraction Monkey www.sums.cook/playground/n6a/playground.htm	Quiz on how to read, write and apply equivalent fractions.

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28. Identify, read and write equivalent fractions.	- Another way to find equivalent fractions is to use fraction strips. Example  - Both $\frac{1}{4}$ and $\frac{2}{8}$ name the same part of a whole.	Using a model to show equivalent fractions. Step 1 d. Start with the bar for 1 whole line up two $\frac{1}{3}$ bars for $\frac{2}{3}$.  Step 2 e. Use $\frac{1}{6}$ bars to match the length of the bars for $\frac{2}{3}$. Step 3 f. Count the number of $\frac{1}{6}$ bars that make up $\frac{2}{3}$: Write the equivalent fraction. Count $\frac{1}{6}$, $\frac{2}{6}$, $\frac{3}{6}$, $\frac{4}{6}$ Quizizz https://quizizz.com/admin/quiz/587f0733030439325e993c8b	- Fraction Bars - Fraction Flash Cards	Quiz on how to read, write and apply equivalent fractions

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
29. Order and compare fractions and decimals using the symbols $>$, $=$ and $<$.	- Numbers are compared to decide which of the 2 numbers is greater or less than. - Use these symbols. a. Greater than $>$ $\frac{1}{4} > \frac{1}{9}$ b. Less than $<$ $0.1 < 0.25$ b. Equal to $=$ $\frac{1}{4} = \frac{2}{8}$	Quizizz https://quizizz.com/admin/quiz/56465c1a8bb91bb11ff93bb8	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 18; 23 ✓ Textbook: pgs. 23; 36 & 37 ✓ Workbook: pgs. 13 & 14; 22	Complete worksheet comparing and ordering fractions and decimals.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
30. Simplify fractions.	A fraction is in its simplest form when the numerator and denominator have no common factor other than 1. e.g. Write 4/12 in simplest form by dividing twice. $\frac{4}{12} \div \frac{2}{2} = \frac{2}{6}$ * 4 and 12 are both even. Two is a common factor. $\frac{2}{6} \div \frac{2}{2} = \frac{1}{3}$ * 2 and 6 are both even numbers. Two is the greatest common factor. Divide the numerator and the denominator by the greatest common factor. Write 4/12 in simplest form by dividing by 4. $\frac{4}{12} \div \frac{4}{4} = \frac{1}{3}$ In simplest form, $\frac{4}{12} = \frac{1}{3}$	Interactive fraction Games: Students play on line games where they simplify fractions. Quizizz https://quizizz.com/admin/quiz/5e4d475bbfe21f001dd57531	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 18 & 19 ✓ Textbook: pgs. 21-26 ✓ Workbook: pgs. 11-16	Write fractions in simplest form

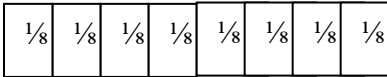
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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
31. Identify, write and illustrate mixed numbers.	- A mixed number is made up of a whole number and a fraction e.g. $1\frac{2}{4}$ a. 1 is the whole number and $\frac{2}{4}$ is the fraction.	- Use models to show mixed numbers - Fraction models	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 18 & 19 ✓ Textbook: pgs. 21-26 ✓ Workbook: pgs. 11-16 Quizizz https://quizizz.com/admin/quiz/5fab290fd8155f001bb8ae23	Illustrate and explain a mixed number.
32. Add and subtract fractions and mixed numbers with like denominators without regrouping/renaming (Continued) .	- Fractions that have the same denominators are called like fractions. - You can use fraction bars to add fractions and to find the sum in simplest form. - Like fractions can be subtracted by subtracting the numerators; the denominator stays the same. Example: $\frac{5}{6} - \frac{1}{6} = \frac{4}{6}$ -Simplify by dividing the numerator and denominator by 2 $\frac{4}{6} \div \frac{2}{2} = \frac{2}{3}$	- Use items in the classroom to show addition and subtraction of like fractions. Example: 5 boys and 3 girls sit on chairs in front of class. a. What fraction are boys? ($\frac{5}{8}$) b. What fraction are girls? ($\frac{3}{8}$) c. What fraction names the whole group? ($\frac{8}{8} = 1$)	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 51-53 ✓ Textbook: pgs. 121&122 ✓ Workbook: pgs. 57 & 58	Discussion: How do you solve a fraction with like denominators? What key element do you look for? - Explain how to use fraction bars to add and subtract fractions with like denominators.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
32. Add and subtract fractions and mixed numbers with like denominators without regrouping/renaming.	- When adding like fractions, add only the numerators. The denominator remains the same. Example: $\frac{1}{4} + \frac{1}{4} = \frac{2}{4} = \frac{1}{2}$ - You can use addition and subtraction basic facts to help you add and subtract like fractions.	Use fraction bars to add and subtract fractions with like denominators. E.g.: $\frac{7}{8} - \frac{4}{8} = \frac{3}{8}$ 	Quizizz https://quizizz.com/admin/quiz/5ff242395eb584001f4b1552	Lesson Quiz Use fraction bars to find the sum. $\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$ $\frac{4}{10} + \frac{4}{10} = \frac{8}{10}$ or $\frac{4}{5}$ -Use fraction bars to find the difference $\frac{11}{12} - \frac{6}{12} = \frac{5}{12}$
33. Explain why like denominators are needed in the addition and subtraction of fractions.	- To add and subtract fractions with unlike denominators, change to equivalent fractions. - Fractions with unlike denominators cannot be added and subtracted unless you find the common denominator. - Without denominators, the number is not a fraction. E.g. $\frac{1}{2} + \frac{1}{4} = \frac{2}{4} + \frac{1}{4} = \frac{3}{4}$ a. Change one fraction so that they both have the same denominator. One half is the same as two quarters. b. Add the numerators together to find the answer.	- Use fraction bars to find like fractions. - Solve word problems involving fractions. Examples: d. A bumblebee is $\frac{4}{5}$ inch long and a firefly is $\frac{1}{2}$ inch long. What is the total length of the insects? e. Find the difference. The fraction of the letters in the word BAHAMAS which are As and the fraction of the letters in the word ABACO which are As.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 51-53 ✓ Textbook: pgs. 120-125 ✓ Workbook: pgs. 57-59 - Fraction bars	- Add and subtract fractions with like denominators. - Create and solve addition and subtraction fraction problems using the names of things Bahamian. Example: Subtract the fractions. The fraction of the number of Ns that are in Benny cake and conch.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
34. Create and solve story problems involving addition and subtraction of fractions with like denominators.	Steps in Problem Solving • Read the problem carefully • Underline clue words e.g. sum, total, difference • Ask yourself if you have seen a problem similar to this one. If so, what is similar about it? • What do you need to do? • What facts are you given? • What do you need to find out? • Define and try your strategy. • Solve Problems • Reflect: Does it seem probable?	Game: Fraction Columbo - Students are placed into mixed ability groups where they follow a map and read clues that send them to different locations in the classroom - Students are only allowed to return to their seats after they have solved the problem. - The group that returns quickest with the correct answer is the winner. Questions for Game - Tanya ate $\frac{1}{12}$ of a pineapple and Dot ate $\frac{2}{12}$. What fraction of the pineapple did they eat? - For a science report, Henry wrote $\frac{2}{4}$ page more than Jason and Kayln combined. Mary wrote $\frac{3}{4}$ page and Bob wrote $1\frac{1}{4}$ pages. How many pages did Henry write?	• Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 51-53 ✓ Textbook: pgs. 123 & 124 ✓ Workbook: pg. 59 Quizizz https://quizizz.com/admin/quiz/587f90bdf8860f615d782ac9 https://quizizz.com/admin/quiz/5dd5266c1082ea001d22ea87	• Discussion: How do you know what operation to use when solving a word problem? • Have students create and solve fractions with like denominators.

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Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
35. Read and write Roman Numerals to M (1 000) (Continued).	- The ancient Romans used seven letters to name numbers. Roman numerals are still used today. You may see them on clocks and buildings. - Place value is not used with Roman Numerals. - The values of the letter are added or subtracted to find the total. I - 1 V - 5 X - 10 L - 50 C - 100 D - 500 M - 1000	Roman Numerals Game Students can work in pairs. Each student can write an Arabic numeral on a sheet of paper and then his/her partner can write the corresponding Roman numeral. The students can take turns writing numbers. This can also be done in reverse, with the student writing the Roman numeral first and the partner writing the Arabic numeral. Quizizz https://quizizz.com/admin/quiz/5f99619269c3e0001b994888	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 29 & 30 ✓ Textbook: pgs. 53-56 ✓ Workbook: pgs. 28-30	Discussion: What do you notice that is different about Roman Numerals? - Explain how to find the value of Roman Numerals.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 4

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT																					
35. Read and write Roman Numerals to M.	- When a letter is repeated, add the value of each letter. Example: XXX →X + X + X = 30 - When a letter with a greater value is placed before a smaller one, you add. Example: XVI → 10 + 5 + 1 = 16 - If a smaller value is placed before a larger one, you subtract. Example: XL → 50 – 10 = 40	Flip and Match a. Class is divided into groups. b. Each group has flash cards comprised of Roman Numerals and its corresponding numbers which are turned faced down. c. Students match the Roman Numerals to its numeric value. d. The group that finishes first is the winner. e. Groups report on its most simple or difficult task experience with the game.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pgs. 29 & 30 ✓ Textbook: pgs. 57 - 58 ✓ Workbook: pgs. 29-30	Write the value of each Roman numeral. Examples<table><tr><td>VIII</td><td>=</td><td>8</td></tr><tr><td>CX</td><td>=</td><td>110</td></tr><tr><td>IX</td><td>=</td><td>9</td></tr><tr><td>MMM</td><td>=</td><td>3 000</td></tr><tr><td>CD</td><td>=</td><td>400</td></tr><tr><td>DCLXV</td><td>=</td><td>655</td></tr><tr><td>XLV</td><td>=</td><td>45</td></tr></table>	VIII	=	8	CX	=	110	IX	=	9	MMM	=	3 000	CD	=	400	DCLXV	=	655	XLV	=	45
VIII	=	8																							
CX	=	110																							
IX	=	9																							
MMM	=	3 000																							
CD	=	400																							
DCLXV	=	655																							
XLV	=	45																							

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 4

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
36. Add and subtract fractions/mixed Numbers with unlike denominators (Continued).	- To add or subtract fractions, they must have like denominators - To add or subtract fractions with unlike denominators follow these steps: a. Find the least common multiple. b. Make equivalent fractions using the LCM. c. Add or subtract the numerators. d. Simplify the result if necessary. Example : Addition $6\frac{3}{4} = 6\frac{6}{8}$ $+ 3\frac{5}{8} = 3\frac{5}{8}$ $9\frac{11}{8} = 9 + 1 + \frac{3}{8}$ $= 10\frac{3}{8}$	- Adding Fractions Bump Game  - The first player rolls two dice and adds the two numbers together. Then, the player finds the problem that corresponds to that sum and solves to find the answer. - The player looks for the answer on one of the game board spaces. - If the space has no counters on it, the player places his/her counter on that space. - If the space has one of the other player's counters on it, the player can bump off the other player's counter and replace it with his/her own.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pg. 52 ✓ Textbook: pgs. 123 & 124 ✓ Workbook: pg. 59	Complete and activity sheet on adding and subtracting fractions with unlike denominators.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 4

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
36. Add and subtract fractions/mixed numbers with unlike denominators.	Example: Subtraction $\frac{3}{4} - \frac{1}{2}$ $\frac{3}{4} = \frac{3 \times 1}{4 \times 1} = \frac{3}{4} \text{ and } \frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{2}{4}$ $\frac{3}{4} - \frac{2}{4} = \frac{1}{4}$	iii. If the space already has his/her own counter on it, the player can place a second counter on that space. When two of a player's counters are on a space, they can no longer get bumped off. The player has locked in that space. c. Players continue taking turns until one player is able to get all of his/her counters onto the game board.	Video/Content Subtracting Fractions https://youtu.be/ZhgmzpJN3tk Board Games https://www.games4gains.com/blog/adding-fractions-bump-games	Journal Writing: Explain how to add and subtract fractions/mixed numbers with unlike denominators.

**SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: ALGEBRA
GRADE: 4**

Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationship in data, solve problems, and predict results.

Essential Questions

1. What can patterns reveal? How do the many types of patterns help us solve problems?
2. What predictions can the patterns or relationships support?
3. How can graphic representations of data help us solve problems?
4. How can prediction help you solve division problems?

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: ALGEBRA
GRADE: 4

Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems, and predict results.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Explain the difference between odd and even numbers in terms of one- to one correspondence.	- Numbers can be arranged in dot patterns. Even numbers have pairs of dots Example: ●-----● ●-----● ●-----● - Odd numbers have pairs of dots with one dot left over. Example: ●-----● ●-----● ● - When one is added to an even number, that number now becomes odd.	In cooperative groups, have students' complete odd and even patterns. Quizizz https://quizizz.com/admin/quiz/5f15b9d31bc054001b797502 https://quizizz.com/admin/quiz/5f3fc9c2bfa468001bf955be	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 29 & 30 ✓ Textbook: pgs. 53-58 ✓ Workbook: pgs. 28-30 Video/Content https://youtu.be/NlsBoJY1nqg Worksheet https://www.mathworksheets4kids.com/odd-even-maze.php	Use the hundred-chart to show odd and even numbers. Example: Start at 2 and skip count by twos. Move 12 skips. What number you land on. Is it odd or even? Quizizz https://quizizz.com/admin/quiz/5f15b9d31bc054001b797502 https://quizizz.com/admin/quiz/5f3fc9c2bfa468001bf955be

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: ALGEBRA
GRADE: 4

Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationship in data, solve problems, and predict results.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT												
2. Skip count to 100 by 6s, 7s and 8s.	- Skip counting can be used to make a number pattern and find missing numbers in a given pattern. a. Example: Skip count by 6s for this pattern 36, 42, __, 54, __	- Skip count by 6s 7s and 8s to 100 to complete given patterns. E.g. 18, 26, 34, __, __, __. - Have students make number patterns using a calculator. Example: <table><tr><td>26 add</td><td>7</td><td>26, 33 40, 47</td></tr><tr><td>502 subtract</td><td>9</td><td>502, 403, 484</td></tr><tr><td>14 add</td><td>23</td><td>14, 37, 60</td></tr><tr><td>999 subtract</td><td>135</td><td>999, 864, 729, 594</td></tr></table>	26 add	7	26, 33 40, 47	502 subtract	9	502, 403, 484	14 add	23	14, 37, 60	999 subtract	135	999, 864, 729, 594	- Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pg. 29 ✓ Textbook: pg. 55 ✓ Workbook: pg.29 Worksheets https://www.mathworksheets4kids.com/skip-counting/count-by-6s/partial-standard6.pdf https://www.mathworksheets4kids.com/skip-counting/count-by-7s/partial-standard7.pdf https://www.mathworksheets4kids.com/skip-counting/count-by-8s/partial-standard8.pdf	Explain how to find a rule of given patterns, then write rule for each pattern.
26 add	7	26, 33 40, 47														
502 subtract	9	502, 403, 484														
14 add	23	14, 37, 60														
999 subtract	135	999, 864, 729, 594														
3. Identify, create, complete, and generalize pictorial and numeric patterns.	- An ordered set of numbers or objects is called a pattern. The order helps you to predict what will come next in the pattern. - Use addition, subtraction, division, and multiplication to find patterns. Example: <table><tr><td>Number of Spiders</td><td>1</td><td>2</td><td>3</td><td>4</td><td>?</td></tr><tr><td>Number of legs</td><td>8</td><td>?</td><td>24</td><td>32</td><td>56</td></tr></table>	Number of Spiders	1	2	3	4	?	Number of legs	8	?	24	32	56	- Design and draw their own pattern and describe it to the class. Tell how the numbers or objects are related, to form a pattern. - Make and write rules for their patterns. Quizizz https://quizizz.com/admin/quiz/5faa6319eea97d001b0c97ac	- Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pgs. 14 & 15 ✓ Textbook: pgs. 11-16 ✓ Workbook: pgs. 6 & 7 Worksheets https://www.mathworksheets4kids.com/patterns/repeating-growing-mixed1.pdf https://www.mathworksheets4kids.com/patterns/writing-rules-numbers-easy1.pdf	- Look at given patterns and explain how to find a rule. Then write a rule for each pattern. - Complete pictorial and numeric patterns.
Number of Spiders	1	2	3	4	?											
Number of legs	8	?	24	32	56											

**SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: ALGEBRA
GRADE: 4**

Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationship in data, solve problems, and predict results.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
4. Investigate the pattern of remainders in division by 2, 3, and 4 (Continued).	- A rule can be used to describe a pattern. - When you divide one number by another, and have left over, that amount is called the remainder. You will get remainders when you are dividing whole numbers and you are not using decimal values. Examples: $5 \div 2 = 2$ with remainder 1 $7 \div 2 = 3$ with remainder 1 $5 \div 3 = 1$ with remainder 2 $5 \div 4 = 1$ with remainder 1 ($4 + 1$) $6 \div 4 = 1$ with remainder 2 ($4 + 2$) $7 \div 4 = 1$ with remainder 3 ($4 + 3$) $9 \div 4 = 2$ with remainder 1 ($4 + 4 + 1$) $6 \div 4 = 1$ with remainder 1 ($5 + 1$) $7 \div 4 = 1$ with remainder 2 ($5 + 2$) $8 \div 4 = 1$ with remainder 3 ($5 + 3$) $9 \div 4 = 1$ with remainder 4 ($5 + 4$)	Divide the Line: - Line up students (30-Numbers will vary depending of class size). - Teacher asks, “If you put 30 students into one group, how many groups will you have?” (1 group) - Teacher instructs students to form 2 groups and asks, “If you place 30 students into two groups, how many students will be in each group?” (15 students) - This continues until as many groups as possible can be formed. - Students will eventually predict the amount of groups, totals, and remainder (patterns).	- Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pgs. 46-48 ✓ Textbook: pgs. 106-110 ✓ Workbook: pgs. 52 & 53	- Quiz Example: Divide \$1.13 among 3 people. Will each person get 35¢? Show your working. - Write the missing numbers E.g. 235, 241, 247, ____, _____, _____

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: ALGEBRA
GRADE: 4

Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems, and predict results.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT									
4. Investigate the pattern of remainders in division by 2, 3, and 4.	Do you see any patterns? Remainders can never be larger than the number you are dividing by.	Liveworksheets https://www.liveworksheets.com/mj1222918fx	Quizizz https://quizizz.com/admin/quiz/5cd6d43c6b3f6a001abe082a	Students create Math picture books illustrating patterns of remainders in division by 2, 3, and 4.									
5. Identify and create square numbers.	- A square number forms a square. Example: $9 = 3 \times 3$ <table border="1"><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table> 3×3 - The square of a number is that number multiplied by itself. - To square a quantity is to multiply it by itself. - All square numbers end in 0, 1, 4, 5, 6 or 9. - The first ten square numbers are - <u>1</u>, <u>4</u>, <u>9</u>, <u>16</u>, <u>25</u>, 36, 49, 64, 81, 100 ...										- Students find all the squared numbers in the multiplication tables. Using Geoboards - Place students in heterogeneous cooperative groups. - Assign a number for students to create squares. - Have students create squares using geoboards. - Have students discuss and report how squared numbers were used. - Using tiles, create the first five square numbers Quizizz https://quizizz.com/admin/quiz/5dc17568f58ebb001b65be53	- Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pg. 30 ✓ Textbook: pgs. 56 & 57 ✓ Workbook: pg. 30 Video/Content https://youtu.be/PDyyvPdi1tI Math Glossary www.richardphillips.org.uk/number/gl/square.htm - Geoboards	- Students create squared numbers and write in journals how they arrived at their answers. - Draw arrays to show squared numbers for the following: a. 5 b. 6 c. 2 d. 8

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: ALGEBRA
GRADE: 4

Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems, and predict results.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
6. Solve non- routine problems where finding a pattern is an appropriate strategy.	Non-routine problems involve the processes of exploring, speculating, and confirming.	- Read and then, talk about ways to solve problems, similar to the ones below. a. Dan is six years older than Darla. Dan is 25 years old write an equation to find Darla's age. Talk about what you did. b. Blanca spent \$24.00 on plants. Each plant cost \$3.00. Which equation could be used to find the number of plants that she bought? $\square - 3 = 24 \quad 24 \div 3 = \square$ $24 - 3 = \square \quad \square + 3 = 24$	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 40 & 41 ✓ Textbook: pgs. 90 & 91 ✓ Workbook: pgs. Nil	- Quiz: Students solve non-routine problems. - Have students complete hands on non-routine problems using patterns

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

Essential Questions

1. How do you use measurement in your life?
2. Why is it important to estimate?
3. Why is it important to use the correct unit of measurement?
4. Why is it important to know how to convert from one unit of measure to another?
5. What is perimeter and how is it measured?
6. How is telling time on a 24- hour clock different from that of a 12- hour clock?

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Estimate and measure length in kilometers, meters, decimeter, centimeters, millimeters, inches, feet, yards, and miles selecting the appropriate unit when necessary (Continued).	- In the metric system, millimetres (mm), centimetre (cm), decimetre (dm), metre (m), and kilometre are used to measure length and distance. Millimetres and centimetres are used to measure very short lengths or distances. - A millimetre is about the thickness of a coin (penny). - A centimetre is about the width of your index finger. Metres and kilometres are used to measure much greater length or distances. - A metre is about the distance from one hand to the other when arms are stretched out. Your arm span is about 1 metre long. - A decimetre is about the width of an adult's hand. A kilometre is a little more than half a mile.	- Write four objects that you would measure using centimeter, decimeter, metre, and kilometer. Estimate the lengths and measure the objects. - Choose the unit that you would use to measure: - your little finger - a five cent coin - the distance between New Providence and Eleuthera - the classroom door - Use a centimetre ruler. Estimate and measure the length of various objects (e.g. your pencil) to the nearest centimetres then record your measure. - Game: Smile Metric Style by Deanna Metder - Materials: Metric Rulers crayons or markers pencil construction paper or graph paper. PROCEDURES: - Divide class into groups of four. - Each student will measure and record the length of each person's arm in his or her group.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 42 & 43 ✓ Textbook: pgs. 94-97; 152 ✓ Workbook: pgs. 47& 48	- Discuss: Why would it be better to measure the length of the whiteboard in metres rather than in centimetres? - Journal Writing: Why it is important to have more than one unit of measure? - Lesson Quiz: Choose the unit you would use to measure the information below. Write cm, m, or km. - The length of a jitney. - The length of a eraser. - The distance from Cable Beach to Downtown. - The length of your notebook.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objectives, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Estimate and measure length in kilometers, meters, decimeter, centimeters, millimeters, inches, feet, yards, and miles selecting the appropriate unit when necessary.	- In the customary system, inches (in) feet (ft.) miles (mi) yards (yd.) are used to measure length and distance. - Customary Units of Length 12 inches = 1 foot 3 feet = 1 yard 36 inches = 1 yard 1 760 yards = 1 mile	c. Students check their results against the result of the rest of the group. If there are any discrepancies the students should verify the results as a group. b. When an accurate measurement has been attained for each child, the results are recorded on the board as each child records them at his/her seat. - Order all the measurements from least to greatest. - Graph your results. - Find the sum of all the arm lengths in your classroom. Do not forget the teacher's arm. - Create one arm length out of construction paper that is the length of the entire arm in your room. Quizizz https://quizizz.com/admin/quiz/5e6fad45ed7b860020cc9b70 https://quizizz.com/admin/quiz/5c54869151861b001a392bcd	Videos/Content https://youtu.be/KqVQxPRobgw https://youtu.be/40S6lNB2nH4 https://youtu.be/P9sYvDCnI0g	Measure given objects

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
2. Explain the relationship among the metric units and the customary units.	- There are two advantages of the metric system. - The metric prefix values are the same for length, weight, and liquid. - All conversions involve powers of ten. - Several examples of units 10 centimetres = 1 decimetre (length) 10 millilitres = 1 decilitre (capacity) 10 hectograms = 1kilogram (weight) Use customary units as well.	- Estimate and measure the length of three objects in your classroom to the nearest centimetre, decimetre, or metre. Record your measurements. - Students experiment with the units of measurement to discover the relationships that exist between them. Quizizz https://quizizz.com/admin/quiz/5a1ca0ec4bfde71000b0bc1c https://quizizz.com/admin/quiz/590bc1c9245b1e1100705222	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 20 & 21; 42 & 43; 54 & 55 ✓ Textbook: pgs. 95 & 96; 126-131 ✓ Workbook: pgs. 17; 47 & 48; 60-62 - Rulers	- Discuss the relationship between millilitres to litres. - Write if a bottle's capacity is 4L, how many milliliters it holds. Explain how you found the answer. - Teacher designs problems. Examples - How many centimetres are in 2 metres? - How many millimetres are in a centimetres?

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
3. Convert metric and customary units of length, mass, and capacity (Continued).	- When converting units within the metric system, multiply when you change larger units to smaller units. - A decimetre is larger than a centimetre. Example: 600 dm = _____cm - Length of road in decimetres (600). There are 10 cm in 1 dm. Therefore, 600 x 10= 6 000 cm. Divide when you change smaller units to larger units. - A millilitre is smaller than a litre. Example: 3 000 mL= _____L 3 000 mL ÷ 1 000= 3L - Mass is the amount of matter in an object. The metric unit of mass is the gram. The most frequently used metric units of mass is the gram (g) and kilogram (kg).	Basket Loss - Students are given five shots at a basketball rim. Each successful shot is 2 000 grams of fat that they will lose on a weight loss plan. - Students calculate how much weight they would lose after the attempts - Students convert the numbers of successful shots to grams. - Given the length of several islands of The Bahamas in kilometres, have students convert the distances to metres. Quizizz https://quizizz.com/admin/quiz/5ea99deb8bb10d001d779099 https://quizizz.com/admin/quiz/58bf569a981d974d1869ef00	- Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pgs. 20 & 21; 42 & 43; 54 & 55; 61 & 62 ✓ Textbook: pgs. 95 & 96; 127 & 128; 151-156 ✓ Workbook: pgs. 17; 47 & 48; 60 & 61; 72 -76 Video/Content https://youtu.be/5Q_RKud8UIA - Map - Atlas - Balance	- Journal Writing: Have students explain how to convert metric units and give illustrations of the same. - Unit Quiz

PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
3. Convert metric and customary units of length, mass, and capacity.	- A kilogram is larger than a gram. Example 4 kg = _____g 1 000 g = 1 kg. Therefore, 4 kg x 1 000 = 4 000g - Customary Units of Mass used to measure weight in this system are: ounces (oz.), pounds (lb.) and tons (T). 16 ounces = 1 pound 2 000 pounds = 1 ton	Quizizz https://quizizz.com/admin/quiz/5ea99deb8bb10d001d779099 https://quizizz.com/admin/quiz/58bf569a981d974d1869ef00	- Map - Atlas - Balance	Unit quiz on the metric and customary units of length, mass and capacity.
4. Estimate and measure using milliliter, litre, cups, pint, quarts and gallons (Continued).	- Capacity is the amount a container will hold when it is filled. - Capacity can be measured by using metric units such as the millilitre (ml) and liter (L)	- Estimate the number of millimetres that are in a litre. - Pour 1 liter of water at a time into a pitcher. Repeat until the pitcher is full. Record the number of liters.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 42 & 43 ✓ Textbook: pgs. 94-97 ✓ Workbook: pgs. 47& 48	- Lesson Quiz: Choose the unit you would use to measure the capacity of each. Write ml or L - a sink filled with water. - a bottle of syrup. - a mug of soup. - a jug of liquid detergent Example: joy

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
4. Estimate and measure using milliliter, litre, cups, pint, quarts and gallons.	- A dropper holds about 1ml - A glass holds about 250 ml - A water bottle holds about 1L Vocabulary: millilitre (ml) and litre (L) Customary Units of Capacity Units used to measure capacity in this system are: cups (c), pints (pt.), quarts (qt.), gallons (gal.) and fluid ounces (fl. oz.). 8 fluid ounces = 1 cup 2 cups = 1 pint 2 pints = 1 quart 2 quarts = 1 half gallon 4 quarts = 1 gallon	- Estimate and measure the capacity of each of the following objects. Write the objects' capacity in order from least to greatest. a. a cup b. a bucket c. a bowl d. a lid from a jar	milliliter dropper Quizizz https://quizizz.com/admin/quiz/58d2acb36ea9076e03258023 https://quizizz.com/admin/quiz/6054a3e5594616001cf62ae7	Complete a worksheet on estimating and measuring customary and metric units.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
5. Use grams, kilograms, pounds, ounces and tons to estimate and determine mass.	- The gram (g) and the kilogram (kg) are metric units used for measuring mass, or the amount of matter in an object. - Mass is how much an object weighs. - A paper clip has a mass of about 1 gram. - A large book has a mass of about 1 kilogram. Use customary units as well.	- Find the mass of objects in your classroom. - Place 10 paper clips on one side of the simple balance scale to show 10g. - Find an object that you think might equal 10g. Use the balance to check. - Repeat steps “a” and “b” for 25g and 1kg. Use the book to show 1kg. - Name an object that has a mass of each amount. ‘n’ grams ‘n’ kilograms - Students work in groups to estimate and find the mass of various objects. Findings are recorded in a table. Quizizz https://quizizz.com/admin/quiz/57d7f5b00e7476a70720704c https://quizizz.com/admin/quiz/5e8a4693d25f61001b75d1d7	- Bahamas Primary Mathematics Bk 4 - Teacher’s Manual: pgs. 20 & 21 - Textbook: pgs. 27-29; 154 - Workbook: pg. 17 Video/Content https://youtu.be/zoifk5jDDHY - gram weights - kilogram weights	- Discuss: Brainstorm and create a list of objects that have a mass of about 1 gram and about 1 kilogram. - Measurement Relay (Daily event to complete) - Quiz: Choose the better estimate. - A watermelon: 10 g or 10 kg. - A table: 12g or 12 kg. - A pen: 7 g or 7 kg.

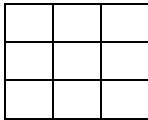
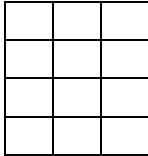
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
6. Estimate, measure, and calculate perimeter of objects and shapes in metres and centimetres.	- The distance around a figure is called its perimeter. You can add the lengths of the sides of a figure to find the perimeter. - Vocabulary: perimeter	- Students name examples of perimeter in the real world E.g. The distance around a book, desk, chalkboard, window door, house, wall, fence, etc. - Students find the perimeter of the chalkboard in metres and centimetres. Students record and present their results. - Find the perimeter of the classroom in metres. - Work in small groups to estimate and find the perimeter of different shapes. Quizizz https://quizizz.com/admin/quiz/5f84f0fce9b0c001b50bb0a	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pg. 58 ✓ Textbook: pgs. 137-139 ✓ Workbook: pgs. 65 & 66 Video/Content https://youtu.be/1jDmKDF_KoU - metre rulers - centimetre rulers - grid papers	- Students apply their understanding of perimeter to write a math problem. - Students model the following rectangles on grid papers. a. 32 square units a. 17 square units b. 63 square units
7. Estimate and calculate area of objects and shapes using appropriate units (Continued).	- A square unit is a square with a side length of 1 unit. - Square units measure area. - Area is the number of square units needed to cover a flat surface - Vocabulary: Area is measured in square units.	- Find the area of various flat surfaces in the classroom. Examples: Desktop, tabletop, book, floor, etc. using square tiles. Have students estimate and then count the tiles to tell how many. - Have students identify and write examples of finding areas in the real world.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pg. 57 ✓ Textbook: pgs. 141-144 ✓ Workbook: pgs. 65-68 - graph paper	- Explain how to find the area of a flat surface. - Explain how multiplication can be used to find area. - Find the area of outlines on graph paper. Write the area in square units.

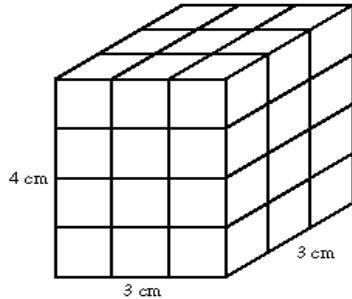
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
7. Estimate and calculate area of objects and shapes using appropriate units.	- Vocabulary: Area is measured in square units. - To find the area of rectangles multiply the number of rows by the number of squares in each row or count the amount of squared in the diagram. Example: 3rows  3 rows 3 in each row $3 \times 3 = 9$ square units	Quizizz https://quizizz.com/admin/quiz/57d7f5b00e7476a70720704c	Video/Content https://youtu.be/_uKKl8R1xBM	Quizizz https://quizizz.com/admin/quiz/5c08433f3013f5001bea18cb
8. Calculate the area of rectangles using arrays.	An array is an arrangement of objects in rows and columns. Also, it is a visual model of multiplication  Number of rows = 4 Number of columns: 3 Count each box = 12 square units	- Students, in groups calculate the area of rectangles using arrays. Groups report findings. - Create songs, poems, or rap about how to find the area of rectangles using arrays. Quizizz https://quizizz.com/admin/quiz/5f71ec23f47426001b1506c1	- Bahamas Primary Mathematics Bk 4 - Teacher's Manual: pg. 58 - Textbook: pgs. 141-144 - Workbook: pgs. 67 & 68	- Have students write questions for given scenarios. Example: Joan's scarf is 12 feet wide and 2 feet long. The answer is 24 square feet. - Create a rectangle out of different materials (newspaper, boxes, etc) and calculate the area of the same. Answers will vary. - Calculate the area of given shapes

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
9. Explain the concept of volume using words and /or pictures and/or concrete materials.	Volume is the number of cubic units needed to fill a solid figure. - A cubic unit is used to measure volume. - A cubic unit is a cube with a side length of a unit. You can use connecting cubes to show cubic units Example of concept of volume.  - The box is 3 cubes long, 3 cubes wide and 4 cubes high. 9 cubes cover the bottom of the box. There are 4 layers. 36 cubes fill the box. Therefore, it has a volume of 36 cubes.	- Use boxes of various sizes to estimate and find volume. Compare estimation with the actual volume. - Use connecting cubes to find the volume of various objects. Record your findings. Quizizz https://quizizz.com/admin/quiz/5fbdbdf3038ad2001b72a3f2	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 54 & 55 ✓ Textbook: pgs. 129 & 130 ✓ Workbook: pg. 62 - Connecting cubes - Boxes - Mathematics In Motion: A Resource Book for Teachers, pg.108	Journal Writing Todd has a box that is 4 cubes long and 4 cubes wide. The box has a volume of 48 cubes - what is the height of the box? Explain 3 cubes; each layer has 16 cubes $16 + 16 + 16 = 48$

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT																
10. Select the appropriate unit for estimating and measuring volume.	- Volume is expressed with the word "cubic" as the prefix of the unit being measured. Example: cubic metres - The volume of a solid is the amount of space it occupies. - Volume and capacity are related. A volume of 1 cubic centimeter (cc) can hold 1 millilitre (mL) of water. - The litre is the unit used to measure volume. - In liquids in can be litres, gallons, ounces, pints and quarts. - Using the metric system, mL and kl, are used. - The customary units are ounces, cups, pints, quarts, and gallons. - Volume can be found by multiplying the length, breadth/width, and height of cubes and cuboids. V= L x B x H	Students complete the table in pairs and report their findings. They estimate answers and then calculate to find the actual answers. <table><tr><th>L</th><th>B</th><th>H</th><th>Volum e</th></tr><tr><td>2 cm</td><td>3 cm</td><td>1 cm</td><td>?</td></tr><tr><td>4 cm</td><td>5 cm</td><td>?</td><td>60 cc</td></tr><tr><td>?</td><td>9 cm</td><td>2 cm</td><td>72 cc</td></tr></table> Quizizz https://quizizz.com/admin/quiz/5e7149878318d3001f63f6e6	L	B	H	Volum e	2 cm	3 cm	1 cm	?	4 cm	5 cm	?	60 cc	?	9 cm	2 cm	72 cc	- Bahamas Primary Mathematics Bk 4 - Teacher’s Manual: pgs. 54 & 55 - Textbook: pgs. 129 & 130 - Workbook: pg. 62 Video/Content https://youtu.be/LZxXUb9iAZc	Lesson Quiz: Complete questions to find estimated and actual answers. Students will also be asked to determine which unit to use for estimation.
L	B	H	Volum e																	
2 cm	3 cm	1 cm	?																	
4 cm	5 cm	?	60 cc																	
?	9 cm	2 cm	72 cc																	

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
11. Explain the volume concept of a litre by construction.	- The standard unit of volume in the metric system is the liter. - One litre is equal to 1000 cubic centimeters in volume. Other units of volume and their equivalents in liters are as follows: 1 millilitre = 0.001 litre 1 centilitre = 0.01 litre 1 decilitre = 0.1 litre 1 kilolitre = 1000 literes	- Teacher fills labeled containers in the class and students answer the following: - List the letters of the containers that hold less than a metre. - List the letters of the containers that hold more than a metre. - List the letters of the containers that hold a metre. - List the letters of the containers in order from least to greatest. - Students fill a box with centimetre cubes. They answer the following questions: - How many cubes are on one layer the box? - How many layers are there? - How many cubes does the box hold? - How many centimetres long is each side? - The box is how many centimetres high?	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 54 & 55 ✓ Textbook: pgs. 126-131 ✓ Workbook: pgs. 60 - 62	- Students explain in mathematics journal the concept of volume. - Measure the volume of given shapes.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
12. Read the thermometer in Celsius and Fahrenheit.	- Degrees Fahrenheit (°f) are customary units of temperature and degrees Celsius (°c) are metric units of temperature. - The red substance in the thermometer is the mercury. - To read a thermometer, find the number at the top of the mercury. 20° F Read: twenty degrees Fahrenheit 30 °C Read: thirty degrees Celsius. - Water boils at 212° F or 100° C. - Water freezes at 32° F or 0° C. - Room temperature is 68° F or 20° C.	- Estimate the temperature outside the classroom in degrees Celsius and in degrees Fahrenheit. Record your answers. - Practice reading the thermometers on a daily basis for about a week. Record readings each day and create a bar graph. - Place a thermometer in a glass of cool water. Ask students to read the temperature. Change the temperature of water several times by adding ice or hot water to give students additional practice in reading thermometers. Each time you add hot water or ice students predict how the temperature will change. Quizizz https://quizizz.com/admin/quiz/5e9ca4895df39d001f41b9ab	- Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pgs. 16 & 17 ✓ Textbook: pgs. 17-20 ✓ Workbook: pgs. 8-10 Video/Content https://youtu.be/Wcf5bYNLlik	Lesson Quiz - Look at the thermometer. Write the temperature. See page 36a - A cold message. See page 36a Discuss: If you see an outdoor thermometer that shows the temperature as is, is the thermometer showing degree Celsius or degrees Fahrenheit? Explain.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
13. Convert temperature in degrees Celsius and Fahrenheit.	Conversion a. From Celsius to Fahrenheit: Divide by 5, multiply by 9, then add 32 Example: Convert 25° Celsius (<i>a nice warm day</i>) to Fahrenheit <i>First:</i> $25^{\circ} / 5 = 5$ <i>Then:</i> $5 \times 9 = 45$ <i>Then:</i> $45 + 32 = 77^{\circ} \text{ F}$ b. From Fahrenheit to Celsius: Subtract 32, then multiply by 5, then divide by 9 Example: Convert 98.6° Fahrenheit (<i>normal body temperature</i>) to Celsius <i>First:</i> $98.6^{\circ} - 32 = 66.6$ <i>Then:</i> $66.6 \times 5 = 333$ <i>Then:</i> $333 / 9 = 37^{\circ} \text{ C}$	Quizizz https://quizizz.com/admin/quiz/5f71911bd2548b001de03f21	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 18 & 19 ✓ Textbook: pgs. 21 - 22 ✓ Workbook: pgs. 11 - 12	Have a competition where students convert temperature in degrees Celsius and Fahrenheit.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
14. Estimate and measure time needed to perform a task.	Some tasks take a short time to perform while other tasks take a longer time to perform. a. 60 seconds = 1 minute	Perform different tasks E.g. move book from shelf or take a note to the office. Tell which task will take more or less time. Then tell how long it will take to perform each task. Quizizz https://quizizz.com/admin/quiz/5706737529e0f05c5c8fc38c	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 49 & 50 ✓ Textbook: pgs. 113 & 114 ✓ Workbook: pg. 54 Quizizz https://quizizz.com/admin/quiz/5f9f73acfb3d70021b62526 - stop watch	- Write about 4 tasks that can be done in a minute. - Write about 4 tasks that can be done in a longer time.
15. Use a.m. and p.m. appropriately.	- Each day has 24 hours. - A.M. is the time between midnight and noon. - P.M. is the time between noon and midnight.	- Students write three things they do in the morning and three things they do in the afternoon. - Students observe the sun to tell the time of the day. For example, the sun in the east represent the morning, and in the west, the evening. - Create a collage of things done in the a.m. or the p.m. - Using a world map, show students the time zones relative to the Meridian of Greenwich. Ask students the times of major cities given the time of Greenwich.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 49 & 50 ✓ Textbook: pgs. 115 & 116 ✓ Workbook: pg. 55 Quizizz https://quizizz.com/admin/quiz/5f509130735b73001b797bb7 - clock	- Students debate on their favourite time of the day (a.m. or p.m.). - Students write a story using the terms a.m. and p.m.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
16. Read and write time to the nearest minute on a twelve hour clock.	- The hands, numbers, and marks on clocks help you tell what time it is. In one minute, the minute hand moves from one mark to the next. - To find the number of minutes after the hour, count by fives and ones to where the minute hand is pointing. - Using a.m. and p. m. help you know what time of the day or night it is. A.M. is used for the hours from 12 midnight to 12 noon. P. M. is used for the hours from 12 noon to 12 midnight.	- Use digital and analog clocks to show and count the minutes on the clock's face. - Practice reading and writing the time in two ways. E.g. 18 minutes before 2 or 1:42 Quizizz https://quizizz.com/admin/quiz/5cab7d96307f46001a6fae1f	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 49 & 50 ✓ Textbook: pgs. 115 & 116 ✓ Workbook: pg. Nil Video/Content https://youtu.be/spyRtLeXhho - digital clock - analog clock	- Explain how the hands on the clock work. - Lesson Quiz: Read and write times on a clock.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
17. Read and write time to the twenty-four hour clock.	- The military tells time using a 24-hour clock, beginning at midnight, which is 0000 hours. So, 1:00 a.m. is 0100 hours, 2:00 a.m. is 0200 hours, and so-on up until 11:00 p.m. which is 2300 hours. - A 24-hour clock is an "extension" of a 12-hour clock. - When a 12-hour clock reaches 12:59 and resets to 1:00, the 24-hour clock keeps going to 13:00 and onward. - The bigger the hour number is on the clock, the later it is in any given day. - Subtract 12 from the hour of any time past 12:00 on the 24-hour clock to find its 12-hour p.m. counterpart. For example, 15:34 minus 12 hours is 3:34 p.m	- In cooperative groups, students match time to 24-hour clock. For example: 4:00 AM -- 0400 hrs. 5:00 AM -- 0500 hrs. 6:00 AM -- 0600 hrs. 12:00 PM -- 1200 hrs. 1:00 PM -- 1300 hrs. 2:00 PM -- 1400 hrs. 3:00 PM -- 1500 hrs. - Make a game out of the two clocks set up side by side. Cover the 12-hour clock with a piece of construction paper or fabric and have students guess the time on the 12-hour clock, by only looking at the 24-hour clock beside it. When they have a good grasp of the concept, cover the 24-hour clock and have the children guess its time based on the 12-hour clock Quizizz https://quizizz.com/admin/quiz/5ea7b73b3da0a8001b8beb89	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 49 & 50 ✓ Textbook: pgs. 115 & 116 ✓ Workbook: pg. Nil Video/Content https://youtu.be/EapsfSfqeWA	- Write in journals how the 24 and 12 hour clocks are alike and different. - Create clocks showing 12 and 24 hour times.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT										
18. Convert hours to minutes and vice versa.	- Sixty (60) minutes equals one hour. - To change minutes to hours, divide by 60. Example: 240 minutes = _____hours $240 \div 60 = 4$ hours - To change hours to minutes, multiply by 60. Example: 3 hours = _____minutes $3 \times 60 = 180$ minutes	Time to Partner Up - Display on the board or wall two lengths of flannel (red and blue) horizontally, one beneath the other. Each flannel is equally divided into 11 blocks and labeled hours and minutes in the initial box. - Distribute Velcro-backed cards (with printed numbers) RED for hours and BLUE for minutes. - Child places the card in the appropriate group. E.g. 360 minutes/BLUE. Student with corresponding hour index card comes and places it in the appropriate RED box. i.e. 6 (hours/RED). - The last student who places his card up calls someone else to go put his card where it belongs. The game continues until all cards are placed correctly. Time Travel - Use a bar graph to highlight travel from a given key point to various destinations. Students convert minutes to hours.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 49 & 50 ✓ Textbook: pg. 117 ✓ Workbook: pg. Nil Video/Content https://youtu.be/kYZQW_-_P6M Quizizz https://quizizz.com/admin/quiz/5eeb2ca614adb5001bf92f2c - Mathematics in Motion: A Resource Book for Teachers, pg. 112	- Students complete table. <table border="1"> <tr> <td>Hrs.</td><td>3</td><td>?</td><td>?</td><td>6</td></tr> <tr> <td>Min.</td><td>?</td><td>120</td><td>240</td><td>?</td></tr> </table> - Create a mini video demonstrating how to convert hours to minutes and vice versa.	Hrs.	3	?	?	6	Min.	?	120	240	?
Hrs.	3	?	?	6										
Min.	?	120	240	?										

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
19. Round the purchase amount for items in a penny exempt trading system (to be referred to as “Rounding for Cash Exchange”).	Penny Elimination When you pay by cash: The price of your purchase will be rounded up or down to the nearest nickel. - Amounts ending in \$0.01 or \$0.02 will be rounded down to \$0.00 (Example: \$102 3614.21 becomes \$102 364.20). - Amounts ending in \$0.03 or \$0.04 will be rounded down to \$0.05 (Example: \$547.23 becomes \$ 547.25). - Amounts ending in \$0.06 or \$0.07 will be rounded down to \$0.05. (Example: \$1 824.67 becomes \$1 824.65). - Amounts ending in \$0.08 or \$0.09 will be rounded down to \$0.10 (Example: \$157.89 becomes \$157.90).	Have students pretend that they are shopping for items in a food store. Students are to pay the cashier the rounded price of the item. Example:  Price: \$1.56 Student should pay \$1.55	Videos/Content Bahamian Dollar https://youtu.be/W-u58UaNkEk DECOMMISSIONING OF THE BAHAMIAN PENNY - YouTube Worksheets Rounding Bahamian Currency https://www.liveworksheets.com/1-yz2037720zy	Have students complete a quiz rounding Bahamian money.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
20. Solve problems involving elapsed time (Continued).	Elapsed time: the time that passes from the start of an activity to the end of an activity.	- Students form a circle around the classroom. - Teacher displays a flashcard with a specific time frame. Example: 3:00 p.m.-4:00 p.m. - A selected student randomly chooses a tag card from a bag. The card chosen tells at which intervals students will give the time. Example: 5 <u>10</u> 15 30 minutes  selected time - The student calls the time. E.g. 3:00 p.m. The next person says 3:10, 3:20, 3:30, 3:40... - The goal is to reach the end time while giving the elapsed time.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 49 & 50 ✓ Textbook: pg. 118 ✓ Workbook: pg. 56 Video/Content https://youtu.be/wxQyICv76qY	In pairs, have students create elapsed time word problems. Groups exchange word problems and solve.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 4

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships and determine acceptable levels of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
20. Solve problems involving elapsed time.	The easiest way to find elapsed times is to add from the given time to the expected time. Example: Art class 1:30 p.m. to 2:15 p.m. a. Count from 1:30 to 2:00 = 30 minutes b. Count from 2:00 to 2:15 = 15 minutes c. For the total add 30 and 15 minutes = 45 minutes. Elapsed time is 45minutes	- Use Bahamasair's flight schedule to calculate the time it takes to fly from Nassau to: a. Marsh Harbour, Abaco b. Freeport, Grand Bahama c. George Town, Exuma d. Governor's Harbour, Eleuthera e. Stella Maris, Long Island	Quizizz https://quizizz.com/admin/quiz/56e716d317f780d42ba2d438	Quiz: Write the elapsed time for problems given. For example, The basketball game started at 1:30 a.m. and ended at 3:15 p.m. How long did the game last?

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 4

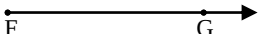
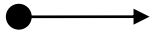
Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

Essential Questions:

1. How are basic geometric ideas (points, lines, angles...) found and used in everyday life?
2. How do the terms slide, flip, and turn relate to translation, reflection, and rotation.
3. How are polygons used in our world?
4. How are geometric properties used to solve problems in everyday life?

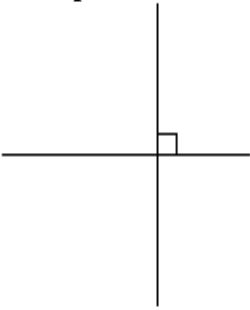
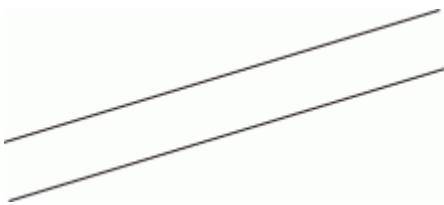
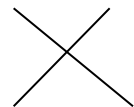
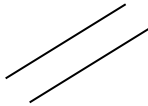
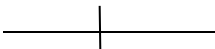
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 4

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Identify, name and draw (using a ruler and straight edge) points, line, line segments, rays and angles.	- A line is a straight path in a plane. It continues in both directions. It does not end. Example:  - A point is an exact position or location Example:  - A line segment is straight. It is part of a line and it has two end points. Example:  line segment MN, $\overline{MN}$ or line segment NM, $\overline{NM}$ - A ray is part of a line. It has one end point. It is straight and continues in one direction. Example:  ray FG - An angle is formed when two rays or line segments share the same end point. The common endpoint is the vertex. Example: 	- Work in small groups to draw lines, points, line segments, rays, and angles on construction paper and grid paper. - Make up riddles. Example: - I am straight and do not have any end points. What am I? - Students lie on floor and use their bodies to make angles. - Use scissors to make/show acute and obtuse angles. - Cut two arms from card board or construction paper and join them together. Have students rotate the arms to indicate size of angles.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 31 & 32 ✓ Textbook: pgs. 59-66 ✓ Workbook: pgs. 31-33 Video/Content https://youtu.be/IrXT9qxQLi8 Worksheets https://www.mathworksheets4kids.com/line-ray-segment/write1.pdf https://www.mathworksheets4kids.com/line-ray-segment/question-level1-1.pdf	Quiz - Name each figure. Examples:  point A  Ray - Draw each figure Examples: - a line - a line segment - Create a game or flash cards on the vocabulary of geometry

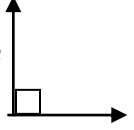
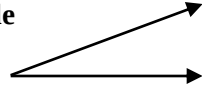
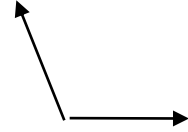
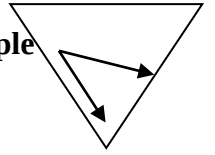
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 4

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
2. Name and identify parallel and perpendicular lines.	• Perpendicular lines are lines that cross to form a right angle. Example:  • Parallel lines are lines that never cross. Example 	• Show perpendicular and parallel lines using sticks or other straight objects. • Use street maps to identify perpendicular and parallel lines. Quizziz https://quizizz.com/admin/quiz/5f6e00dd2928a8001be96406 https://quizizz.com/admin/quiz/5e7cf2d694dda1001b8ee29b	• Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pg. 32 ✓ Textbook: pgs. 64 & 65 ✓ Workbook: pg. 33 Videos/Content https://youtu.be/pPqHzPjOq_M https://youtu.be/mlv2d0cdcrc • Toothpicks	• Lesson Quiz: Describe the lines. Write perpendicular or parallel.  perpendicular  parallel  perpendicular

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 4

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
3. Identify right, acute, and obtuse angles.	- A right angle is a special angle that forms a square corner. A right angle measures 90°. Example  - The measure of some angles is less than a right angle. These are acute angles. Example  - The measure of some angles is greater than a right angle. These are obtuse angles. Example  * The unit used to measure an angle is a degree ($^\circ$)	- Find angles in the classroom and identify them (right, acute, or obtuse angle). - Use pipe cleaners to create angles. Game: What is the Angle? Play the game with a partner - One student selects a flash card and identifies the type of angle. If he/she gets it correct, he/she will get the point. If not, a point is not received. - The game is finished when all the cards have been used. The person with the most points is the winner. Quizizz https://quizizz.com/admin/quiz/5e500c12a1b059001cc5e995	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pg. 31 ✓ Textbook: pgs. 62 & 63 ✓ Workbook: pg. 32 Video/Content https://youtu.be/NVuMULQjb3o Worksheet https://www.dadsworksheets.com/worksheets/basic-geometry/simple-angles-v1.html - Flash cards	- Use a corner of a sheet of paper to tell whether each angle is a right, acute or an obtuse. Example  acute angle - Journal writing - How do you know whether an angle is obtuse or acute? - Create a pamphlet on various angles

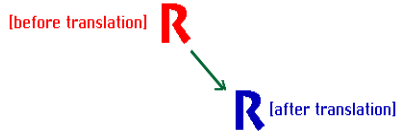
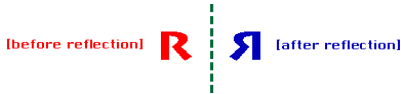
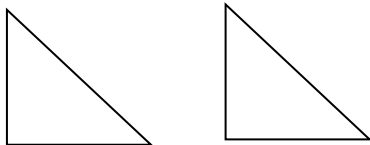
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 4

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT																														
4. Name, identify, and draw up to 10-sided polygons (Continued).	- A closed figure begins and ends at the same point. - An open figure has ends that do not meet. - A circle is an example of a plane figure that has no straight sides. - A polygon is a closed plane figure with straight sides that are line segments. Examples of polygons: <table><tr><th colspan="3">Names of Polygons</th></tr><tr><th>Name</th><th>Sides</th><th>Angles</th></tr><tr><td>Triangle</td><td>3</td><td>3</td></tr><tr><td>Quadrilateral</td><td>4</td><td>4</td></tr><tr><td>Pentagon</td><td>5</td><td>5</td></tr><tr><td>Hexagon</td><td>6</td><td>6</td></tr><tr><td>Heptagon</td><td>7</td><td>7</td></tr><tr><td>Octagon</td><td>8</td><td>8</td></tr><tr><td>Nonagon</td><td>9</td><td>9</td></tr><tr><td>Decagon</td><td>10</td><td>10</td></tr></table>	Names of Polygons			Name	Sides	Angles	Triangle	3	3	Quadrilateral	4	4	Pentagon	5	5	Hexagon	6	6	Heptagon	7	7	Octagon	8	8	Nonagon	9	9	Decagon	10	10	- Name and sort polygons by the number of sides or angles they have. - Draw and label polygons. - Use Popsicle sticks, straws etc. to create polygons. Quizizz https://quizizz.com/admin/quiz/566efbf4668e5aa718c6705b	- Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pg. 25 ✓ Textbook: pgs. 42 & 43 ✓ Workbook: pg. 24 Videos/Content https://youtu.be/UeKN5-ogFTs https://youtu.be/zI3rUMrRLF8 Worksheets https://www.mathworksheets4kids.com/polygon/classifying/mixed-1.pdf https://www.mathworksheets4kids.com/polygon/classifying/type-regular-1.pdf - Mathematics In Motion: A Resource Book for Primary Teachers, pg. 87	- Name places where you have seen circles, polygons, and solid figures. - Use a variety of materials to create different polygons and identify number of sides and angles. - Create a polygon Bingo game. - Design polygon flash cards.
Names of Polygons																																		
Name	Sides	Angles																																
Triangle	3	3																																
Quadrilateral	4	4																																
Pentagon	5	5																																
Hexagon	6	6																																
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Octagon	8	8																																
Nonagon	9	9																																
Decagon	10	10																																

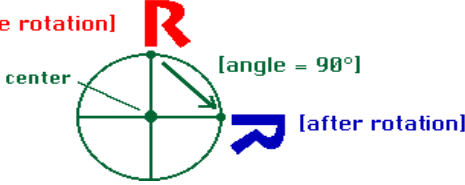
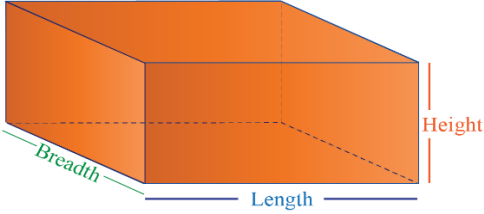
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 4

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
5. Identify shapes with multiple lines of symmetry.	A figure has symmetry if it can be folded along a line so that the two parts match exactly, the line is called a line of symmetry. 	- Trace and fold different paper figures to show lines of symmetry. E.g.  Fold - Draw in lines of symmetry on different shapes.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pg. 24 ✓ Textbook: pgs. 40 & 41 ✓ Workbook: pg. 23 Worksheet https://www.mathworksheets4kids.com/symmetry/recognize1.pdf	Lesson Quiz - Which letters has one line of symmetry? O Q X U - Which number has multiple lines of symmetry? 5 7 6 8
6. Demonstrate translation (slide), reflection (flip) and rotation (turn). Continued	- A plane figure can be moved in different ways: translation, reflection, and rotation. - You translate a figure when you move it in a straight line.  - You reflect a figure when you move it over a line. 	Geometry Dance a. Teach students the steps on how to move if you were doing a slide (simply sliding one foot in a horizontal, vertical, or diagonal motion and then moving the other foot to join it). b. A flip (facing one direction, then doing a 180 jump to face the opposite direction), or a turn (one foot stays in place and we rotate 90 degrees for each foot...kind of like a pivot in basketball). I am the "caller" for the dance and they complete the movements as I call them out randomly. Play "Simon Says" with these movements.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pg. 56 ✓ Textbook: pgs.132-136 ✓ Workbook: pgs. 63 & 64	- Use cutouts and a grid to show slides, flips, and turns. For example, paste a right angle triangle to show slide, flips, and turns. - Flip, slide, and turn different objects. Talk about how objects look after. - Tell what kind of motion was used to move each plane figure. Write slide, flip or turn. E.  Slide

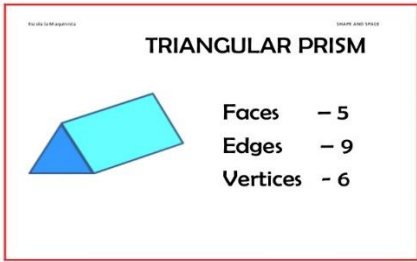
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 4

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
6. Demonstrate translation (slide), reflection (flip) and rotation (turn).	You rotate a figure when you turn it around a point. 	Quizizz https://quizizz.com/admin/quiz/5f5e4ea2810e49001cecbb43	Videos/Content https://youtu.be/AH4VsH8mIgs https://youtu.be/sSasVyYcdM https://youtu.be/RcPBFSf7EEE Worksheets https://www.mathworksheets4kids.com/transformation/slide-flip-turn/write-shapes1.pdf https://www.mathworksheets4kids.com/transformation/slide-flip-turn/draw-shapes1.pdf	Create a mini video displaying translations, reflections and rotations.
7. Name, identify and draw solid shapes such as cube, cuboid, triangular pyramid, sphere, cylinder and triangular prism (Continued).	Solid shapes are three-dimensional shapes that have length, breadth, and height as the three dimensions. 	Quizizz https://quizizz.com/admin/quiz/5a98626452714b001b750650	Video/Content https://youtu.be/2cg-Uc556-Q	Use materials to create solid shapes. Examples: popsicle sticks, toothpicks, string, etc.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 4

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
7. Name, identify and draw solid shapes such as cube, cuboid, triangular pyramid, sphere, cylinder and triangular prism.		Construct various solid shapes using Papier Mache	Worksheet https://www.mathworksheets4kids.com/solid-shapes/identify-3d-shapes/color/mcq-1.pdf	Create a geometric flip book.
8. Determine the number of faces, edges, and vertices on a given solid.	- The face of a solid is a polygon. The surface is flat. - An edge is the line made where two or more faces of a solid figure meet. - Vertex is a point at which two rays of an angle or two or more line segments meet in a plane figure. In solid shapes, it is where three or more sides meet.	- Copy and complete a table putting in number of faces, edges and vertices of given polygon. - Create solid figures and highlight the faces, edges, and vertices. Quizziz https://quizizz.com/admin/quiz/58dd47ba8dbfb9a05483271c	Video/Content https://youtu.be/3-QwWFkz5hw Worksheet https://www.mathworksheets4kids.com/solid-shapes/faces-edges-vertices/color/properties-table.pdf	Identify the faces, edges, and vertices of solid figures.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 4

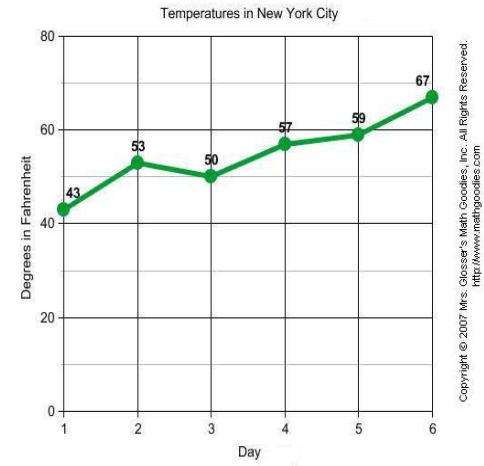
Sub-Goal 5: Collect, organize, and analyze data using statistical methods, predict results, and interpret uncertainty using concepts of probability.

Essential Questions

1. How are bar and line graphs similar and different?
2. Why is it essential to calculate mean/average, median, mode, and range of data?
3. Why is it important to use compensation strategy to find means/averages?
4. How is probability used to predict outcomes?

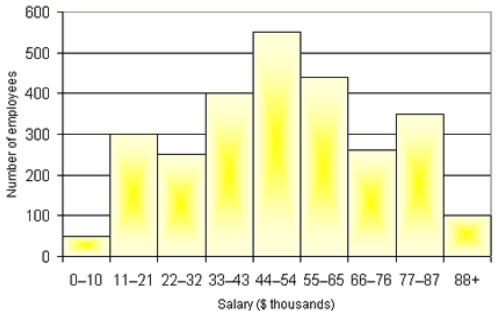
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 4

Sub-Goal 5: Collect, organize, and analyze data using statistical methods, predict results, and interpret uncertainty using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Graph data on a line graph.	- Information about people or things is called data. Data can be collected and organized in different ways. - A line graph connects points to show how data changes over time.  - The scale consists of numbers that show the units used on a graph. - The interval is the amount between tick marks on the scale.	- Students collect data; then show data on line graph. Example: Number of bicycles that was sold for seven months (January – July) or the temperature recorded for one week etc. - Give graphs a title, scale, and labels. Talk about the data collected then show how to place points on the grid for each number in the table. Connect the points to make the line. - Analyze line graphs through discussion. Example: - Does a line graph have a scale? - Does a line graph show a range? - Does a line graph show a mode? - Can you make prediction based on data in line and bar graphs?	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs. 38 & 39 ✓ Textbook: pgs. 77-88 ✓ Workbook: pgs. 40-45 Worksheets https://www.mathworksheets4kids.com/line-graph/interpret-easy1.pdf https://www.mathworksheets4kids.com/line-plot/make-easy1.pdf	- Discuss how horizontal and vertical bar graphs are alike and different - Journal Writing: Explain why it is important to choose the right scale for your graph

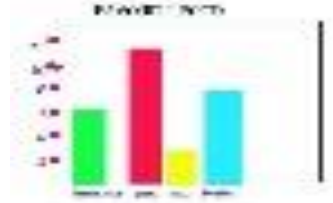
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 4

Sub-Goal 5: Collect, organize, and analyze data using statistical methods, predict results, and interpret uncertainty using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
2. Compare and contrast the different uses of bar and line graphs (Continued).	- A bar graph uses bars to show data. - Samples such as surveys and inventories are used to collect data. In a vertical bar graph, the bars go up from the bottom. In a horizontal bar graph, the bars go across from the left. - Line graphs show data change over time. NOTE: Do not confuse bar graphs and histograms. The bars in bar graphs do not touch but in a histogram they do. Example of a Histogram Salaries 	Students examine line and bar graphs, and write how each is used in the classroom or in the community.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pg. 39 ✓ Textbook: pg. 81 ✓ Workbook: pg. 42	Discuss how line graph and bar graph differ.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 4

Sub-Goal 5: Collect, organize, and analyze data using statistical methods, predict results, and interpret uncertainty using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
2. Compare and contrast the different uses of bar and line graphs.	Example of Bar Graph  - How are bar graphs and line graphs different? - A line graph is a continuous graph and a bar graph is separated. - A bar graph is composed of bars while the line graph is composed of lines. - How are bar graphs and line graphs alike? - Bar and line graphs are used for collecting and organizing data.	True or False Line Students examine line and bar graphs where they create true or false questions/statements to describe the use of the graphs.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pg. 39 ✓ Textbook: pg. 82 ✓ Workbook: pg. 43	Complete Venn diagrams to compare and contrast the different uses of bar and line graphs.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 4

Sub-Goal 5: Collect, organize, and analyze data using statistical methods, predict results, and interpret uncertainty using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
3. Collect, record, organize, and analyze data for bar and line graphs.	- Collect data using different techniques (observations, polls, tallying, interviews, surveys, or random sampling) and explain the results. - Organize, display, and read numerical (quantitative) and non-numerical (qualitative) data in a clear, organized, and accurate manner including a title, labels, categories, and whole number and decimal intervals using these data displays - graphs using concrete objects - pictographs - bar and line graphs - Venn diagrams and other pictorial - displays - line plots - charts and tables	- Have students record the number of specific types of vehicles that pass the school. Guide students to record the outcomes on bar graphs. - Use the seven day temperature forecast (printed in the newspaper) where students record data on line graphs. - Take a survey. Record the information in a bar and line graph and then analyze the data.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pg. 39 ✓ Textbook: pgs. 81 & 82 ✓ Workbook: pg. 42 Worksheet bar-graph-simple-1 (superteacherworksheets.com) - Newspaper	- Journal Writing: Students write steps on how to create graphs. - Students create graphs and draw conclusions using a set of data.
4. Identify the mode, median, and range of a set of data (Continued).	Range is the difference between the greatest number and the least number in a set of data. - The median is the middle number in an ordered set of data. - Put the data in order from least to greatest. Example: 40, 41, 42, 45, 45, 46, 47 The median is 45	Card Game - Use only the Ace through 10 cards. - Deal out 7 cards to each player (be sure there is a maximum of 4 players). - Each player arranges his/her cards in sequential order. Aces count as the number 1.	- Bahamas Primary Mathematics Bk 4 - Teacher's Manual: pg. 39 - Textbook: pgs. 86 & 87 - Workbook: pg. 45	Students answer the question in their mathematics journals: What do the mode, median, and range tell you about your class?

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 4

Sub-Goal 5: Collect, organize, and analyze data using statistical methods, predict results, and interpret uncertainty using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
4. Identify the mode, median, range of a set of data.	Mode is the number or item that occurs most often in a set of data. a. Using the data above the mode is 45 b. The range is $47 - 40 = 7$	d. Each player finds the median card in his or her hand and that number is his or her point value for that round. e. Players then find the mode and range of the numbers. Students can use their shoe sizes, ages, or height to identify, mode, median, and ranges.	Mathematics in Motion: A Resource Book for Primary Teachers, pg. 27 Videos/Content https://youtu.be/5C9LBF3b65s https://youtu.be/40x0NjdmbTg Worksheets https://www.mathworksheets4kids.com/central-tendency/median1.pdf https://www.mathworksheets4kids.com/mean/in-teger-easy-type1-1.pdf	Participate in a debate to tell if the mode or median is easier and more exciting to identify.
5. Explain and calculate the average arithmetical mean of set of data (Continued).	Mean is the average of a set of data. - The mean is found by adding all the addends (numbers) in a set and dividing by the amount of numbers added. Example: Joshua's scores on his science test: 80, 264, 68. What is his average quiz score?	Work in small groups to find mean of a set of given numbers.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pg. 39 ✓ Textbook: pgs. 83 & 84 ✓ Workbook: pg. 43	Calculate the mean of given data.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 4

Sub-Goal 5: Collect, organize, and analyze data using statistical methods, predict results, and interpret uncertainty using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
5. Explain and calculate the average arithmetical mean of set of data.	Steps a. Add the ones place. Regroup. b. Add the tens place. Regroup. c. Add the hundreds place. d. Divide total/sum by 3 $396 \div 3 = 132$ Joshua's average science score is 132 .	Create raps, poems, or song to explain how to find the mean.	Tutoring https://www.tutoringhour.com/files/mean-median-mode-range/mean-median-mode-range.pdf	Students write mean related problems and provide answers for the same.
6. Estimate the average /mean of a set of data using mental arithmetical.	- To estimate the average/ mean of a set of data, use the compensation strategy for addition. - Compensation in math means, adding and subtracting the same number to make the sum or difference easier to find.	Guide students to estimate averages. Use numbers that can be easily adjusted. Example: 3, 5, 4 Take 1 from 5, which is 4. Add the 1 from the 5 to 3 to make 4. You will get 4, 4, 4 The mean is 4	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pg. 39 ✓ Textbook: pg. 85 ✓ Workbook: pg. 44	Students will explain how to use compensation to estimate averages/means.
7. Perform simple experiment and record probability (Continued).	- Probability is the chance that an event will happen. - An event is certain if it will always happen.	Create spinners with names of government buildings (Examples: hospitals, libraries, schools). Have students manipulate the spinner and record the results.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher's Manual: pgs.59 & 60 ✓ Textbook: pgs. 145- 150 ✓ Workbook: pgs. 69-71	Journal Writing: A bag contains 10 blue marbles, 6 red marbles, 2 green marbles, and 1 white marble. Describe events that are certain, impossible, likely, and unlikely to happen when you pull a marble from this bag.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 4

Sub-Goal 5: Collect, organize, and analyze data using statistical methods, predict results, and interpret uncertainty using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
7. Perform simple experiments and record probability	- An event is impossible if it will never happen. - Vocabulary: event impossible, probability, certain, likely, unlikely.	Debate strategy that is designed to win the game.	Mathematics in Motion: A Resource Book for Primary Teachers, pg. 32 Video/Content https://youtu.be/4CtXvQySiro	Rotten Apple: Create “n” cutouts of apples. Write the word rotten on the backside of “n” apples. Place the apples in a bag where students alternately pull an apple from the bag. If students pull a “good” apple out of the bag, he/she remains in the game. If a rotten apple is pulled, the student is out. When all the apples are removed, the students will write probabilities for good and rotten apples.
8. Write probability as a fraction or ratio.	- A ratio is a comparison between two or more quantities. - There are several ways of writing the probability. You can write probability as a fraction or a ratio. 1 out of 8 – probability 1/8- fraction 1 to 8- ratio 3:8-ratio	- Use scenarios where students will write probability as a fraction or a ratio. - Students create game cards with possible solutions.	- Bahamas Primary Mathematics Bk 4 ✓ Teacher’s Manual: pgs. 59 & 60 ✓ Textbook: pgs. 145-150 ✓ Workbook: pgs. 69-71 - Mathematics in Motion: A Resource Book for Primary Teachers, pg. 30 Worksheets https://www.superteacherworksheets.com/ratio/ratio-basic-2 https://www.mathworksheets4kids.com/ratio/customary/part-to-part-level-1-1.pdf	- Lesson Quiz: Write probability as fractions or ratios. - Orally discuss the difference between probability as fractions or ratios.

Scope of Work

Primary School Mathematics

Grade 5

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 5

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates (Continued).

Essential Questions

1. Where are numbers to a billion found and how do they affect our daily lives?
2. How can expanded notation of numbers help explain a number's value?
3. How does estimation, rounding, comparing, ordering/operations of whole numbers, and decimals aid problem solving?
4. What are prime and composite numbers?
5. How are factors and multiples beneficial in math?
6. When are fractions and whole numbers used together in real life?
7. What is the relationship between fractions and decimals?
8. How can estimation help you make a reasonable guess?
9. How is estimating sums with decimals like estimating sums with whole numbers?
10. How can I estimate the answers for operations involving two and three digit numbers?
11. What facts are needed to solve problems?

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 5

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

12. How can I recognize what strategy to use for a specific problem?
13. How do operations affect numbers?
14. Why are compatible numbers used for the dividend when estimating quotients?
15. How can divisibility rules help with division?
16. How are division and multiplication related?
17. How can I explain how changing the size of the whole affects the size or amount of a fraction?

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 5

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT									
1. Write numerals and word names to millions.	- Each group of 3 digits is called a period. A space separates each of the periods. The number 259 792 257 has three periods: ones, thousands, and millions. - Place value and periods help you read and write numbers in standard form. 259 792 257 a. Word Form: two hundred fifty- nine million, seven hundred ninety- two thousand, two hundred fifty- seven. b. Expanded form 200 000 000 + 50 000 000 + 9 000 000 + 700 000 + 90 000 + 2 000 +200 + 50 + 7. - Reading and writing numbers are symbolic activities and should follow much modeling and talking about numbers.	- Complete the following chart.<table><tr><th>Standard Form</th><th>Word Form</th><th>Expanded Form</th></tr><tr><td>54 060 900</td><td>?</td><td>50 000 000+ 4 000 000+ 60 000+ 900</td></tr><tr><td>?</td><td>twelve thousand, three hundred, sixty-eight</td><td>?</td></tr></table> - Create game cards in sets of threes: a. Standard Form: 603 b. Word Form: Six hundred, three c. Expanded Form: 600 + 3 Play concentration type game Writing numbers in words https://www.ixl.com/math/grade-5/writing-numbers-in-words-convert-words-to-digits	Standard Form	Word Form	Expanded Form	54 060 900	?	50 000 000+ 4 000 000+ 60 000+ 900	?	twelve thousand, three hundred, sixty-eight	?	- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pgs. 12-14 ✓ Textbook: pgs. 5-10 ✓ Workbook: pgs. 4 &5 - Helping Children Learn Mathematics pg. 186	Complete activity sheet on writing numerals and word names to millions.
Standard Form	Word Form	Expanded Form											
54 060 900	?	50 000 000+ 4 000 000+ 60 000+ 900											
?	twelve thousand, three hundred, sixty-eight	?											

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 5

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
2. Identify the place value of digits in whole numbers up to millions.	- The period to the left of thousands is millions. - The period to the left of ones is thousands. - The position of a digit represents its value. Ten is the value that determines a new collection. - A symbol for zero exists and allows us to represent symbolically the absence of something.	Game: Pick and Put - Show students a place value chart and ask them to select a numeral from a bag. The card with the numeral will have its position on the other side. The students will correctly place the number in the correct column on the place value chart. Game: Millionaire: http://www.math-play.com/Place-Value-Millionaire/place-value-millionaire-game_html5.html	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pgs. 12-14 ✓ Textbook: pgs. 5-10 ✓ Workbook: pgs. 4 & 5 - Bag - Cards - Flannel - bowl	Test: Identify and write the place value of each digit in given numbers.
3. Compare and order whole numbers, fractions, and decimals using $<$, $>$, and $=$ (Continued).	- The symbol "$<$" means less than. - The symbol "$>$" means greater than. - The symbol "$=$" means equal to. - Use the above symbols when comparing and ordering fractions, decimals, and whole numbers.	Race - Students are placed into three groups. Group A $>$, Group B $<$, and Group C $=$ - Teacher writes questions on the chalkboard or whiteboard. - Students place correct symbol to answer the question.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 20 ✓ Textbook: pgs. 6-10; 25-27; 35 & 36 ✓ Workbook: pgs. 20; 22-27	Students are given sets of numbers. They are to write true or false to describe the condition. Example 16 592 $<$ 16952 True If the answer is false, students explain why.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENTS
3. Compare and order whole numbers, fractions, and decimals using < , > , and = (Continued)	• Whole Numbers Compare 23 400 836 and 23 317 600. Step 1 Start with the first place on the left. Compare the ten millions. 23 400 836 ↓ 23 317 600 2 = 2 There are the same number of ten millions. Step 2: compare the millions. 23 400 836 ↓ 23 317 600 3 = 3 There are the same number of millions. Step 3: compare the hundred thousands. 23 400 836 ↓ 23 317 600 4 > 3 Four hundred thousand is greater than three hundred thousand. 23 400 836 > 23 317 600 Comparing Decimals Order 1.23; 0.98; and 1.28 from least to greatest.	Write a paragraph and explain how you would compare 45 928 765 to 45 928 664	Helping Children Learn Mathematics pgs. 291-295, 306	Quiz

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENTS												
3. Compare and order whole numbers, fractions, and decimals using $<$, $>$, and $=$ (continued)	Line up the decimal points. Compare the digits in the greatest place. 1.23 ↓ 0.98 ↓ 1.28 $0 < 1$ Since $0 < 1$, then 0.98 is the least number. Step 2: Compare the tenths. 1.23 ↓ 1.28 $2 = 2$ There is the same number of tenths. Step 3: Compare the hundredths 1.23 ↓ 1.28 $3 > 8$ So, the order from least to greatest is 0.98; 1.23; 1.28	Students use number line to order numbers. Example: 9.4; 9.63; and 9.27 from greatest to least. 9.27 9.4 9.63 ← 9.2 9.3 9.4 9.5 9.6 → So the order is 9.63, 9.4, 9.27 • What’s your answer? Use the data in this table. These are data about the countries of the United Kingdom. <table><tr><th>Country</th><th>Area Thousandths of km²</th><th>Population (millions)</th></tr><tr><td>England</td><td>50.363</td><td>46.221</td></tr><tr><td>N.Ireland</td><td>5.452</td><td>1.543</td></tr><tr><td>Scotland</td><td>30.415</td><td>5.131</td></tr></table> Answer these questions a. Order the countries from least to greatest in terms of population. b. Order the countries from greatest to least in terms of area.	Country	Area Thousandths of km ²	Population (millions)	England	50.363	46.221	N.Ireland	5.452	1.543	Scotland	30.415	5.131	Video/Content https://youtu.be/3OA6t-e29Mc	Complete a work sheet on comparing and ordering whole numbers, fractions and decimals.
Country	Area Thousandths of km ²	Population (millions)														
England	50.363	46.221														
N.Ireland	5.452	1.543														
Scotland	30.415	5.131														

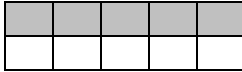
SCOPE OF WORK
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Sub-Goal1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENTS
3. Compare and order whole numbers, fractions, and decimals using $<$, $>$, and $=$.	Write the decimal from greatest to least order. Example: 0.813; 0.6; 0.65 0.813 think $8 > 6$, so 0.813 is the greatest 0.6 0.600 0.6 is equivalent to 0.600 ↓ 0.65 0.650 0.65 is equivalent to 0.650 0.65 0.650 $0 > 5$, so 0.6 is the least The order from least to greatest is 0.6; 0.65; 0.813	In cooperative groups, create whole numbers, fractions and decimals problems and compare them using the relative symbols.	Video/Content Song-Decimals https://www.youtube.com/watch?v=RHU14kZDD6c	Journal Writing: Explain how to order and compare whole numbers, fractions and decimals using $<$, $>$ and $=$.
4. Order fractions, decimals, and whole numbers in ascending and descending order.	- Ordering fractions shows which is more, less, or equal. - Symbols such as $>$, $<$, or $=$ are used to order fractions, decimals and whole numbers. - Example $1/6 < 1/2 < 2/3$	- Compare given fractions using fraction bars. Example: Compare $\frac{1}{2}$ and $\frac{2}{3}$ by using fraction bars. Step 1. Start with the bar. For 1, line up fraction bar for $1/2$. Step 2. Line up the fraction bar for $\frac{2}{3}$. Compare the two rows of fraction bars. The longer row represents the greater fraction. - Students use the number line to order fractions, decimals, and whole numbers.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 25 ✓ Textbook: pgs. 25-27; 33 ✓ Workbook: pgs. 19-21	Have students order fractions, decimals, and whole numbers on a number line.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
5. Explain the difference between even/ odd numbers, whole numbers, fractions, decimals , and perfect squares (Continued).	• Even numbers are divisible by 2 and end with a digit of 0, 2, 4, 6, or 8. Example: 2 ; 48 ; 4 000 • Odd numbers are not divisible by 2. Odd numbers always end with a digit of 1, 3, 5, 7, or 9. Example: 47 ; 139; 47 003 • Whole numbers (one of the numbers 0, 1, 2, 3, 4 ... The set of whole numbers go on without end. • Fractions are equal parts of a whole or a region. • Decimals: Numbers with one or more digits to the right of the decimal point. • A square number is the product of two equal factors. Example: $7 \times 7 = 49$; $6 \times 6 = 36$ • To find some square numbers start by multiplying 1×1. So 1 is a square number. • The square root of a number is one of the 2 equal factors of the product.	• Use grids to identify fractions and decimal numbers.  • Read: five tenths Write : $5/10$ or 0.5 • Hocus Pocus - Students will select a word from a bag (fraction, decimal, even, odd, and square numbers). They will not be allowed to view the term they have selected. - Student A will select a peer (B) who will define the term. If the student A is satisfied with the definition, the teacher will select a term for student B and ask him/ her to explain the difference between the two. - Student A will be responsible for defining the term student B selected. Some cards will have the definitions at the back.	• Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 19 ✓ Textbook: pgs. 13-15; 32 ✓ Workbook: pgs. 22-27 • bag • cards • Online Activities Odd and Even https://www.ixl.com/math/grade-3/even-or-odd Prime and Composite https://www.splashlearn.com/algebra-games-for-4th-graders https://www.ixl.com/math/grade-4/prime-and-composite-up-to-100 Fractions and Decimals http://www.mathblaster.com/teachers/math-worksheets/all-printable-math-worksheets/decimals-as-fractions	• Students create dictionaries with vocabulary words, definitions, and examples.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
5. Explain the difference between even/ odd numbers, whole numbers, fractions, decimals, and perfect squares.	Another way to write 3×3 is 3^2. This is read as three squared.	Fractions and Decimals https://mathsframe.co.uk/en/resources/resource/120/match_fractions_decimals_and_percentages#.UCdcd2MsCEY	Perfect Square https://www.topmarks.co.uk/learning-to-count/paint-the-squares	Complete a worksheet on even/odd, fractions, whole numbers, decimals and perfect squares
6. Use the terms sum, difference, product, quotient, factor, divisor, dividend, and remainder appropriately (Continued).	Sum: The answer to an addition problem. In the addition equation $a + b = c$, c is called the sum. Difference: The answer to a subtraction problem. In the subtraction equation $b - c = d$, d is the difference, Product: The result of multiplication Example: $7 \times 9 = 63$ 63 is the product Quotient: The number, not including the remainder, that results from dividing. Factor: Describe parts of any multiplication problem such as $\begin{array}{ccccccc} 2 & \times & 5 & = & 10 \\ \uparrow & & \uparrow & & \uparrow \\ \text{factors} & & & & \text{product} \end{array}$	Define Me - Student selects four classmates to form a group. - The first student selects a term out of a bag and defines it. - He/she then takes the bag to his group member who selects another term (sum, difference, product, quotient, divisor, dividend) and defines 'it' until all are defined correctly. (Time and compare results)	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: Nil ✓ Textbook: pgs. Nil ✓ Workbook: Nil - bags	Have students identify terms of equations and solve them.

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6. Use the terms sum, difference, product quotient, factor, divisor, dividend, and remainder appropriately.	• Dividend: The number that is to be divided in a division problem. • Divisor: The number that is used to divide the dividend • Remainder: The amount left over after you find the quotient.	• Vocabulary Concentration a. Make sure the deck is well shuffled before laying out the cards, facedown, in four rows of 13. b. Each player takes turns flipping two cards face-up — if they are the correct definition and vocabulary word, then that player wins the pair and gets another turn. c. The player with the most matched cards wins the game.	• Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pg. 51 ✓ Textbook: pg. 109 ✓ Workbook: pgs. 53-55	• Unit Quiz on various terms like sum, product, factor and the like.																		
7. Identify equivalent fractions and decimals (Continued).	• Fractions that name the same amount are called equivalent fractions. • You can use fraction strips or multiplication to find equivalent fractions.	• Have students use fraction bars to find equivalent fractions. • Have students create decimal models that are equivalent.<table><tr><td colspan="6">1</td></tr><tr><td colspan="2">1/3</td><td colspan="2">1/3</td><td colspan="2">1/3</td></tr><tr><td>1/6</td><td>1/6</td><td>1/6</td><td>1/6</td><td>1/6</td><td>1/6</td></tr></table>	1						1/3		1/3		1/3		1/6	1/6	1/6	1/6	1/6	1/6	• Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pg. 25 ✓ Textbook: pg. 23 ✓ Workbook: pgs. 32-39	• Students discuss how to find equivalent fractions. • Have students create a hop scotch with equivalent fractions.
1																						
1/3		1/3		1/3																		
1/6	1/6	1/6	1/6	1/6	1/6																	

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENTS																																				
7. Identify equivalent fractions and decimals.	Find equivalent fraction for 5/6. <table border="1"><tr><td colspan="12">1</td></tr><tr><td colspan="2">1/6</td><td colspan="2">1/6</td><td colspan="2">1/6</td><td colspan="2">1/6</td><td colspan="2">1/6</td><td colspan="2">1/6</td></tr><tr><td>1/12</td><td>1/12</td><td>1/12</td><td>1/12</td><td>1/12</td><td>1/12</td><td>1/12</td><td>1/12</td><td>1/12</td><td>1/12</td><td>1/12</td><td>1/12</td></tr></table> - Another way to find equivalent fraction is to use multiplication. - Multiply the numerator and denominator by 2. $\frac{5}{6} = \frac{5}{6} \times \frac{2}{2} = \frac{10}{12}$ Verifying equivalent fractions In one group, 18 out 30 students (18/30) prefer guineps to sea grapes and in a second group 24 out of 40 students (24/40) prefer guineps over sea grapes. How do the group preference compare? Since 18/30 = 3/5 and 24/40 = 3/5, the same fraction of each group prefers guineps and sea grapes. - Equivalent decimals name the same number. Example: 0.2 = 0.20	1												1/6		1/6		1/6		1/6		1/6		1/6		1/12	1/12	1/12	1/12	1/12	1/12	1/12	1/12	1/12	1/12	1/12	1/12	Online Games: Equivalent Fractions https://www.mathnook.com/math/mathpup-fishing-equivalent-fractions.html https://www.education.com/game/pancake-fractions/ https://www.ixl.com/math/grade-5/equivalent-fractions	Equivalent fractions: http://www.harcourtschool.com/elab2002	Students write a poem, rap, or a skit on equivalent decimals.
1																																								
1/6		1/6		1/6		1/6		1/6		1/6																														
1/12	1/12	1/12	1/12	1/12	1/12	1/12	1/12	1/12	1/12	1/12	1/12																													

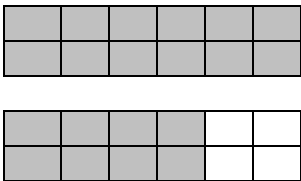
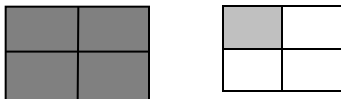
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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENTS
8. Simplify fractions to lowest terms.	• Simplest form: fractions with a numerator and denominator that have only 1 as a common factor. Example Find the simplest form of 45/60. Try 5 Divide the numerator and denominator by 5. $45/60 = \frac{45 \div 5}{60 \div 5} = \frac{9}{12}$ Next try 3. Divide the numerator and denominator by 3. $9/12 = \frac{9 \div 3}{12 \div 3} = \frac{3}{4}$	• Equivalent Blast a. Give students fractions to simplify. b. The winner explains what he/she did before the next problem is given. c. The student with the most correct responses wins. • Psyche a. Students work in groups. One member is blind folded and given facts about an unseen fraction by a group member. E.g. its HCF is 4. b. When broken down into its simplest form, the fraction is $\frac{1}{2}$. The blind folded student has to give the correct fraction. • Working is done by the group members. c. Teacher provides the original fraction.	• Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 19 ✓ Textbook: pg. 24 ✓ Workbook: pgs. None Game: Simplifying Fractions https://www.mathgames.com/skill/4.55-reduce-to-lowest-terms	• Journal Entry: Explain how fractions are simplified. Create and solve three problems.

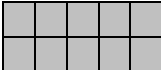
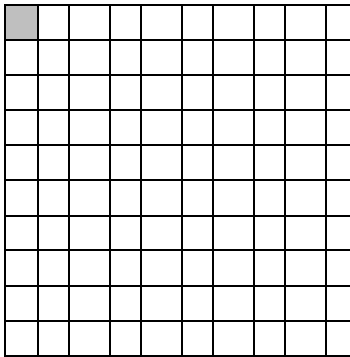
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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENTS
9. Explain the relationship between fractions and whole numbers.	- A mixed number is made up of a whole number and a fraction. Use models to help students to understand this concept. Example 1 $1\frac{8}{12}$  - Reduce mixed fractions when possible Example 1 $1\frac{8}{12} = 1\frac{2}{3}$	- Write a mixed number for each picture  $1\frac{1}{4}$ Game: Model This. - Students model the following questions as a group e.g. - You have 3 pans, each with $\frac{4}{5}$ of a pizza. How many pizzas do you have? $6\frac{3}{7} = 5\frac{10}{7}$. The group that completes the activity first with the correct model wins. Games: Mixed Numbers https://www.splashlearn.com/fraction-games-for-4th-graders?topics=decimal https://www.splashlearn.com/fraction-games-for-4th-graders https://www.ixl.com/math/grade-3/select-fractions-equivalent-to-whole-numbers-using-area-models	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. None ✓ Textbook: pgs. 22-24 ✓ Workbook: pgs. 13-15 - Helping Children Learn Mathematics pg. 296	Have students create a wall display to show mixed numbers.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENTS								
10. Read and write decimals through thousandths (Continued).	- A decimal is a number with one or more digits to the right of the decimal point. - If one hundredth were divided into ten equal parts, each part would represent one thousandth. You can use a place value chart to help you understand thousandths. <table><tr><td>Ones</td><td>Tenths</td><td>Hundredths</td><td>Thousandths</td></tr><tr><td>0</td><td>• 4</td><td>7</td><td>2</td></tr></table> Standard form 0.472 Word Form Four hundred seventy two thousandths Expanded Form 0.4 + 0.07 + 0.002	Ones	Tenths	Hundredths	Thousandths	0	• 4	7	2	Have students use graph paper to identify how to write decimals to thousandths.  Fraction: $\frac{1}{10}$ Decimal: 1.0  Fraction: $\frac{1}{100}$ Decimal: 0.01	- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pg. 24 ✓ Textbook: pgs. 32-34 ✓ Workbook: pg. 19 Games: Decimal Games: Division https://www.education.com/game/decimal-division-tenths/ https://www.ixl.com/math/grade-5/divide-by-powers-of-ten Multiplication of Decimals https://www.ixl.com/math/grade-5/multiply-a-decimal-by-a-power-of-ten - Helping Children Learn Mathematics pgs. 406-410 - Graph paper	Create a “cheer” to tell how to write/read decimals.
Ones	Tenths	Hundredths	Thousandths									
0	• 4	7	2									

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11. Convert fractions to decimals and vice- versa.	- Understanding fractions that have a denominator of 10 or 100 will help you understand decimals. Example Write the fraction using a denominator of 10 or 100.What decimal shows the same amount as ½? ½ = ½ x ⁵/₅ = ⁵/₁₀ = 0.5 So, ½ is the same as 0.5 <table><tr><td>Example: Fraction Write: ⁶/₁₀ Read: six tenths</td><td>Decimal Write: 0.6 Read: six tenths</td></tr></table> - You can write a decimal for a fraction that has a denominator other than 10 or 100. Example: ³/₅ = 0.6 <table><tr><td>3 divided by 5</td><td> 0.6 5) 3.0 - 30 00 </td></tr></table> - A number line divided into 100 equal parts can be used to model fractions and decimals that name the same amount in tenths or hundredths.	Example: Fraction Write: ⁶/₁₀ Read: six tenths	Decimal Write: 0.6 Read: six tenths	3 divided by 5	0.6 5) 3.0 - 30 00	- Write each decimal as a fraction. <table><tr><td>1) Oxygen: 0.47</td><td>2) Aluminum 0.08</td></tr><tr><td> 47 100 </td><td> 8 100 </td></tr><tr><td>3) Silicon: 0.28</td><td>4) Iron: 0.05</td></tr><tr><td> 28 100 </td><td> 5 100 </td></tr></table> - Use the number line to show equivalent fractions and decimals. Activities: Convert Fractions to Decimals https://www.ixl.com/math/grade-5/convert-decimals-to-fractions-ii https://www.ixl.com/math/grade-5/convert-fractions-to-decimals-ii	1) Oxygen: 0.47	2) Aluminum 0.08	47 100	8 100	3) Silicon: 0.28	4) Iron: 0.05	28 100	5 100	- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pg. 24 ✓ Textbook: pg. 34 ✓ Workbook: pg. 21 - Helping Children Learn Mathematics pg. 204	Complete journal entries to explain how to convert between fractions and decimals.
Example: Fraction Write: ⁶/₁₀ Read: six tenths	Decimal Write: 0.6 Read: six tenths															
3 divided by 5	0.6 5) 3.0 - 30 00															
1) Oxygen: 0.47	2) Aluminum 0.08															
47 100	8 100															
3) Silicon: 0.28	4) Iron: 0.05															
28 100	5 100															

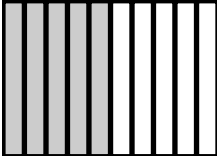
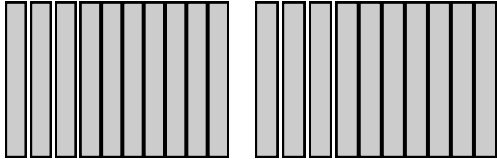
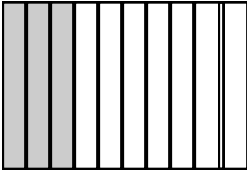
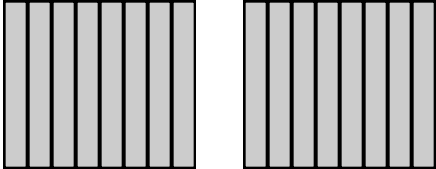
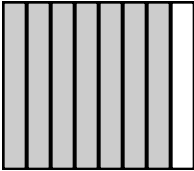
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Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENTS
12. Round decimals to nearest tenths, hundredths, and thousandths.	- Rounding whole numbers and rounding decimals are similar processes. Remember - Find the place value to which you want to round. - Look at the digit to the right. - If the digit is less than 5, the digit in the rounding place stays the same. - If the digit is 5 or more, the digit in the rounding place is increased by 1. Round 6.079 to the nearest hundredth. Look at the thousandth place ↓ 6.079 Since 9>5, the digit 7 is increased by 1 So 6.079 rounds to 6.08 - If the number in thousandths places is 5 or more, the number in the tenths place is increased by 1. Example: Round 0.459 to the nearest tenth = 0.5 Round 1.222 to the nearest hundredth. = 1.22	- Use a number line to round to nearest tenths, hundredth, and thousandths. “What is it?” - Teacher asks questions that are answered in groups (Its academic format). Examples: Questions 1) How many tenths are in the number 24.78? 2) How will you round to the nearest tenth? Games: Rounding Decimals https://www.education.com/game/treasure-diving-rounding-decimals-to-the-nearest-hundredth/ https://www.ixl.com/math/grade-5/round-decimals	- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pg. 29 ✓ Textbook: pgs. 52 & 53 ✓ Workbook: pg. 27 - Helping Children Learn Mathematics pg. 306 Online Game: Rounding Decimals https://www.education.com/game/water-rafting-rounding-decimals-to-the-nearest-hundredth/	- Complete activity chart where students round to the nearest tenth, hundredth, and nearest thousandth. - Complete a riddle activity. Example: If you round my decimal number to the nearest tenth, the sum of my digits is 11. What am I? 0.74

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13. Represent decimals as part of a whole.	Example Model 1:  Word: five- tenths Fraction: $\frac{5}{10}$ Decimal: 0.5 Model 2:   Mixed Number: $2\frac{3}{10}$ Decimal: 2.3 Read: two and three –tenths	• Use a number line or a decimal model to relate mixed numbers and decimals. • Write an equivalent decimal and mixed number for each decimal model. Then write the word form. Example $2\frac{7}{8}$   Decimal: 2.875 Read: Two and eight hundredth, seventy-five thousandths Part of a whole https://www.ixl.com/math/grade-5/what-decimal-number-is-illustrated	• Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pg. 24 ✓ Textbook: pgs. 33 & 34 ✓ Workbook: pgs. 19 • Helping Children Learn Mathematics pg. 303 & 30	• Create wall/board display to show decimals in relation to wholes. • Write in math journals and explain representations of decimals as a part of a whole.

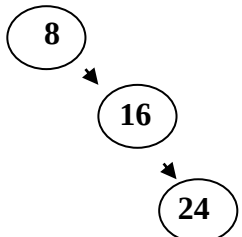
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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENTS
14. Compare and order decimals through thousandths.	- You can use a number line or place value to order decimals up to thousandths. - Remember: On a number line, the numbers to the right are greater than the numbers to the left. Example: Order 0.813, 0.6, 0.65 from least to greatest. 0.813 Think: 8>6 so 0.813 is the greatest. ↓ 0.6 0.600 0.6 is equivalent to 0.600 ↓ ↓ 0.65 0.650 0.65 is equivalent to 0.650 0<5 so 0.6 is the least. Therefore from least to greatest: 0.6, 0.65, 0.813	Puzzled Arrange these four decimals in the boxes so that the sentence is true. (Remember to do the parts in the parentheses first.) 5.13 4.24 3.84 3.16 (___x 5) + ___ = (4x ___) + ___ Comparing Decimals http://www.teacherled.com/2015/04/01/compare-decimals/	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 25 ✓ Textbook: pgs. 35 & 36 ✓ Workbook: pg. 20 - Helping Children Learn Mathematics pg. 306	Have students use a number line to order given sets of decimals.
15. Identify factors and multiples (Continued).	Factors: Numbers that are multiplied. $\begin{array}{ccccc} 10 & \times & 5 & = & 10 \\ \uparrow & & \uparrow & & \uparrow \\ & \text{factors} & & & \text{product} \\ & \text{(multiple of 10 and 5)} & & & \end{array}$	Teacher places cards on the table with multiples written on them. Students give the factors for the multiples. For example: 56; 20; 72 ; 48 Activities Factors https://www.education.com/game/dino-skateboarding-which-factor-does-not-belong/ https://www.ixl.com/math/grade-5/identify-factors Multiples https://www.education.com/game/dino-crunch-finding-multiples	Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pgs. 31-34 ✓ Textbook: pgs. 57-59 ✓ Workbook: pgs. 29-32	Complete speed drills to tell factors and multiples of given numbers.

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15. Identify factors and multiples.	Multiples: The product of two factors.	Hoola - Place 12 hoola hoops on the floor in a circular pattern. Students will complete rotation by jumping into the hoola hoop. - Every time a new member enters the hoops, the group moves forward. - The first student gives a factor of a multiple and jumps into the first hoola hoop if it is correct. If the answer is incorrect, that student sits down and another student tries. - The second student gives another multiple and so forth until all hoops are emptied. Example: Multiples of 8 	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pgs. 31-34 ✓ Textbook: pgs. 57-59 ✓ Workbook: pgs. 29-32	Create a rap or song about factors and multiples.

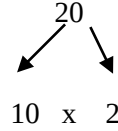
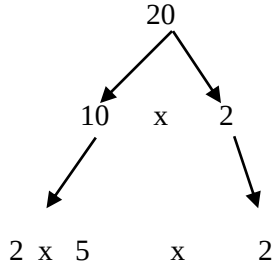
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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENTS
16. Identify L.C.M and G. C. F. of two numbers (Continued).	• Composite numbers are numbers with more than 2 factors. The numbers can be written as a product of prime factors. Example: $9 = 3 \times 3$; 9×1 The composite numbers are 1, 3, 9 • The lowest common multiple (LCM) of two whole numbers is the smallest whole number which is a multiple of both. a. For example the multiples of 10 = 10, 20, 30, 40, 50, ... multiples of 8 = 8, 16, 24, 32, 40, 48, ... So the least common multiple of 10 and 8 is 40 or LCM (10, 8) = 40. • The greatest common factor (GCF) of 2 whole numbers is the largest whole number which is a factor both. Example: Factors of 12 = 1,2,3,4, ,12 Factors of 15 = 1,3,5,15 1 and 3 are common factors. The highest common factor is 3. • Use factor trees as well to find prime factors.	• Bowling Factors a. Students bowl down pins using cardinal numbers 0-9. b. Students make a number with the pins that fell. Example: pins 4 ; 0 ; 9 were knocked down. Students will create factors of 49. c. Students find the L. C.M. and H.C.F. of the numbers from the fallen pins. Note: If all pins are knocked down, have the student bowl or try again. Math Pyramid https://www.mathnook.com/math/pyramid-math-2.html	• Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pgs. 32 & 33 ✓ Textbook: pgs. 58 & 59 ✓ Workbook: pg. 30	• Students create a quiz to find the L.C. M and H. C. F. of numbers. Students also create the answer key.

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16. Identify L.C.M and G. C. F. of two numbers.	A factor tree of 20 Step 1 Find any two factors of 20.  Step 2 Continue factoring until only prime factors are left. 	Greatest Common Factors https://www.ixl.com/math/grade-5/greatest-common-factor Least Common Factors https://www.ixl.com/math/grade-5/least-common-multiple	- Bowling pins - Balls	Write in math journals how to find the L.C. M. and G. C. F. of numbers.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
17. Write numbers as products of prime numbers using exponential notation where appropriate.	- A prime number is a positive whole number that has exactly 2 positive divisors, 1 and the number itself. A prime number cannot be factored. Note: 1 is not a prime number because it has only 1 divisor. - A composite number has more than two distinct factors (divisors). - The product of prime numbers can be represented by the prime factorization method. Example: Write the prime factorization of 60 $60 = 2 \times 2 \times 3 \times 5$ $60 = 2^2 \times 3 \times 5$ - You can use a factor tree to find the prime factors of composite numbers. A factor tree of 30 <pre> 30 / \ 10 3 / \ 2 5 / \ 2 5 </pre> So $30 = 2 \times 3 \times 5$.	- Write each number as a product of prime factors using exponential notation where appropriate. 1) 22 2) 120 3) 84 4) Write the missing factors $150 = \_ \times 3 \times 5 \times 5 \_$ - Pulley Prime - Use a pulley system to fish three or four prime numbers out of a bucket of water. - Students will use the prime number they fished to write numbers as products of prime numbers. They will be allowed to discard one number only. - The student with the greatest number (product) is the winner. Exponents https://www.ixl.com/math/grade-5/understanding-exponents https://www.education.com/game/jumpy-exponents/ https://www.education.com/game/dino-bones-exponents/	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 33 ✓ Textbook: pgs. 60-62 ✓ Workbook: pg. 32	Students complete a worksheet where they write numbers as products of prime numbers using exponential notation.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
18. Use and interpret the language of Mathematics in problem solving (Continued).	- Problem Solving Plan in 4 steps. Step 1: Clues - Read the problem carefully - Underline clue words. - Ask yourself if you've seen a problem similar to this one. If so, what is similar about it? What did you need to do? - What facts are you given? - What do you need to find out? Step 2: Game Plan - Define your game plan. - Have you seen a problem like this before? Identify what you did. - Define your strategies to solve this problem. - Try out your strategies. (Using formulas, simplifying, look for a pattern, etc.) - If your strategy does not work, select another strategy. Step 3: Solve - Use your strategies to solve the problem.	Give students problems to solve. They will have to suggest the best strategies, the operation to use, and solve the problems. Problem Solving Steps https://www.liveworksheets.com/nb1512799ye	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 45 ✓ Textbook: pgs. 95-97; ✓ Workbook: pgs. 46 & 47	Students create problems and solve them highlighting the clue words and the mathematics language.

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18. Use and interpret the language of Mathematics in problem solving.	Step 4: Reflect a. This part is critical. Look over your solution. b. Does it seem probable? c. Did you answer the question? Are you sure? d. Did you answer using the language in the question? Same units? • Clue words for addition: Sum Total In all Perimeter • Clue words for subtraction: Difference How much more Exceed • Clue words for multiplication: Product Total Area Times • Clue words for division: Share Distribute Quotient Average	Clue Words Activity https://www.liveworksheets.com/ku1505682fs	• Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 45 ✓ Textbook: pgs. 95-97; ✓ Workbook: pgs. 46 & 47	• Unit Quiz on interpreting the language of mathematics in problem solving.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT														
19. Estimate and create answers to solve single and multi-step problems involving addition and subtraction of whole numbers, money, fractions, and decimals (Continued).	• Computational estimation is a process of developing an answer or answers that are close enough to enable good decision with making exact computations. • Exact computations can help by building a better sense of estimating answers first. • Front End Estimation This is where you use only the most important digits, ignore the rest. Example:<table><tr><td>\$4.092</td><td>\$4.000</td></tr><tr><td>\$7.351</td><td>\$7.000</td></tr><tr><td>+ <u>\$8.973</u></td><td>+ <u>\$8.000</u></td></tr><tr><td>_____</td><td><u>\$19.00</u></td></tr></table> • Adjusting and compensation Students should be taught that values being analyzed can be seen as a little more, a lot more, or a little less. Example: Subtraction<table><tr><td>\$ 7.351</td><td>– \$7.000</td></tr><tr><td><u>- 4.092</u></td><td><u>\$4.000</u></td></tr><tr><td><u>\$ 3.259</u></td><td><u>\$3.000</u></td></tr></table>	\$4.092	\$4.000	\$7.351	\$7.000	+ <u>\$8.973</u>	+ <u>\$8.000</u>	_____	<u>\$19.00</u>	\$ 7.351	– \$7.000	<u>- 4.092</u>	<u>\$4.000</u>	<u>\$ 3.259</u>	<u>\$3.000</u>	• Without calculating an exact answer, circle the best estimate for $72 \div 0.025$ a. A lot less than 72 b. A little less than 72 c. A Little more than 72 d. A lot more than 72 • In pairs, students create single and multi-step problems. Another pair in the class solves the problems. Students report findings. • Do I Have Enough? a. Students are exposed to the classroom store where items are clearly priced. Students are given a certain amount of money to shop. For example, \$15.00. b. Students are challenged to select four items that when purchased will leave them with more than \$2.00 or less than a \$1.00.	• Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pgs. 39-41 ✓ Textbook: pgs. 74-77 ✓ Workbook: pgs. 38-41	• Worksheet Example: a. Suppose it costs 23¢ to mail a post card to Andros and 37¢ for a letter. Bill wrote to 12 friends and spent \$3.46 for postage. How many letters and how many post cards did he send? You can use guess and check. - b.If two whole numbers have a sum of 18 and a product of 45, what are the numbers?
\$4.092	\$4.000																	
\$7.351	\$7.000																	
+ <u>\$8.973</u>	+ <u>\$8.000</u>																	
_____	<u>\$19.00</u>																	
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19. Estimate and create answers to solve single and multi-step problems involving addition and subtraction of whole numbers, money, fractions, and decimals.	• Student's question: If each box contains 79 juice containers, about how much will 5 boxes hold? Student A's response: 4×100 but less than 400. Student B's response: 5×70 is 350 but more than 350 • Compatible numbers also called friendly numbers. Values are easy to compute mentally and seem to go together. For example, 7 and 3 are compatible with 10; thus 70 and 30 are compatible with 100 • $3/7$ and $4/7$ are compatible in the one whole; thus $30/70$ and $40/70$ are compatible with one whole.	• Do I Have Enough? a. Students are given a certain amount of money (e.g. \$10.00) to shop at the classroom store. b. Students are challenged to select exactly four items that will leave them with more than \$2.00 or less than \$1.00. • Games Guess and Check https://www.mathgames.com/skill/4.92-solve-using-guess-and-check • Multi-Step https://www.mathgames.com/skill/4.90-multi-step	• Helping Children Learn Math Fifth Edition, pg. 242 • Newspapers, magazines etc.	• Write a paragraph explaining a situation where estimation of addition and subtraction of whole numbers, money, fractions, or decimals was beneficial to you.
20. Estimate using several methods including rounding (Continued).	• Flexible Rounding: Same rules that are used for rounding numbers. Estimate the result $\begin{array}{r} 29 \\ \times 24 \\ \hline \end{array}$ Students could round 24 to 20 and 29 to 30 $20 \times 30 = 600$	• Allow students to estimate products and justify their responses. For example: 43×29; 63×46 • Students collect and compare daily temperatures for 1 week for four countries in different time zones.	• Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 29 ✓ Textbook: pgs. 54 & 55 ✓ Workbook: pg. 53	• Discuss the advantages and disadvantages of rounding numbers.

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20. Estimate using several methods including rounding.	- Flexible numbers can be changed or reformulated. Round number that are close and easy to formulate. This is particularly suited for multiplication. - Clustering or averaging: When numbers need to be totaled, sometimes you can find the answer by estimating an average of them e.g. Estimate the total. 52 60 57 67 64 - Now you can take the average and multiply it by how many numbers you have added.	- Students estimate the average weekly temperatures. - Students can create a graph of choice to represent the information. - Have students estimate how many balloons are needed to fill the classroom. Students explain how they arrived at their answer. <i>Rounding</i> https://www.mathgames.com/skill/4.88-rounding-with-numbers-up-to-100-000	Helping Children Learn Math pgs. 188-191	Complete a worksheet on rounding.

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21. Recall basic addition, subtraction, multiplication, and division facts, with a 3 second per fact standard (Continued).	• Addition order property: Changing the order of the addends does not change the sum. $\begin{array}{rcl} 9 + 7 & = & 16 \\ \text{addends} & & \text{sum} \end{array}$ $7 + 9 = 16$ • Zero property: When you add zero to a number, the sum is that number. $12 + 0 = 12$ $0 + 25 = 25$ • Subtraction Facts: Addition and subtraction are related. They are inverse operations. There are 100 basic subtraction facts. These results from the difference between one addend and the sum for all one digit addends. • Grouping Property of Addition: When you group addends in different ways, the sums are the same. $9 + (15 + 5) = (9 + 15) + 5$ $\begin{array}{rcl} 9 + & 20 & = & 24 + 5 \\ & 29 & & 29 \end{array}$	• Complete the following. a. $5 + 8 = 13 \iff 13 - 5 = \underline{\hspace{2cm}}$ b. $9 \times 8 = 72 \iff 72 \div 8 = \underline{\hspace{2cm}}$ a. $7 \times 6 = 42 \iff 6 + 6 + 6 + 6 + 6 + 6 + 6$ b. $24 \div 4 \iff 24 \underline{\hspace{2cm}}$ • Facts Feud (Students compete as mathematics strand families. For example, computation and measurement, measurement, and the like). a. Two contestants meet at the host's desk where they are given a question. b. Students are allowed 3 seconds to answer after buzzing in. Example of questions: If I shared 309 pennies between 3 people, how many pennies would each child get? c. The team with the most points wins.	• Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pgs. 37 & 38 ✓ Textbook: pgs. 74-77 ✓ Workbook: pgs. 38 & 39	• Oral Quiz: Students answer questions in three seconds. Examples: $9 \times 8 = \underline{\hspace{2cm}}$ $72 \div 8 = \underline{\hspace{2cm}}$

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
21. Recall basic addition subtraction, multiplication and division facts, with a 3 second per fact standard.	- The basic multiplication facts each involve two one digit factors and their product. There are 100 basic multiplication facts (from 0×0 to 9×9) - Multiplication and division are opposite or inverse operations. One operation undoes the other. - Basic division facts rely on the inverse relationship of multiplication and division, but there are only 90 basic division facts (there are no facts with zero as the divisor).	Activities Addition https://www.mathplayground.com/undercover_sums.html Subtraction https://www.mathplayground.com/brain_workouts/brain_workout_01_subtraction.html Addition and Subtraction https://www.ixl.com/math/grade-4/mentally-add-and-subtract-numbers-ending-in-zeroes Addition, Subtraction, Multiplication and Division https://www.ixl.com/math/grade-3/addition-subtraction-multiplication-and-division-facts https://www.ixl.com/math/grade-3/addition-subtraction-multiplication-and-division-facts Division Facts https://www.ixl.com/math/grade-5/division-facts-to-12 Multiplication Facts https://www.ixl.com/math/grade-4/multiplication-facts-to-12	Helping Children Learn Maths pgs. 207, 218-222	Create a rap or poem on basic addition, subtraction, multiplication and division facts.

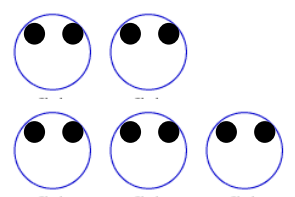
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22. Add and subtract whole numbers up to millions with and without regrouping/renaming.	- To add and subtract numbers, align digits in the correct place value position, Add or subtract the numbers. It is customary to start from right to left but students can start at any point but placing the numbers in the correct place. - Regroup/Rename as needed. Example: $\begin{array}{r} 765\,321\,794 \\ + \quad 28\,049\,336 \\ \hline 793\,371\,130 \end{array}$	In cooperative groups, students create and solve problems with adding and subtracting decimals.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pgs. 39-41 ✓ Textbook: pgs. 78-85 ✓ Workbook: pgs. 40-41	Complete quiz on adding and subtracting whole numbers.
23. Add and subtract decimals to thousandths with and without regrouping/renaming.	- A decimal number is a number with one or more digits to the right of a decimal point. - To add or subtract decimal numbers, align decimal points in place value position. Add or subtract from right to left. Regroup/Rename as needed. $\begin{array}{r} 900\,678\,531.701 \\ - \quad 762\,456\,723.562 \\ \hline 138\,221\,808.139 \end{array}$	<i>Adding Decimals Worksheet</i> https://www.superteacherworksheets.com/decimals/decimal-addition-thousandths_THOUS.pdf	<i>Adding and Subtracting Decimals Worksheets</i> https://www.math-drills.com/decimal/decaddsubthousandths_001.php	Complete test on adding and subtracting decimals.

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24. Explain the meaning of multiplication and division in words and /or pictures.	- Multiplication can be seen as a special case of addition in which all addends are equal size. - Division is the inverse of multiplication; that is, in a division problem you are seeking an unknown factor when the product and some other factor are known.	Use apples and oranges to display fact families where students explain the meaning of multiplication and division.  $4 \times 2 = 10 ; 10 \div 5 = 2$ Equal Groups https://www.ixl.com/math/grade-3/identify-multiplication-expressions-for-equal-groups https://www.ixl.com/math/grade-3/divide-by-counting-equal-groups https://www.ixl.com/math/grade-5/divide-by-2-digit-numbers-using-models	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 51 ✓ Textbook: pg. 110 ✓ Workbook: pgs. Nil - Helping Children Learn Maths pgs. 207, 218-222	- Construct a picture sentence to explain the following: - Why is $7 \times \underline{\quad} = 91$ - Why is $150 \div \underline{\quad} = 20$

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
25. Multiply up to 2 digits by 3 digits.	The procedure for multiplying by two or three digits number is an extension of multiplying by a one-digit number. Use arrays and grids to bridge concrete and symbolic. Examples A. $\begin{array}{r} 29 \\ \times 38 \\ \hline 232 \\ 870 \\ \hline 1002 \end{array}$ 8 x 29 30 x 29 B. $\begin{array}{r} 372 \\ \times 28 \\ \hline 16 \\ 560 \\ 2400 \\ 40 \\ 1400 \\ 6000 \\ \hline 10416 \end{array}$ (8 x 2) (8 x 70) (8 x 300) (20 x 2) (20 x 70) (20 x 300)	- Complete activity based on Atlantis' staff schedule. - Students from each group select a card from a bag. - Each group begins solving the question at the same time. - The group with the most questions correct wins. Example of question: There are 64 workers at Ocean Club Restaurant. If the shift averages 40 hours a week, how many hours do they work for the week. Online Games: Products/Multiplication https://www.education.com/game/dino-skateboarding-which-expressions-have-the-same-product/ https://www.education.com/game/multiplication-arrays-radar/ Multiplying Larger Numbers https://www.ixl.com/math/grade-5/multiply-by-3-digit-numbers	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 51 ✓ Textbook: pgs. 109-111 ✓ Workbook: pg. 53 - Helping Children Learning Maths pgs. 272 & 273	Write three word problems that require multiplication up to 2 digits by 3 digits. Example: Mary, Johnny, and Liz represent a different number. If the product is 540, what are their values? (20 x 3 x 9)

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
26. Identify and apply different forms of division.	Division algorithms can take on different forms. Examples a. $10 \div 2 = 5$ b. $5 \overline{) 10}$ c. $10/2 = 5$ d. $1/5 \text{ of } 10 = 2$	Grab Bag Division a. Students select different parts of an algorithm from a bag. Example 20, 2, 10. b. Students will select until they have formulated a correct algorithm. Example $20 \div 2 = 10$ c. Students who complete correct connection in the shortest time win the game.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 51 ✓ Textbook: pgs. None ✓ Workbook: pg. 55	Students solve word problems using the different forms of division.
27. Divide up to 4 digit dividends by 2-digit divisor without and with remainders (long and short method-Continued).	Division: This is the most difficult algorithm for children to learn! This two-digit division proceeds through stages from concrete to abstract, paralleling the work with one-digit divisors. Examples: (a) $365 \div 27$ or $27 \overline{) 365}$ Estimate to place the first digit in the quotient. Think $13 \overline{) 400}$ Place the first digit in the tens place and divide 40 terms. Write a 1 in the terms place in the quotient.	- In groups, students solve division problems by dividing 4 digits by 2 digit divisors with and without remainders. a. Students explain how they arrived at their answers. - Students create a poem, song, skit, or rap concerning dividing 4 digits by 2-digit divisor, with and without remainders.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 51 & 53 ✓ Textbook: pgs. 118 & 119 ✓ Workbook: pg. 55	Complete a quiz on dividing 4 digits by 2-digit divisor, with and without remainders.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
27. Divide up to 4 digit dividends by 2-digit divisor without and with remainders (long and short method)	(b) $\frac{400}{20}8000$ $\frac{440}{20}8800$ Long Division A. $\begin{array}{r} 1 \\ 27 \overline{) 365} \\ \underline{-27} \\ 95 \end{array}$ Multiply 27×1 Subtract $36 - 27$ Compare $9 < 27$ (c) Bring down the 5 ones. Divide the 95 ones by 27. $\begin{array}{r} 13 \text{ r } 14 \\ 27 \overline{) 365} \\ \underline{-27} \\ 95 \\ \underline{-81} \\ 14 \end{array}$ B. $18 \overline{) 8894}$ Step 1: Divide the digit in the ten thousands place	Online Games: Division https://www.splashlearn.com/division-games-for-5th-graders https://www.math-play.com/short-division-basketball-game.html	Video/Content https://www.youtube.com/watch?v=55wkA8L7M_Y&t=26s	Complete a worksheet on division.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
27. Divide up to 4 digit dividends by 2-digit divisor without and with remainders (long and short method- Continued).	Step 2: Divide 88 hundred. Write a 4 in the tens place in the quotient. $\begin{array}{r} 4 \\ 18 \overline{)8894} \\ \underline{-72} \\ 16 \end{array}$ Multiply 18×4 Subtract $88 - 72$ Compare $16 < 18$ Step 3 Bring down the 9 tens. Divide the 169 ones. $\begin{array}{r} 494 \\ 18 \overline{)8894} \\ \underline{-72} \downarrow \\ -169 \downarrow \\ \underline{162} \downarrow \\ 74 \downarrow \\ \underline{-72} \end{array}$ Multiply 18×9 Subtract $169 - 162$ Compare $7 < 18$ Step 4 Bring down 4 ones $\begin{array}{r} 494r2 \\ 18 \overline{)8894} \\ \underline{72} \downarrow \\ 169 \downarrow \\ \underline{162} \downarrow \\ 74 \downarrow \\ \underline{72} \downarrow \\ 2 \end{array}$ Multiply 18×4 Subtract $74 - 72$ Compare $2 < 18$	Division https://www.mathgames.com/skill/4.81-division-with-divisors-up-to-100	Helping Children Learn Maths pgs. 272-273	Write in math journal the steps of solving division problems up to 4 digit dividends by 2-digit divisor.

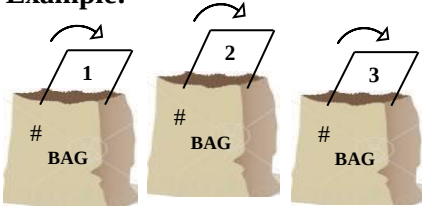
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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
27. Divide up to 4 digit dividends by 2 digit divisor without and with reminders (long and short method).	• Ensure that the remainder does not exceed the divisor. • The use of calculators should be aligned with the activities. The calculator is used to strengthen the grasp of the relationship between numbers. • Allow students to divide using objects that are familiar to them. For example guineps, plums etc.	Worksheet https://www.homeschoolmath.net/worksheets/grade5/PDFs/Four_Digit_Division_Two_Digit_Divisor.pdf	Liveworksheet https://www.liveworksheets.com/worksheets/en/Math/Long_Division/Live_worksheet-_4-3_Divide_by_a_Two-Digit_Divisor_bv1285236nq	
28. Use divisibility rules for 2, 3, 5, 10 (Continued).	• Divisibility means ‘no remainder after division’. • When to use the rule of divisibility:	• Grab Bag a. Place students in groups and give each group 6 grab bags. b. Give each group 2 minutes to correctly match facts on the cards within the grab bags.	• Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pgs. 51 & 52 ✓ Textbook: pg. 112 ✓ Workbook: pg. 54	• Activity sheet on divisibility.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT												
28. Use divisibility rules for 2, 3, 5, 10.	<table><tr><th>Number</th><th>Rule</th></tr><tr><td>2</td><td>Even numbers are divisible by 2</td></tr><tr><td>3</td><td>If the sum of the digit is divisible by 3, then the number is divisible by 3.</td></tr><tr><td>5</td><td>If the last digit is a 5 or 0, the number is divided by 5.</td></tr><tr><td>9</td><td>If the sum of the digits is divisible by 9,then the number is divisible by 9</td></tr><tr><td>10</td><td>If the last digit is 0, the number is divisible by 10.</td></tr></table> Example 5 766; Strategy: Add the digits 5 766 → 5 + 7 + 6 + 6 = 24 Ask: Is 24 divisible by 3? If yes, so is 5 766.	Number	Rule	2	Even numbers are divisible by 2	3	If the sum of the digit is divisible by 3, then the number is divisible by 3.	5	If the last digit is a 5 or 0, the number is divided by 5.	9	If the sum of the digits is divisible by 9,then the number is divisible by 9	10	If the last digit is 0, the number is divisible by 10.	• Grab Bag c. Place students in groups and give each group 6 grab bags. d. Give each group 2 minutes to correctly match facts on the cards within the grab bags. e. Students explain their answers to the class. Example:  495 Divisible by 5 30 + 6 Bags 1 and 2 are compatible. Divisibility Rules https://www.ixl.com/math/grade-5/divisibility-rules https://www.ixl.com/math/grade-3/divisibility-rules-for-2-5-and-10	Video/Content https://www.youtube.com/watch?v=nT2JGmnOerA&t=45s	• Drill on divisibility rules.
Number	Rule															
2	Even numbers are divisible by 2															
3	If the sum of the digit is divisible by 3, then the number is divisible by 3.															
5	If the last digit is a 5 or 0, the number is divided by 5.															
9	If the sum of the digits is divisible by 9,then the number is divisible by 9															
10	If the last digit is 0, the number is divisible by 10.															

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT																																																							
29. Multiply and divided by multiples and powers of 10 as a mental arithmetic strategy.	- Use basic facts and patterns to find quotients mentally. Example: find $1.800 \div 3$ <table><tr><td>Dividend</td><td></td><td>divisor</td><td></td><td>quotient</td></tr><tr><td>21</td><td>$\div$</td><td>3</td><td>=</td><td>7</td></tr><tr><td>210</td><td>$\div$</td><td>3</td><td>=</td><td>70</td></tr><tr><td>2100</td><td>$\div$</td><td>3</td><td>=</td><td>700</td></tr><tr><td>$\uparrow\uparrow$</td><td></td><td></td><td></td><td>$\uparrow\uparrow$</td></tr><tr><td>two zeros</td><td></td><td></td><td></td><td>two zeros</td></tr></table> - Basic facts and patterns can be used to help you find products mentally. If you want to find the total number of pennies in 7 rolls of pennies with each roll having 50 pennies 50 Think <table><tr><td><u>x7</u></td><td>50 = 5 x 10, or</td><td>5 tens</td></tr><tr><td><u>350</u></td><td>7 x 5 tens</td><td>= 35 tens</td></tr><tr><td></td><td>35 tens</td><td>= 35 x10 or 350</td></tr></table> Examples 7 x 20 = 140 7 x 200 = 1.400 7 x 2.000 = 14.000 As the number of zeros in a factor increases, the number of zero in the product increases.	Dividend		divisor		quotient	21	$\div$	3	=	7	210	$\div$	3	=	70	2100	$\div$	3	=	700	$\uparrow\uparrow$				$\uparrow\uparrow$	two zeros				two zeros	<u>x7</u>	50 = 5 x 10, or	5 tens	<u>350</u>	7 x 5 tens	= 35 tens		35 tens	= 35 x10 or 350	Read My Mind - Teacher places a card into a hat and gives two facts about it. Example: My quotient is 27 and my dividend is 2 700, what is my divisor? - Selected students will give answers within 10 seconds. - Determine the missing values<table><tr><th>Dividend</th><th>Divisor</th><th>Quotient</th><th>Remainder</th></tr><tr><td>7 200</td><td>8</td><td>?</td><td>?</td></tr><tr><td>732</td><td>29</td><td>?</td><td>?</td></tr><tr><td>?</td><td>34</td><td>?</td><td>20</td></tr></table>	Dividend	Divisor	Quotient	Remainder	7 200	8	?	?	732	29	?	?	?	34	?	20	- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pgs. 51 & 52 ✓ Textbook: pgs. 114 & 115 ✓ Workbook: pg. 53	Students write two problems that can be solved mentally using division or multiplication by powers of 10. Students explain answers to their classmates.
Dividend		divisor		quotient																																																							
21	$\div$	3	=	7																																																							
210	$\div$	3	=	70																																																							
2100	$\div$	3	=	700																																																							
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<u>x7</u>	50 = 5 x 10, or	5 tens																																																									
<u>350</u>	7 x 5 tens	= 35 tens																																																									
	35 tens	= 35 x10 or 350																																																									
Dividend	Divisor	Quotient	Remainder																																																								
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732	29	?	?																																																								
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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
30. Check answers to multiplication and division problems using inverse operations.	- Multiplication and division are inverse operations or opposite to each other. Example: $4 \times 6 = 24 \longleftrightarrow 24 \div 4 = 6$ - A set of related multiplication and division equations using the same numbers is a fact family. Example: $9 \times 4 = 36 \quad 36 \div 4 = 9$ $4 \times 9 = 36 \quad 36 \div 9 = 4$	Inverse Moment - Students are placed into two groups. One group gives a multiplication sentence while the other group gives the division inverse operation in less than 5 seconds	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 51 ✓ Textbook: pg. 110 ✓ Workbook: pgs. Nil - Helping Children Learn Maths pg. 200	Explain how to use multiplication to solve a division problem and give an example.
31. Apply the rules of order of operations	- When evaluating expressions with more than one operation, you need to know which operation to do first. - Order of operations is used to solve expressions with more than one operation. - Steps to consider: - First, operate inside the parentheses. - Next, multiply and divide from left to right. - Then, add and subtract from left to right. Example $3(9 + 7) \div 2$ $3 \times 16 \div 2$ $48 \div 2 = 24$	What's the Error? - Students are given expressions where they identify and correct error(s) spotted. Example: $8 + 12 \div 2 - 4 = 6$	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pgs. 54 & 55 ✓ Textbook: pgs. 121-126 ✓ Workbook: pgs. 56 & 57	Complete worksheet on order of operations.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
32. Multiplying decimals by a decimal number.	Steps to multiply decimals Step 1: Multiply the numbers and ignore the decimal points. Step 2: Count up how many number of digits that come after the decimal points in both factors. Step 3: Place the decimal in the product so that the same number of digits comes after the decimal point in the answer. Step 4: (Optional) Estimate the answer to see if your answer and the placement of your decimal point are reasonable. Example: 23.8×4.1 $\begin{array}{r} 238 \\ \times 41 \\ \hline 238 \\ + 9520 \\ \hline 9758 \end{array}$ Therefore, $23.8 \times 4.1 = 97.58$	Multiplying Decimals Puzzles - Print out puzzles (examples: boat, Christmas tree etc.) as well as recording sheets for each student. - Students solve problems by matching the correct product to the multiplier and the multiplicand. - The students who completes the puzzles with the correct product on the answer sheet is the winner	Video/Content Song: <i>Multiplying Decimals</i> https://www.youtube.com/watch?v=nHg4RVqQ12E Worksheet https://www.superteacherworksheets.com/multiplication/decimal-multiplication-basic_DPOIN.pdf	Complete worksheet on multiplying decimals.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
33. Dividing decimals by a whole number.	- Dividing Decimals is similar to dividing whole numbers, except for the way we handle the decimal point. Steps: - Step 1: Ignore the decimal point in the dividend. Now you have to divide 7.6/4. - Step 2: Carry out the division with the regular long division method. - Step 3: Put in the decimal point. - Step 4: Check your answer Example: $1.9 \div 4$ $ \begin{array}{r} 1.9 \\ 4 \overline{) 7.6} \\ \underline{- 4 } \\ 36 \\ \underline{- 36} \\ 00 \end{array} $	Decimal Board Game - Create a board game and cards with dividing decimals by a whole number. - In groups, provide a set of dice and give each student a different counter. - If the student is able to answer the question from the card on the deck, he /she keeps the card. If the answer is incorrect, it goes back into the deck. - The first person to get to the finish line wins the game. Splash Math https://www.splashlearn.com/math-skills/fifth-grade/decimal-arithmetic/divide-decimals-by-a-whole.	Video/Content https://www.youtube.com/watch?v=iH-CdLGugBQ&t=34s	Journal Entry: Write the steps for dividing a decimal number by a whole number. In addition, create and solve a problem.

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34. Add and subtract fractions and mixed numbers, with and without regrouping and express answers in simplest terms. (Like and unlike denominators)- Continued	- Adding and subtracting fractions can solve problems similar to those with whole numbers. Example: $\frac{2}{10} + \frac{6}{10} = \frac{8}{10}$ a. Write the sum in the simplest form $\frac{8}{10} = \frac{4}{5}$ b. Regrouping (model) ● ● ● ● ● ● ⊕ 6 $\frac{3}{7}$ is 6 wholes plus $\frac{3}{7}$ ● ● ● ● ● ⊕ ⊕ $\frac{6}{37}$ is 5 wholes plus $\frac{7}{7}$ plus $\frac{3}{7}$ or 5 $\frac{10}{7}$ - Children must be encouraged to give reasonable answer. They must be helped to see why a common denomination is necessary when adding or subtracting fractions. - Subtraction with mixed numbers.	<i>Adding and Subtracting Fractions</i> https://www.education.com/game/teeth-fractions/ https://www.education.com/game/jumpy-word-problems-with-adding-and-subtracting-fractions/	<i>Adding and Subtracting Fractions</i> http://www.scottle.edu.au/ec/viewing/L2801/L2801/index.html#	Create and solve mixed fractions.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
34. Add and subtract fractions and mixed numbers, with and without regrouping and express answers in simplest terms. (Like and unlike denominator)	$3\frac{5}{8} - 2\frac{1}{8}$ Step 1: Subtract the fraction first $\begin{array}{r} 3\frac{5}{8} \\ - 2\frac{1}{8} \\ \hline 1\frac{4}{8} \\ 1\frac{1}{2} \end{array}$ Step 2: Subtract the whole numbers $\begin{array}{r} 3\frac{5}{8} \\ - 2\frac{1}{8} \\ \hline 1\frac{4}{8} \\ 1\frac{1}{2} \end{array}$	What's the Question? a. In cooperative groups, students are given statements about mixed numbers where they find the questions and justify their responses. Example: Two mixed numbers are $1\frac{1}{4}$ and $2\frac{1}{4}$. The answer is $3\frac{1}{2}$	Video/Content https://www.youtube.com/watch?v=oZMVwE6kHCk	Quiz : Students add and subtract fractions and mixed numbers with and without regrouping.
35. Solve problems involving the addition and subtracting of decimals, using paper and pencil (Continued).	- Add or subtract like units (tens with tens, hundredths with hundred thousand so forth). - Regroup in the decimal places as they did with whole numbers. - Use paper and pencil to work out everyday problems based on the topic. What is the error?	Mixed and Match a. A set of students are given flash cards with addition and subtraction problems. Another group of students are given the solutions of their problems. b. Students with the problem flash cards hold them up and work the solutions. The students with the solution cards also work the problems.	Liveworksheets https://www.liveworksheets.com/un415359og https://www.liveworksheets.com/jj415740li	Students solve given problems. Example: Heavenn ran 1.753 miles on Tuesday as well as on Wednesday. She ran 1.45 miles on Wednesday and Friday. How far did Heavenn run altogether? $1.753 \times 2 = 3.506$ $3.506 + 1.45 = 4.956$ miles

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
35. Solve problems involving the addition and subtraction of decimals, using paper and pencil.	a bag of plums \$ 2.69 ½ dozen eggs \$ 1.69 jar of guava jam \$ <u>2.93</u> . Answer \$ 7.21 Explain his error and write the correct answer. The student added correctly but left out the decimal point.	b. Teacher says, “Mix and Match”. The students find their partner with the correct response. Addition with Decimals https://www.education.com/games/fifth-grade/addition/ Subtraction with Decimals https://www.ixl.com/math/grade-5/subtract-decimal-numbers Division and Subtraction with Decimals https://www.mathnook.com/math/mathpup-fishing-decimal-addition-subtraction.html	Liveworksheet https://www.liveworksheets.com/ha416140eg	Complete worksheet on word problems.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT														
36. Solve whole numbers, decimals, and money computation problems in addition and subtraction with and without regrouping (Continued).	Remember to expose students to key words that will help in identifying operations. Example <table><tr><th>Addition</th><th>Subtraction</th></tr><tr><td>increased by</td><td>decreased by</td></tr><tr><td>more than</td><td>minus, less</td></tr><tr><td>combined, together</td><td>difference between/of</td></tr><tr><td>total of</td><td>less than, fewer than</td></tr><tr><td>sum</td><td></td></tr><tr><td>added to</td><td></td></tr></table>	Addition	Subtraction	increased by	decreased by	more than	minus, less	combined, together	difference between/of	total of	less than, fewer than	sum		added to		- Students are divided into groups where they solve different problems. Group leaders report on findings. Word Problems: Decimals https://www.ixl.com/math/grade-5/add-and-subtract-decimals-word-problems Burn Down House - Teacher divides students into 2 groups. She then presents a flash card with a division or multiplication word problem.. A student gives the operation that is to be used to solve the problem. If the student answers correctly that group gets a point. If the answer is incorrect, that group loses a member to the other group. Continue until one group loses all its members.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pg. 39-41 ✓ Textbook: pgs. 78-85 ✓ Workbook: pgs. 40 & 41	Students complete activity sheet with addition and subtraction with and without regrouping.
Addition	Subtraction																	
increased by	decreased by																	
more than	minus, less																	
combined, together	difference between/of																	
total of	less than, fewer than																	
sum																		
added to																		

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT										
36. Solve whole numbers, decimals, and money computation problems in addition and subtraction with and without regrouping/renaming.	To challenge students, use problems that involve multiplication and division. <table><tr><th>Multiplication</th><th>Division</th></tr><tr><td>of</td><td>per, a</td></tr><tr><td>times, multiplied by</td><td>out of</td></tr><tr><td>product of</td><td>ratio of, quotient of</td></tr><tr><td>increased/decreased by a factor of (this type can involve both addition or subtraction <i>and</i> multiplication!)</td><td>percent (divide by 100)</td></tr></table> Equal: is, are, was, were, will be, gives, yields, sold for - Encourage students to read the content to determine the plan of problems.	Multiplication	Division	of	per, a	times, multiplied by	out of	product of	ratio of, quotient of	increased/decreased by a factor of (this type can involve both addition or subtraction <i>and</i> multiplication!)	percent (divide by 100)	Word Problems: Decimals https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.k5learning.com%2Ffree-math-worksheets%2Ffourth-grade-4%2Fword-problems%2Fdecimals&psig=AOvVaw110VIYheDKp6d2dHsAY4Go&ust=1614111722093000&source=images&cd=vfe&ved=0CAIQjRxqFwoTClj9me6o_u4CFQAAAAAdAAAAABAD	Liveworksheet https://www.liveworksheets.com/tq415962zt	Unit Test
Multiplication	Division													
of	per, a													
times, multiplied by	out of													
product of	ratio of, quotient of													
increased/decreased by a factor of (this type can involve both addition or subtraction <i>and</i> multiplication!)	percent (divide by 100)													

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Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
37. Read and write Roman Numerals to D.	- Roman numerals are written using seven different letters: I - 1 V - 5 X - 10 L - 50 C - 100 D - 500 M- 1000 - The seven letters are used to make up thousands of others. For example, the Roman numeral for two is written as II which is just two one's written side by side. - Rule 1: When a smaller symbol is after a greater symbol, it's added. - Rule 2: If a symbol comes after itself, it's added. - Rule 3: When a smaller symbol appears before a greater symbol, it is subtracted. - Rule 4: The same symbol cannot be used more than three times in a row.	Worksheets https://www.mathworksheetsfun.com/roman-numerals/roman-numeral-to-standard-number-1-to-500.html https://www.liveworksheets.com/pu1647498om https://www.math-salamanders.com/image-files/adding-roman-numerals-to-12a.gif	Video/Content https://www.youtube.com/watch?v=MbCFoTnr2Hc	Write the value of Roman Numerals. Example: CD= 40

**SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: ALGEBRA
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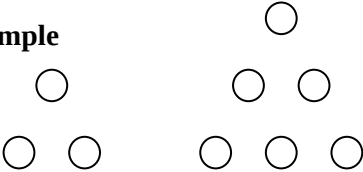
Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationship in data, to solve problems and predict results.

Essential Questions

1. What are the different ways to represent the patterns or relationships?
2. Why are variables used?
3. How can writing algebraic formulas help solve problems with one variable?
4. What strategies can be used to solve for unknowns in algebraic equations?
5. When are algebraic and numeric expressions used?

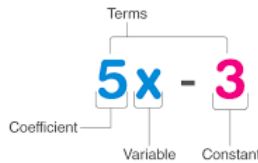
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: ALGEBRA
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Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationships in data, to solve problems and predict results.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Investigate, describe and extend numerical and geometric patterns including: triangular numbers, perfect squares, patterns formed by powers of tens and arithmetic sequences (Continued).	• Numerical Patterns: Patterns that are created using numbers. Example: Division Patterns $80 \div 20 = 4$ $800 \div 20 = 40$ $8000 \div 20 = 400$ • Geometric Patterns: Geometric Patterns are patterns that are created using geometrical shapes. Example: a.  b.  c.  d.  e.  f.  • Triangular Numbers: A pattern of numbers that can be shown by dots arranged in the shape of a triangle. Some triangular numbers are 1, 3, 6, 10, 15, 21, 28, 36 • Perfect square is a number that has a whole number as its square root. The square root of a perfect square is a whole number. For example, 0, 1, 4, 9, 16, 25, etc. are all perfect squares.	• Show a variety of numerical and geometrical patterns. Allow students to: a. categorize them as Numerical or Geometrical b. provide explanations. Example: Use varied manipulatives to create triangular array.  • Use tangram pieces to create perfect squares. • Create place mats using varied coloured squared pieces. Game Powers of Ten https://www.khanacademy.org/math/cc-fifth-grade-math/powers-of-ten/imp-powers-of-10/e/powers-of-ten	• Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. Nil ✓ Textbook: pgs. 11-16 ✓ Workbook: pgs. 6-8	• Journal Entry: Have students write to compare/contrast numerical and geometrical patterns. • Create numerical and geometrical patterns • Create triangular arrays and provide justification.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
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Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationships in data, to solve problems and predict results.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Investigate, describe and extend numerical and geometric patterns including: triangular numbers, perfect squares, patterns formed by powers of tens and arithmetic sequences.	- Powers of ten are numbers that begin with the digits 1 and 0: 10, 100, 1000... - To multiply a whole number by powers of ten, move the decimal point one place to the right for each power of 10. Example: $1.24 \times 10 = 12.4$ $1.24 \times 100 = 124$ $1.24 \times 1000 = 1240$	- Take a field trip to inspect the architecture of churches or other buildings. Have students highlight the areas that have square patterns by: - taking photos - recording via writing - drawing - Let students create and laminate activity cards or board games. These will require students to complete the patterns with powers of ten.	Videos/Content Powers of Ten https://youtu.be/Euioe3LdLzI Triangular and Square Numbers https://youtu.be/twi2fLanvp0	- Students will compile photo/drawings and write details about patterns. - Complete patterns with powers of ten.
2. Write simple expressions (Continued).	- A simple expression involves variables, numbers, and operations. - A variable is a letter or symbol that represents an unknown amount that can change. ALGEBRAIC EXPRESSIONS  © BYJU'S	- In cooperative groups, give students simple expressions to write. Students explain their answers to the class. Examples: - Mary has x dolls. Her friend gave her 2 more. Write an expression. $X + 2$ - A number of students divided into 2 teams. $A \div 2$	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pgs. 45 & 46 ✓ Textbook: pgs. 98 & 99 ✓ Workbook: pg. 48 Content/Videos Writing Expressions https://youtu.be/v0bg2GWCbRo https://youtu.be/keQOWvOjKuY	Students create stories and write simple equations of the same.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: ALGEBRA
GRADE: 5

Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationships in data, to solve problems and predict results.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT																					
2. Write simple expressions.	Phrases or verbal expressions Numerical or algebraic expressions <table><tr><td>Three times</td><td>Some number</td><td>$3 \times a$</td></tr><tr><td>Ten plus</td><td>a number</td><td>$10 + b$</td></tr><tr><td>One subtracted from</td><td>six</td><td>$6 - 1$</td></tr><tr><td>Four divided by</td><td>some number</td><td>$4 \div y$</td></tr><tr><td>Eight less than</td><td>an unknown number</td><td>$x - 8$</td></tr><tr><td>Two multiplied by</td><td>twelve</td><td>2×12</td></tr><tr><td>Seven more than</td><td>twice a number</td><td>$2c + 7$</td></tr></table>	Three times	Some number	$3 \times a$	Ten plus	a number	$10 + b$	One subtracted from	six	$6 - 1$	Four divided by	some number	$4 \div y$	Eight less than	an unknown number	$x - 8$	Two multiplied by	twelve	2×12	Seven more than	twice a number	$2c + 7$	Activity Sheets http://worksheets.us/collection/math-expressions-worksheets-5th-grade.html	Worksheet: Forming Expression https://corbettmaths.com/wp-content/uploads/2013/02/forming-expressions-pdf2.pdf	Complete worksheet with simple equations
Three times	Some number	$3 \times a$																							
Ten plus	a number	$10 + b$																							
One subtracted from	six	$6 - 1$																							
Four divided by	some number	$4 \div y$																							
Eight less than	an unknown number	$x - 8$																							
Two multiplied by	twelve	2×12																							
Seven more than	twice a number	$2c + 7$																							
3. Solve single variable equations. Using concrete objects pictures or number.	- A variable equation is a mathematical sentence that has a number and a letter or symbol that stands for one or more numbers. Example: $7 \times b = 56$ $b = 8$ - A variable is a letter that is used in place of a number.	Create equations from given situations. E.g. The reticulated python is the largest snake in the world. At birth it is 2 feet long and some adults are 29 feet long. How much do these pythons grow to reach adult length? $2 + f = 29$	- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pg. 45 ✓ Textbook: pgs. 100-102 ✓ Workbook: pg. 48 Videos/Content Solving Equations https://youtu.be/L0_K89UJfJY	Create variable equations and provide solutions.																					

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy

Essential Questions

1. How do I estimate and measure?
2. How are the units of measure within a standard system related?
3. How do you decide which unit of measurement to use?
4. What is the difference between perimeter and area? How do you calculate them?
5. How can measurements be used to solve problems?
6. How can measurement strategies help us in geometrical situations?
7. How do you calculate volume of given dimensions? How can you use volume in everyday life?
8. Why is conversion of units important in everyday life?

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Estimate and measure length using metric and customary units- kilometre, metre, decimetre, centimeter, and millimeter , and millimeter; feet inches, yards and miles. (Continued).	• A Kilometre (km) is about the length of 10 football fields • A metre (m) is about the distance from one hand to the other when you stretch them out. • A decimetre (dm) is about the width of an adult's hand. • A centimetre (cm) is about the width of your index finger. • A millimetre is one thousandth (1/1000) of a metre. • Students can use reasonable measure of units when measuring objects without the correct tools. Metric 1cm =10 mm 1dm =10 cm 1m =10 dm 1 m = 100 cm	• Students : a. estimate and record lengths of objects. b. use a centimetre ruler or metre stick to measure items. c. record actual measurements. d. Compare estimated and actual measurements. • Use a metre stick to model decimal numbers. The metre shows the whole number. The decimeters and centimetres are fractional parts of the metre. • Metric Scavenger Hunt: a. Print the activity sheets for each pair of students. Examples of items on the sheets - Find an object that is 5cm in length. - Find an object that is 4dm in length. - Find an object that is 7 mm in length.	• Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pgs. 48-50 ✓ Textbook: pgs. 103-108 ✓ Workbook: pgs. 49-52 • Helping Children Learn Maths pg. 390	• Prepare a News Brief Report to explain how to estimate the length of an object in order to determine the correct unit of measure to use. Students record information on cassette tape.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT																								
1. Estimate and measure length using metric units and customary units- kilometre, metre, decimetre, centimeter, and millimeter; feet inches, yards and miles.	<table><tr><td>Prefix</td><td>Kilo</td><td>Hect</td><td>deka</td><td>base</td><td>deci</td><td>centi</td><td>Milli</td></tr><tr><td>Symbol</td><td>k</td><td>H</td><td>dk</td><td></td><td>d</td><td>c</td><td>M</td></tr><tr><td>Measure</td><td>1000</td><td>100</td><td>10</td><td></td><td>1/10</td><td>1/100</td><td>1/10000</td></tr></table> • Customary Units of Length 1foot = 12 inches 1 yard = 3 feet = 36 inches 1 mile = 5 228 feet 1 mile = 1 760 yards Example: Convert 5 foot to inches. 1 foot = 12 inches 5 foot = 12 × 5 = 60 inches	Prefix	Kilo	Hect	deka	base	deci	centi	Milli	Symbol	k	H	dk		d	c	M	Measure	1000	100	10		1/10	1/100	1/10000	b. Have students cut out the Find Me Cards and place them face down in a stack. Game Rules a. The first player draws a card and tries to find an object with the same length. b. His or her partner measures the object, records its actual length, and finds the difference between the two measurements. c. After recording the measurements in the chart, the second player draws a card. d. The game continues until all cards have been drawn. Activities-Length https://www.mathsisfun.com/activity/disc over-lengths.html https://www.mathgames.com/skill/1.84-metric-units-of-length-using-3-numbers https://www.ixl.com/math/grade-5/convert-metric-units-involving-decimals	Length https://www.ixl.com/math/grade-5/perimeter-with-whole-number-side-lengths • centimetre ruler • metre stick.	• Complete a worksheet
Prefix	Kilo	Hect	deka	base	deci	centi	Milli																					
Symbol	k	H	dk		d	c	M																					
Measure	1000	100	10		1/10	1/100	1/10000																					

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
2. Express metric and customary measures using decimals.	- You can use a meter stick to model decimal numbers. - The decimeter and centimeter are fractional parts of the meter. Meter (m) 1. 0 meter Deci means tenth. Decimeter = 0. 1 or $\frac{1}{10}$, meter Centimeter means hundredth. 1 centimeter = 0.01 or $\frac{1}{100}$ Example: Write 3.26 meter as meters + decimeters + centimeter Answer: 3 meters + 2 decimeters + 6 centimeters	Complete the following in groups. $\frac{4}{10}$ m = ___ dm - Write in expanded form 5.49 m = ___ m + ___ dm + ___ cm 17.84 m = ___ m + ___ dm + ___ cm	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 48 ✓ Textbook: pg. 105 ✓ Workbook: pg. 52 - Reading Strategy Chart	- Complete the KWL Chart - what I know - what I learned - what I want to know - Test: Have students' complete items such as 6 cm and 4 mm can be written in decimal form as _____.
3. Create and solve problems involving linear and customary measures (Continued).	- Length is a linear measure. - The decimeter is a larger unit than a centimeter. - When you change larger units to smaller units, you multiply.	Sorting - Place a box of long thin objects in each group. - Have students sort objects (compare lengths of physical objects directly).	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 48 ✓ Textbook: pgs. 106-108 ✓ Workbook: pgs. None	Quiz Example: If Mark covers $\frac{3}{4}$ of a meter every step he takes and his sister covers $\frac{1}{2}$ of meter every step she takes. How many meters would each have traveled after ten steps?

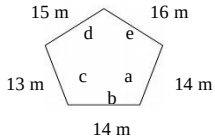
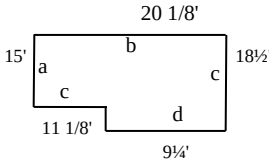
SCOPE OF WORK
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Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
3. Create and solve problems involving linear and customary measures.	Example: In five hours, a mole can dig a tunnel 500 decimeters long. How many centimeters long would the tunnel be? 1 decimeter in tunnel centimeters $\begin{array}{ccccccc} \downarrow & & \downarrow & & \downarrow & & \\ 500 & \times & 10 & = & 5\,000 \end{array}$ Think 500 dm = __ cm So the tunnel would be 5 000 centimeters long. When you change smaller to larger units, you divide.	c. Choose one object to be the reference and compare the other objects to that one putting the objects on the sheets marked shorter, same or longer (use objects used in science) to include perimeter. Shorter  chalk  paper clip  duster Same  straw  pencil  tube Longer  ruler  thongs	Helping Children Learn Maths pg. 395	Complete a worksheet on solving linear and customary measures.

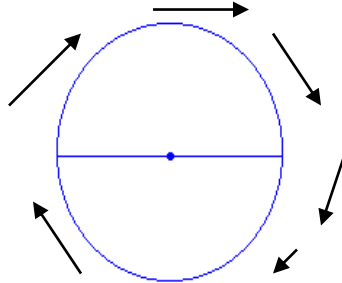
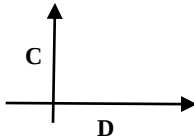
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
4. Estimate and measure perimeter of objects.	- The perimeter is the distance around an object. You can use a formula, or mathematical rule, to find the perimeter. Example: The perimeter formula for a pentagon is: $P = a + b + c + d + e$ The length of each side is represented by a variable. - Estimating is the mental process of arriving at a measurement without the aid of measuring instruments. - One strategy in estimating measurement is comparing a referent. If you know the perimeter of a student desk, then you can estimate the perimeter of two students' desk. Find the perimeter:  Perimeter = $a + b + c + d + e$ $P = 14m + 17m + 13m + 15m + 16m$ $P = 75m$	- Give students many examples of squares and rectangles to find the perimeter. Discuss, “has anyone found a short cut to calculating the perimeter of a rectangle or a square?” - Measure and record the perimeter of certain areas in their school. Example. Office  $P = a + b + c + d + e$ $P = 15' + 20 \frac{1}{8} + 18 \frac{1}{2} + 9 \frac{1}{4} + 11 \frac{1}{8}$ $P = 74'$	- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pgs. 65 & 66 ✓ Textbook: pgs. 151-153 ✓ Workbook: pgs. 71 & 72	- Write a journal entry to explain why the playfield has a larger perimeter than the classroom. - Complete activity sheet finding the perimeter of various figures.

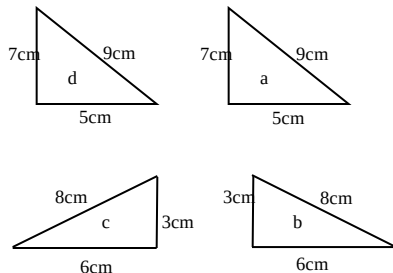
SCOPE OF WORK
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Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT																								
5. Relate linear measure using multiples and submultiples of the metre.	- You can compare centimeters to meters. 100 centimeters make a meter. Example 350 cm = ____m Divide 350 cm by 100 to convert it to meters: $350 \div 100 = 3.50$ (Move the decimal point two places to the left.).	- Estimate and measure the length of 5 objects in your classroom to the nearest centimeter and decimeters. - Record estimation in a table. <table><tr><th></th><th>Object</th><th>Unit of measure</th><th>Estimate</th><th>Measurement</th><th>Conversion</th></tr><tr><td>1</td><td></td><td>cm</td><td></td><td></td><td>dm</td></tr><tr><td>2</td><td></td><td>m</td><td></td><td></td><td>mm</td></tr><tr><td>3</td><td></td><td>km</td><td></td><td></td><td>m</td></tr></table> 0.51m ____m + ____dm + ____cm = _____		Object	Unit of measure	Estimate	Measurement	Conversion	1		cm			dm	2		m			mm	3		km			m	- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pg. 48 ✓ Textbook: pgs. 103 & 104 ✓ Workbook: pg. 52	Quiz Write <, >, or = to complete the following. Example: 5 m____3 cm ____30 mm
	Object	Unit of measure	Estimate	Measurement	Conversion																							
1		cm			dm																							
2		m			mm																							
3		km			m																							
6. Identify and describe the circumference of a circle (Continued).	The circumference of a circle is the measure of the distance around the circle or its perimeter. Circumference 	Finding diameters and circumferences - Place students in cooperative groups. Rotate the roles in each group. For example, one student measures, one records the data and one computes the ratio. Each child measures at least one circle depending on time. - Use tape measure, string, graph, paper, and circular objects to construct three different size circles. - Measure the circumference and diameter of the three circles and determine the ratio between them. - Have students make a table.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pgs. 65 & 67 ✓ Textbook: pgs. 156 & 157 ✓ Workbook: pgs. Nil	Plot a graph using the data from the table.  -Have each child make observations about the data in their table.																								

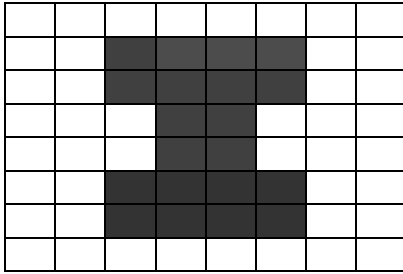
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
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Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT																				
6. Identify and describe the circumference of a circle.	- The diameter of a circle is the length of the line through the center and touching two points on its edge. - Pi is $\pi = 3.14$ or $22/7$. π originated from studies of the relationship between the circumference and the diameter. - The circumference C equals π times the diameter d or $c = \pi d$. - Formula for circumference of a circle is $c = \pi d$ or $C = 2\pi r$	<table><tr><th></th><th>Diameter</th><th>Circumference</th><th>C/D (Ratio)</th></tr><tr><td>1</td><td></td><td></td><td></td></tr><tr><td>2</td><td></td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr></table> After a table is complete, have students add their data to a class list (on an overhead or at the board). Circumference of a Circle https://www.mathsisfun.com/geometry/circle.html		Diameter	Circumference	C/D (Ratio)	1				2				3								Geo-Boards	Find the Error: Give students several statements where they find the error and correct them. Example: The diameter of a circle that John measured is 18 inches. John estimated the circumference to be about 6 inches. Describe and correct his error.
	Diameter	Circumference	C/D (Ratio)																					
1																								
2																								
3																								
7. Calculate the area of rectangles and squares using cm^2 , m^2 , and km^2 .	- Area is the number of square units needed to cover a surface. You can count square units to find area. - You can also use a formula for the area of a rectangle. Area = length x width or $A= l \times w$.	- Work with a partner. Cut out the triangles below from each of your sheets. Tape them together to form a parallelogram.  - Find the areas of the constructed parallelogram.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pgs. 65-68 ✓ Textbook: pgs. 151; 154 & 155 ✓ Workbook: pgs. 71 & 72 - Helping Children Learn Maths pg. 404 Area of Squares and Rectangles https://www.ixl.com/math/grade-5/area-of-squares-and-rectangles	- Write to explain how to find the area of a square when you know only the length of one side. - Construct their own figures and find the areas of the same.																				

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
8. Differentiate between applications of area and perimeter.	- Two figures can have the same area but different perimeter, or different area but same perimeter. - Area is the amount of surface to be covered. - Perimeter is the distance around the outside of a figure (object).	- Find the area and perimeter of each figure. Then draw another figure that has the same area but different perimeter.  - Describe situations from real life to students such as “after school, yesterday I had to mow the lawn.” Was this an example involving area or perimeter? Let students tell their stories.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pgs. 65 & 66 ✓ Textbook: pg. 151 ✓ Workbook: pg. 72 Activities Area and Perimeter https://www.education.com/games/alfalfas-out-of-the-box-perimeter-and-area/ https://www.education.com/games/fifth-grade/math-word-problems/ https://www.mathsisfun.com/activity/garden-area.html https://www.ixl.com/math/grade-5/area-and-perimeter-word-problems	- Use grid sheet and create figures with specified areas and perimeters. - Write in mathematics journals how to tell the difference between perimeter and area.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
9. Estimate and measure volume with appropriate units.	- The measure of the space that a solid figure occupies is called volume. Volume is measured in cubic units. - You can find volume in two ways: (a) count the numbers of cubes as you build a 6 cube x 2 cube x 3 cube rectangular prism or (b) multiply the length, width and height of the rectangular prism to find the volume in cubic units.	Find the volume - Have students estimate the length width and height of boxes. Then have them multiply the dimensions to estimate the volume of the box. Students record the estimated volumes. Volume https://www.ixl.com/math/grade-5/volume-of-rectangular-prisms-made-of-unit-cubes - Have students use centimetre rulers to measure the length, width, and height of each box to the nearest centimetre and multiply to find the volume. -Students record their results and compare them with the guesses.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 61 ✓ Textbook: pgs. 141-146 ✓ Workbook: pgs. 65 & 66 Video/Content https://youtu.be/I91a5pb5aLw	Lesson Quiz E.g. Lela has a suitcase that is 30 cm by 60 cm by 10 cm. What is the volume of her suitcase? Journal Entry: Explain how to estimate and measure volume.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
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Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT																				
10. Express millimetres as litres and vice versa using decimal notations.	Millilitres (mL) and a litres (L) are metric units of capacity. E.g. 1 mL = 0.001L	- Have students complete the table.<table><tr><th>Container</th><th>Actual</th><th>Conversion</th><th>Explanation</th></tr><tr><td>_____</td><td>____mL</td><td>____L</td><td></td></tr><tr><td>_____</td><td>____L</td><td>____mL</td><td></td></tr><tr><td>_____</td><td></td><td></td><td></td></tr><tr><td>_____</td><td></td><td></td><td></td></tr></table> Millimetre-Litre Show Down - Class is divided into two teams. - Teacher asks questions where students express millimetres as litres and vice versa. - The team with the most correct answers is the winner.	Container	Actual	Conversion	Explanation	_____	____mL	____L		_____	____L	____mL		_____				_____				- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pgs. 61 & 62 ✓ Textbook: pgs. 144-146 ✓ Workbook: pg. 67 - Conversion Sheets Activity Volume Conversion https://www.ixl.com/math/grade-5/compare-and-convert-metric-units-of-volume	Journal Entry: Write to explain the following: - If a syringe contains 0.073L of the H1N1 flu vaccine. How many mL would 10 syringes contain? - Students create questions expressing litres as millilitres and vice versa. Students also supply the answers for the questions.
Container	Actual	Conversion	Explanation																					
_____	____mL	____L																						
_____	____L	____mL																						

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
11. Round the purchase amount for items in a penny exempt trading system (to be referred to as “Rounding for Cash Exchange”).	Penny Elimination When you pay by cash: The price of your purchase will be rounded up or down to the nearest nickel. - Amounts ending in \$0.01 or \$0.02 will be rounded down to \$0.00 (Example: \$102 3614.21 becomes \$102 364.20). - Amounts ending in \$0.03 or \$0.04 will be rounded down to \$0.05 (Example: \$6 547.23 becomes \$6 547.25). - Amounts ending in \$0.06 or \$0.07 will be rounded down to \$0.05. (Example: \$150 824.67 becomes \$150 824.65). - Amounts ending in \$0.08 or \$0.09 will be rounded down to \$0.10 (Example: \$127.89 becomes \$127.90).	Have students pretend that they are shopping for items in a food store. Students are to pay the cashier the rounded price of the item. Example:  Price: \$3.59 Student should pay \$3.60	Videos/Content Bahamian Dollar https://youtu.be/W-u58UaNkEk DECOMMISSIONING OF THE BAHAMIAN PENNY - YouTube Worksheets Rounding Bahamian Currency https://www.liveworksheets.com/1-yz2037720zy	Have students complete a quiz rounding Bahamian money.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
12.Create and solve problems with capacity measures.	• Capacity is an attribute of a container that can be introduced to young children by asking, “Which holds more?” Capacity 1 liter (L) = 1,000 milliliters 1 metric cup = 250 milliliters. 1 tablespoon (tbsp) = 3 teaspoons (tbsp) 1 cup (c) = 8 fluid ounces (fl. oz) 1 pint (pt.) = 2cups 1 quart (qt) = 2pints 1 gallon(gal) = 4 quarts Examples How many quarts are in 2 gallons? 2 gal = ____qt gallons quarts in 1gallon quarts ↓			

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
13. Use standard units to estimate and measure mass.	Mass is the amount of matter in an object Mass / Weight 1 grams(g) = 1 000(mg) 1 pound = 160oz 1kg = 1 000 grams 1 ton = 2 000lbs Example How many grams are equivalent to 2 kilograms? Think: there are 1,000 grams in 1 kg 2 kg = 2 x 1 000 = 2 000g So, 2 000g are equivalent to 2 kg	- Choose the more reasonable measurement for the objects.  1g or 1kg 5g or 5kg 200g or 20kg 600g or 600kg - Use standard units to estimate and measure mass of certain items. Students then compare estimated results with actual results. Group Activity: - Distribute a paper clip and mathematics textbook to each group. Each group makes a list of as many items as they can with 3 minutes that are about the same mass as the paper clip or the mathematics textbook. - A representative from each group reads the group's list aloud and explains their rationale for the 2 groups of items. Paper clip = 1g; book = 1kg.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pgs. 22 & 23 ✓ Textbook: pgs. 28-31 ✓ Workbook: pgs. 16-18 Activities Mass https://www.mathnook.com/math/weighing-fruits.html https://www.mathworksheets4kids.com/weight/reading-scale-metric-easy1.pdf	- Worksheet on estimating and measuring mass. - Using items in their homes, students create a list of objects that weigh between 1 g-70 kg 1 lb-1 ton

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
14. Create and solve problems involving mass measurement.	- You can use multiplication to change kilograms to grams. - Have discussion on how to change grams to kilograms.	Students work in pairs to solve problems. Example: Wesley needs to move 840 kg of mangoes from Arawak Cay to Paradise Island in a dinghy. The dinghy can carry no more than 120 kg at a time. What is the fewest number of trips he will have to make?	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 22 ✓ Textbook: pgs. 28-30 ✓ Workbook: pg. 18 Word Problems https://www.liveworksheets.com/zz1513762lb	Students create problems and explain answers.
15 Estimate, compare and measure time needed to complete a task.	There are two attributes of events that can be measured: time of occurrence and length of duration.	Obstacle Course - Students guess the time they will need to complete every task and an average time needed to complete the entire course. Each discipline is timed using a stop watch. Prompts - Write the multiples of 9 up to 108. - Recite Psalm 23 - Identify Washington D.C, Baghdad, Nassau, Port au Prince on a world map. - Spell five conjunctions, adjectives, and interjections. Students will explain why times varied.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 56 ✓ Textbook: pgs. 127-129 ✓ Workbook: pgs. 58-62 - Helping Children Learn Maths pg. 118 Worksheets Estimated Time https://www.mathworksheets4kids.com/estimation/time/minute1.pdf https://www.mathworksheets4kids.com/estimation/time/hour1.pdf https://www.mathworksheets4kids.com/estimation/time/activity1.pdf	Create an obstacle course that can be completed within a specified time.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT																																																																								
16. Estimate the relationship among seconds, minutes, hours, days, weeks, months, years, decade and centuries	Time 1 minute = 60 sec. 1 year = 12 months or about 52 weeks 1 year = 365 days 1 day = 24 hours 1 leap year = 366 days 1 week (wk.) = 7 days 1 decade = 10 years 1 century = 100 years - You can begin describing the time of occurrence by giving a time span. For example, it happened today, in the morning, in October. - Students can tell which of two events take longer if their lengths, are greatly different. If the events are similar in duration, children can tell which lasts longer if both events begin at the same time.	How long does it take you? - Students work in groups to complete chart based on the topic. - Discuss why answers may differ. <table><tr><th></th><th>Seconds</th><th>Minutes</th><th>Hours</th><th>Days</th><th>Weeks</th><th>Months</th><th>Year s</th><th>Decades</th></tr><tr><td>Grow Old</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>→</td></tr><tr><td>Graduate</td><td>→</td><td>→</td><td>→</td><td>→</td><td>→</td><td>→</td><td></td><td></td></tr><tr><td>Clean House</td><td>→</td><td>→</td><td>→</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Eat Lunch</td><td>→</td><td>→</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Bake a Cake</td><td>→</td><td>→</td><td>→</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Smile</td><td>→</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Brush Your Teeth</td><td>→</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>		Seconds	Minutes	Hours	Days	Weeks	Months	Year s	Decades	Grow Old								→	Graduate	→	→	→	→	→	→			Clean House	→	→	→						Eat Lunch	→	→							Bake a Cake	→	→	→						Smile	→								Brush Your Teeth	→								- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pgs. 56-58 ✓ Textbook: pg. 128 ✓ Workbook: pg.58 - Helping Children Learn Maths pg.398 - Schedules Worksheets Hours and Minutes http://www.mathblaster.com/coolmath/articles/how-to-convert-between-hours-and-minutes https://www.mathworksheets4kids.com/time/convert/type1-hours-2-minutes1.pdf https://www.mathworksheets4kids.com/time/convert/type1-minutes-2-seconds1.pdf	- Plot a bar graph using intervals of 1 minute. Use at least five persons to demonstrate these activities. - Heading up books - Eating lunch - Dressing for school - Singing the national anthem
	Seconds	Minutes	Hours	Days	Weeks	Months	Year s	Decades																																																																				
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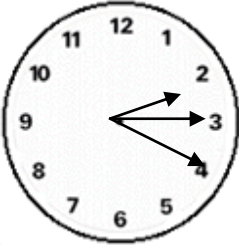
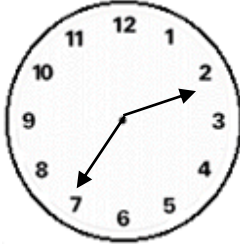
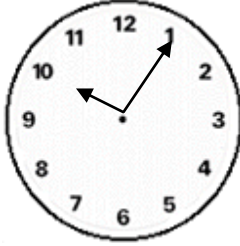
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
17. Record the data in SI format.	SI means Systems International, which advocates placing the units in order, largest first. For example year, month, day. Write July 10th, 1973 in Systems International form. 1973/ 07/10	- Write birthdays of family members in Systems International form. - Compare the American and British format of writing dates.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 56 ✓ Textbook: pgs. 129 A& 132 ✓ Workbook: pg.60 Worksheets http://physics.nist.gov/cuu/units/units.html https://www.liveworksheets.com/bg682652ab	Conduct a debate to tell which format is better (British or American).
18. Read and write times to the nearest minute on twelve and twenty-four hour on clocks. (Continued)	- You can read the scale on a clock (hour, minute, and second). - A military service uses the 24 hour clock. A day starts at midnight shown as 00:00. The day ends the next midnight shown as 24:00 hours. - The first 2 digits show the hour and the last two digits show the minutes. E.g. 03:45 = 3:45 a.m.	- Set clocks using 12 hour and 24-hour clocks. Students write the time on both clocks and compare them. - Write specific times in digital notation (4:20)	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 56 ✓ Textbook: pg. 130 ✓ Workbook: pg. 62 - Teaching Children Learn Maths pg. 403	- Compare and contrast the 12 hour and 24 hour clock. - Explain which of the clocks is more ideal to use.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
18. Read and write times to the nearest minute on twelve and twenty-four hour on clocks.	- Read and write this time as: 2 hours 24 minutes and 16 seconds. - 24 minutes 16 seconds after two - 44 seconds before 2:25 	- Write the time shown on the clock in 2 different ways.   - Write the times as a.m. or p.m. a. 14:40 b. 02:15	Worksheets Twelve and Twenty-Four Hour Clocks https://www.mathsisfun.com/time.html https://www.mathworksheets4kids.com/time/12-24-clock/match-1.pdf	- Complete problems within a set time. - Using a clock, groups of students complete problems within in a set period. They submit solutions at a specified time. NB Students must be mindful of the times.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
19. Convert hours to minutes and vice versa.	60 sec. = 1 min. 60 mins. = 1 hour - To convert from a smaller unit to a larger unit divide. Example: 120 sec. = ____ mins. $120 \text{ sec} \div 60 = 2 \text{ mins.}$ - To convert from a larger unit to a smaller unit, multiply. Example: 3 hours = ____ mins. $3 \times 180 = \text{mins.}$	Play Time Concentration. Match the equivalent time.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pgs. 56 & 57 ✓ Textbook: pgs. 128 & 129 ✓ Workbook: pg. 59 Worksheet Converting Time https://www.ixl.com/math/grade-5/convert-time-units	Complete worksheet on conversion of time.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT								
20. Solve problems involving elapsed time.	- Elapsed time is the time passed from the start to the end of an activity. Example 1 A karate presentation began at 2:30 pm. If it lasted 35 minutes, at what time did it end? Use addition <table><tr><td>Hrs.</td><td>Mins.</td></tr><tr><td>2</td><td>30</td></tr><tr><td>+</td><td>35</td></tr><tr><td>3</td><td>05</td></tr></table> Think: 60 minute =1 hr So 65 mins. is 1hr. 05 mins. 3 hours 05 minutes Presentation ended at 3:05 p.m. Other Ways - Count forward on a clock - End time – Elapsed time = Start time	Hrs.	Mins.	2	30	+	35	3	05	How Time Flies! Use a clock to solve time problems. 12:25 now : 2 hr. 20 mins. later 8:50 now : 5 hrs. later 12:05 now : 20 mins. before	- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pgs. 56 & 57 ✓ Textbook: pg. 131 ✓ Workbook: pg. 61 - Helping Children Learning Maths pg. 404 - Leap Day Calendar clocks. Elapsed Time https://www.ixl.com/math/grade-5/elapsed-time	Use a number line to find elapsed time.
Hrs.	Mins.											
2	30											
+	35											
3	05											
21. Read the thermometer for Celsius and Fahrenheit and convert from degrees Celsius to Fahrenheit and vice versa (Continued).	- Degrees Fahrenheit are customary units for measuring temperature. - Some temperatures are less than 0°F. These are negative temperatures. The lowest temperature marked on the thermometer at the right is -10 °F Example Look at the table. How much would the temperature change if it dropped from the normal high to the normal low Normal high: 16 °F Normal Low -2°F	Fahrenheit Make-up Match the temperature on the thermometer with the event by drawing a line to connect them. E.g. 	- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pgs. 17 & 18 ✓ Textbook: pgs. 17-21 ✓ Workbook: pgs. 9-12	Record the temperature of two islands for a week. Display the information on a line graph on a table.								

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 5

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
21. Read the thermometer for Celsius and Fahrenheit and convert from degrees Celsius to Fahrenheit and vice versa.	Step 1 First find change in temperature from 16°f to 0°F. The change in temperature is 16° Step 2 Find the change in temperature from 0°F to - 2°F The change in temperature is 2° Step 3 Add the two changes $16^{\circ} + 2^{\circ} = 18^{\circ}$	Celsius Practice For letters a-e, use a thermometer to find the change in temperature. a. 67° C and 50° C b. 48°C and -10°C c. -1 °C and 50°C d. - 15°C and 22°C	Mathematics in Motion: A Resource Book for Primary Teachers, pg. 114	Complete Quiz: How to read a thermometer.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

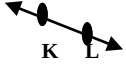
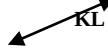
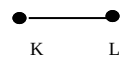
Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

Essential Questions

1. What is the difference between a point, ray, line, line segment?
2. How are angles measured and classified?
3. How can plane and solid shapes be described?
4. How can you use open and closed curves in everyday life?
5. How will a shape look when rotated, reflected, and/or translated?
6. How can you visualize the differences between two and three-dimensional figures?
7. What is symmetry and congruency? How can you verify symmetry and congruency?
8. How can measurements be used to solve problems?

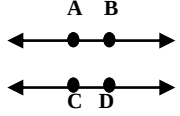
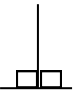
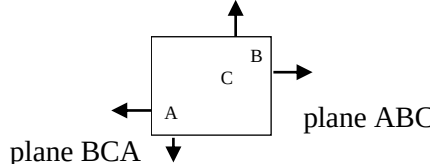
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Draw and describe points, lines, line segments, rays, parallel and perpendicular lines, and planes (Continued).	• A point names a location on an object in space. Draw it Read it Write it • A point A point A • A line is a straight path of points that goes on and on in both directions. It has no endpoints. Draw it, Read it, Write it.  Line KL  • A line segment is part of a line. It has two end points. Draw it, Read it, Write it.  Line Segment KL  • A ray is part of a line. It has one endpoint and goes on and on in one direction. Draw it, Read it, Write it.  Ray KL 	• Use spaghetti, tooth picks and yarn to make lines, line segments, rays, and planes. • Use spaghetti, toothpicks and yarn to make parallel and perpendicular lines • Use locations on maps to illustrate points, line segments, and planes. Online Activities https://mrnussbaum.com/lines-line-segments-and-rays-online https://www.splashlearn.com/math-skills/fourth-grade/geometry/lines-rays-and-line-segments	• Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pgs. 35 & 36 ✓ Textbook: pg. 63 ✓ Workbook: pgs. 33 & 34 • Mathematics in Motion: A Resource Book for Teachers, pg. 77 Videos/Content Lines, Line Segment & Rays https://youtu.be/QekhAuTJKLY https://youtu.be/82HDnvFTZwI Types of Lines https://youtu.be/P3AOoLbA3us Worksheets Low/Average https://www.k5learning.com/worksheets/math/grade-3-geometry-lines-segments-rays-b.pdf https://www.k5learning.com/worksheets/math/grade-3-geometry-parallel-perpendicular-lines-b.pdf	• Have students draw and describe points, types of lines and planes.

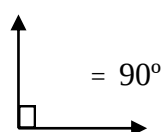
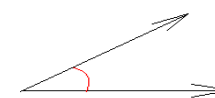
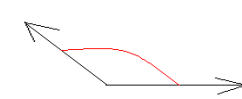
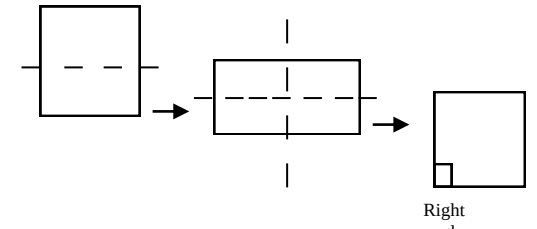
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Draw, describe and illustrate points, lines, line segments parallel and perpendicular lines and planes.	Parallel lines are lines that never intersect.  Perpendicular lines are lines that intersect to form right angles.  - A plane is a flat surface of points with no end. A plane is named by at least three points in the plane 	Online Activity https://mrnussbaum.com/perpendicular-parallel-and-intersecting-lines-online	Average Lines, Line Segment or Ray https://www.liveworksheets.com/gi274192yb Above Average https://www.liveworksheets.com/xu1220914ym https://www.mathworksheets4kids.com/lines/shapes1.pdf Cards, rulers, Maps of The Bahamas, Spaghetti, glue, tooth picks, yarn	Complete an activity sheet on types of lines.
2. Compare and estimate the various sizes of different angles by greater than, less than or equal to 90° (Continued).	Two rays with the same end-point form an angle. The rotation of the arms (ray) gives the measure of the angle. The angle is at the vertex. The end-point is called the vertex.	- Have students view a parade of officers during Independence celebration. Point out right turns that show exactly 90°. - Inform students that acute means sharp. Have students identify common objects that have sharp points that are examples of acute angles.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 36 ✓ Textbook: pgs. 67-69 ✓ Workbook: pgs. 35-37 - Helping Children Learn Maths pg. 381 - Clock	Quiz: Have students use clocks set at specific times to create questions on angles.

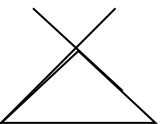
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
2. Compare and estimate the various sizes of different angles by greater than, less than or equal to 90° .	• Right Angle forms a square corner. The angle is exactly 90°  • An acute angle is an angle that measures less than a right angle (90°).  • An obtuse angle is an angle that measures greater than a right angle (90°) but less than 180° 	• Allow students to set clock arms to: a. show specific times b. name the angles formed c. estimate the size of the angles d. tell if the angles are greater than, less than or equal to 90° • Make an angle using a sheet of paper. Fold the paper twice to make an angle like this. The angle you have made is called a right angle • Make an angle using a sheet of paper. Fold the paper twice to make an angle like this. The angle you have made is called a right angle  Right angle Online Activity https://www.ixl.com/math/grade-5/angles-of-90-180-270-and-360-degrees • Students will engage in the following games to practice the following: Estimating Angles https://www.mathgames.com/skill/4.22-estimate-angle-measurements	• Watch Video/Content Estimating Angles https://youtu.be/3Cma8gkhVHA Worksheets Average https://www.mathworksheets4kids.com/angles/estimation/mcq-moderate-1.pdf	• Complete a worksheet

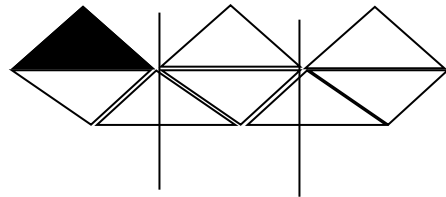
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
3. Distinguish between open and closed curves.	- A simple closed curve does not cross itself and encloses a part of the plane.  simple curve - An open curve is a curve with endpoints. Simply, the ends do not join.  simple curve  not a simple curve	Use thread to complete the following examples. curves: closed curves and not a simple curve.  Not a simple curve  closed curve  closed  not a closed curve  not a closed curve Online Activity https://www.khanacademy.org/math/geometry-home/geometry-shapes/geometry-curves-and-polygons/e/open-and-closed-curves	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 27 ✓ Textbook: pgs. 40 & 1 ✓ Workbook: pg. 22 - thread - glue - Paper Video/Content Open and Closed Curves https://youtu.be/Onujkb1BgxQ Worksheets Low https://www.math4children.com/Kidergarten/worksheets/geometry/geometry.pdf Average https://www.math-only-math.com/worksheet-on-closed-curves-and-open-curves.html	Identify and write letters that are examples of open and closed curves. Worksheet https://www.math-only-math.com/worksheet-on-closed-curves-and-open-curves.html

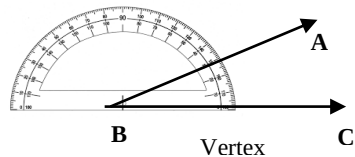
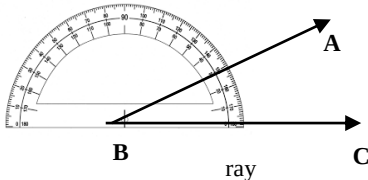
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT																																	
4. Identify and classify polygons up to 10 sides including special quadrilaterals such rectangles, parallelogram, square, rhombus, kite, dart, trapezium (Continued).	- A polygon is a closed plane figure with straight sides. Polygons are named by the number of sides or number of angles they have. Example: triangle, quadrilateral, pentagon, octagon Triangle = 3 sides 3 angles Quadrilateral = 4 sides 4 angles Pentagon = 5 sides 5 angles - A parallelogram is a quadrilateral whose opposite sides are parallel and congruent. Hexagon = 6 side and 6 angles Heptagon = 7 sides and 7 angles Octagon = 8 sides and 8 angles Nonagon = 9 sides and 9 angles Decagon = 10 sides and 10 angles	Can You Find? See if you can find each of these in the design. Fill in the shape, and mark it with the matching letter. <table><tr><td>A</td><td>triangle</td><td>- isosceles</td></tr><tr><td>B</td><td>triangle</td><td>- scalene</td></tr><tr><td>C</td><td>quadrilateral</td><td>- not symmetric</td></tr><tr><td>D</td><td>quadrilateral</td><td>- 4 line symmetry</td></tr><tr><td>E</td><td>pentagon</td><td>- concave</td></tr><tr><td>F</td><td>pentagon</td><td>- convex</td></tr><tr><td>G</td><td>hexagon</td><td>- symmetric</td></tr><tr><td>H</td><td>hexagon</td><td>- symmetric</td></tr><tr><td>I</td><td>heptagon (7 sides)</td><td>- symmetric</td></tr><tr><td>J</td><td>heptagon</td><td>- not symmetric</td></tr><tr><td>K</td><td>octagon</td><td></td></tr></table>  Online Activities https://www.ixl.com/math/grade-5/is-it-a-polygon https://www.ixl.com/math/grade-5/number-of-sides-in-polygons https://www.ixl.com/math/grade-5/classify-triangles	A	triangle	- isosceles	B	triangle	- scalene	C	quadrilateral	- not symmetric	D	quadrilateral	- 4 line symmetry	E	pentagon	- concave	F	pentagon	- convex	G	hexagon	- symmetric	H	hexagon	- symmetric	I	heptagon (7 sides)	- symmetric	J	heptagon	- not symmetric	K	octagon		- Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pgs. 27 & 28 ✓ Textbook: pgs. 42-46 ✓ Workbook: pgs. 23 & 24 - Helping Children Learn Maths pg. 383 - crayons - Markers - Cards Worksheets https://www.ixl.com/math/grade-5/is-it-a-polygon https://www.ixl.com/math/grade-5/classify-quadrilaterals	Have students create a game to name and describe polygons.
A	triangle	- isosceles																																			
B	triangle	- scalene																																			
C	quadrilateral	- not symmetric																																			
D	quadrilateral	- 4 line symmetry																																			
E	pentagon	- concave																																			
F	pentagon	- convex																																			
G	hexagon	- symmetric																																			
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I	heptagon (7 sides)	- symmetric																																			
J	heptagon	- not symmetric																																			
K	octagon																																				

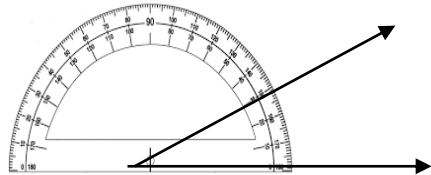
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
5. Measure angles to 180° using a protractor (Continued).	- A protractor can be used to measure the size of the opening of an angle. The scale on a protractor is marked from 0° to 180°. Example: Use a protractor to measure angle ABC. Step 1 Place the center of the protractor on the vertex of the angle  Extend the ray B Vertex C Step 2 Line up the center point and the 0° mark on the protractor with one ray of the angle.  B ray C	- Students trace figures and use a protractor to measure angles. Online Activities https://www.ixl.com/math/grade-5/measure-angles-with-a-protractor https://www.mathplayground.com/alienangles.html https://mrnussbaum.com/using-a-protractor-online	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 36 ✓ Textbook: pgs. 70-74 ✓ Workbook: pgs. 36 & 37 - Mathematics in Motion: A Resource Book for Primary Teachers, pg. 94 - protractor - ruler Video/Content Measuring Angles with a Protractor https://youtu.be/il22YcHDfeE Worksheets Average https://www.liveworksheets.com/ag1418844ib https://www.liveworksheets.com/jy272606fs	Use a map of Down Town Nassau and Paradise Island. Allow students to highlight two of their favourite locations from a specific point. Students measure the distance between their highlighted points using a protractor.

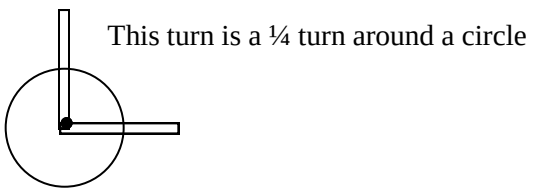
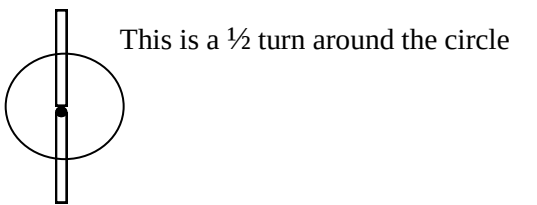
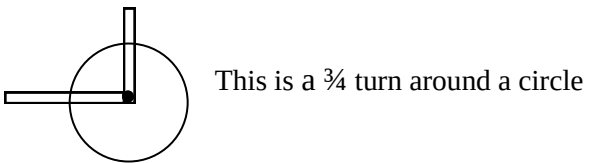
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
5. Measure angles to 180° using a protractor.	Step 3 Read the angle measure the ray passes through on the scale. Write angle measure in degrees ($^\circ$)  The measure of $\angle ABC = 50^\circ$	Students will engage in the following games to practice the following: Measuring Angles https://www.mathplayground.com/measuringangles.html	Activity Sheets https://www.mathworksheets4kids.com/angles/reading-protractors/inner-scale-5-degree-1.pdf Above Average https://www.mathworksheets4kids.com/angles/measure/inner-scale-5-degree-1.pdf	• Journal Writing: Explain how to measure angles using a protractor.
6. Demonstrate knowledge of the sum of angles in a circle and on a straight line (Continued).	• A circle is a closed figure made up of points that are the same distance from the center. • The unit used to measure an angle is a degree ($^\circ$). A complete turn around the circle is 360°.	Online Activities A https://www.ixl.com/math/grade-4/measure-angles-on-a-circle https://mrnussbaum.com/age-of-the-angles-online-game	• Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 36 ✓ Textbook: pgs. 67-72 ✓ Workbook: pg. 37 • Paper	• Using a protractor, have students calculate the number of degrees when moving from one point to another. Example: A child starts at compass point east and moves clockwise to the south point. How many degrees has the child moved?

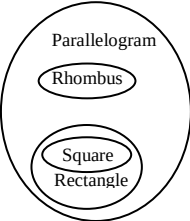
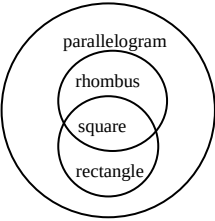
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
6. Demonstrate knowledge of the sum of angles in a circle and on a straight line.	The angle of a straight line is 180° and it is half turn around the circle. 	- Use turns of geo-strips to show different angles Step 1 Open the geo-strips to form a 90° angle.  Step 2 Now open the geo-strip $\frac{1}{4}$ turn more to make a 180° angle.  - Open your geo-strip another $\frac{1}{4}$ turn to make a 270° angle. 	- elastic bands - tacks - compass - stick	Complete a quiz on sum of angles in a circle and on a straight line.

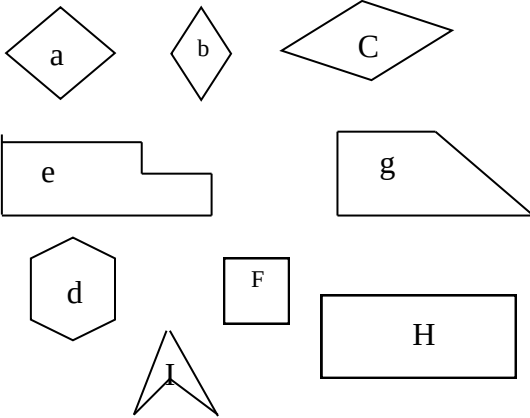
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

Sub-Goal 4: Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
7. Identify and classify polygons up to 10 sides including special quadrilaterals such rectangles, parallelogram, square, rhombus, kite, dart, trapezium. (Continued)	• Rhombus-a parallelogram with 4 congruent sides.  • Trapezium and trapezoid are the same. The term trapezium is used in England and trapezoid in America. • Trapezium is a quadrilateral with 2 and only two sides that are parallel.  • A trapezoid is a quadrilateral in which one pair of opposite (non-intersecting) sides is parallel. • A quadrilateral has 4 sides and 4 angles. • A rectangle is a quadrilateral that has four right angles. • A rhombus is a quadrilateral that has four congruent sides.	• Identify various polygons in the environment and explain why it has that shape. a. home b. school • To find all the attributes of a trapezoid, which of the following Venn diagram is correct? trapezoid  trapezoid  Correct One	• Helping Children Learn Maths pg. 383	• Given the properties, students must name the quadrilaterals that have the said properties.

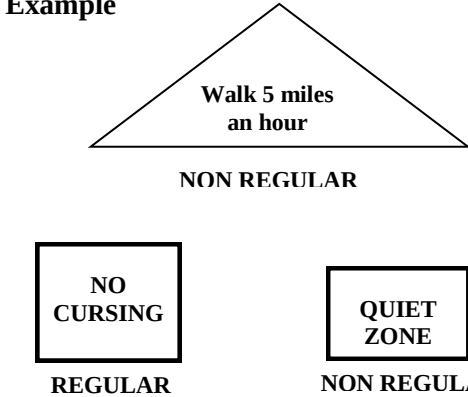
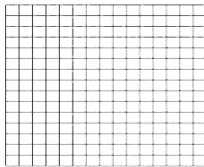
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

Sub-Goal 4: Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
7. Identify and classify polygons up to 10 sides including special quadrilaterals such rectangles, parallelogram, square, rhombus, kite, dart, trapezium.	A square is a quadrilateral that has four congruent sides and four right angles.	Classify Me Classify and name quadrilaterals. Mark each of the figures using the numbers below: - If it is a quadrilateral use 1 - If it has two pairs of parallel sides use 2 - If it has all right angles use 3 - If it has all congruent sides use 4  a. Any figure marked 1 and 2 is a _____ b. Any figure marked 1, 2, and 3 is a rectangle as well as a _____ c. Any figure marked 1, 2, and 4 is a _____ as well as a _____. d. Any figure marked 1, 2, 3, and 4 is a _____ and a _____ as well as a square.	Video/Content https://www.youtube.com/watch?v=L-NMu-XJqTw&t=158s	Quiz

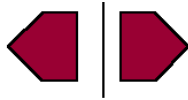
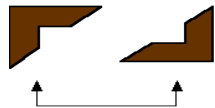
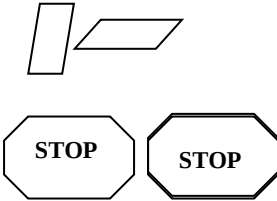
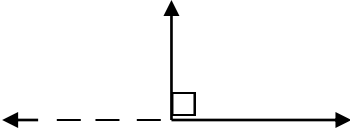
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

Sub-Goal 4: Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
8. Distinguish between regular and non-regular polygons	- Regular polygons have all sides and angles equal. Example: Triangle (equilateral) quadrilateral (square), regular hexagon. - Non-regular polygons have sides that have different lengths. Example: Triangle (isosceles, scalene) quadrilateral (kite), rectangle, pentagon	Construct school signs using regular and non-regular polygons. They will be placed in strategic areas of the school. Example 	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 27 ✓ Textbook: pg. 42 ✓ Workbook: pg. 23 - Cereal boxes - Crayons - markers - Ruler - pencils	Have students create a booklet of regular or non-regular polygons.
9. Demonstrate various motions as a translation, reflection and rotation (Continued).	Transformations are different ways to move a figure. Three kinds of transformations are translation, reflection, and rotation. - A translation is the movement of a figure on a straight line. 	Transformation Step 1: Copy each pair of figures on dotted paper  Step 2: Cut out one in each pair, and move it in any way to check for congruency.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 64 ✓ Textbook: pgs. 147-150 ✓ Workbook: pgs. 68-70 - Centimeter dot paper - ruler - scissors - mira	Write a journal entry explaining the movements involved during the three forms of translations and give examples of when these movements are done in school.

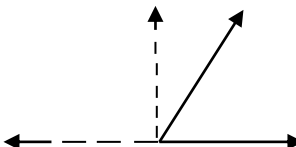
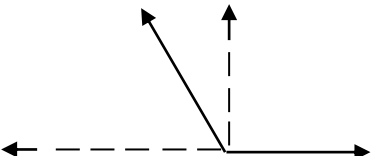
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

Sub-Goal 4: Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
9. Demonstrate various motions as a reflection, translation, and rotation.	- A reflection is a movement of a figure to a new position by flipping it over a line.  - A rotation is the movement of a figure by turning it around a point.  - Two plane drawings are congruent if one can be moved onto the other using a rotation, a translation, a reflection or some combination of these motions	Step 3: Trace one of each pair of geometric figures, and use a rotation, translation, or reflections to determine if the two shapes are congruent. If the shapes are congruent state which motion you used to show this. F F 	Online Games https://www.mathgames.com/skill/6.118-translations-graph-the-image https://www.mathgames.com/skill/6.119-reflections-graph-the-image	Complete a liveworksheet on reflection, translation and rotation.
10. Identify acute, obtuse, and right angles and measure angles to 180 ° (Continued).	A right angle forms a square corner and it measures exactly 90° 	Create kites from scrap paper and identify the angles on the kites they constructed (the sticks crossing each other form right angles.) Example: When hoisting your kite, your arm pits can show acute, right and obtuse angles depending on where the kite is in the air or on the ground 	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pgs. 35 & 36 ✓ Textbook: pgs. 67-69 ✓ Workbook: pgs. 35 & 36 - Kites	Quiz: Identify and measure acute, obtuse, and right angles.

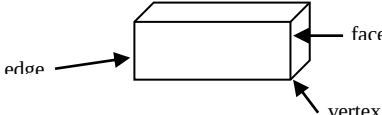
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

Sub-Goal 4: Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
10. Identify acute, obtuse, and right angles and measure angles to 180° .	An acute angle is an angle that measure less than a right angle (90°).  An obtuse angle is an angle that measures greater than a right angle (greater than 90° less than 180°) 	- Have students look in the community and identify angles seen on various building and things. - Use toothpicks to construct acute, obtuse and right angles. - Students will engage in the following game to practice the following: Types of Angles http://www.snappymaths.com/other/shapesandspace/angles/interactive/acuterighttoobtuse/acuterighttoobtuse.htm	Video/Content Types of Angles https://youtu.be/NVuMULQjb3o Worksheets Average https://www.liveworksheets.com/gi1292799pq https://www.liveworksheets.com/mq1511999ta https://www.liveworksheets.com/hy1428210vv https://www.mathworksheets4kids.com/angles/types/classify-angles-type1-1.pdf Above Average https://www.mathworksheets4kids.com/angles/types/drawing-angles-1.pdf https://www.mathworksheets4kids.com/angles/types/shapes-1.pdf	Identify acute, obtuse and right angles in the environment and measure the same.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

Sub-Goal 4: Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT																																
11. Investigate, classify, and name solid shapes (Continued).	• Polygons have only length and width, so they are two dimensional figures. Solid figures have length width and height so they are three dimensional figures. • A solid is a union of a simple closed surface and it’s interior. • Cone: pointed figure that has a flat round base • Cube has 6 congruent square faces.	• Find the number of faces, edges, and vertices of the solid figures in the table below  <table><thead><tr><th>Name</th><th># of faces</th><th># of edges</th><th># of vertices</th></tr></thead><tbody><tr><td>Cube</td><td>6</td><td>12</td><td>8</td></tr><tr><td>Rectangle</td><td></td><td></td><td></td></tr><tr><td>Prism</td><td></td><td></td><td></td></tr><tr><td>Triangle</td><td></td><td></td><td></td></tr><tr><td>Pyramid</td><td></td><td></td><td></td></tr><tr><td>Square</td><td></td><td></td><td></td></tr><tr><td>Pyramid</td><td></td><td></td><td></td></tr></tbody></table> • Solid Mystery Solve each of these mysteries by constructing a ‘suspect’. If you think there is more than one suspect look at clue 2.	Name	# of faces	# of edges	# of vertices	Cube	6	12	8	Rectangle				Prism				Triangle				Pyramid				Square				Pyramid				• Bahamas Primary Mathematics Bk 5 ✓ Teacher’s Manual: pg. 28 ✓ Textbook: pgs. 47-50 ✓ Workbook: pgs. 26 & 26	• Students classify and name solid shapes.
Name	# of faces	# of edges	# of vertices																																	
Cube	6	12	8																																	
Rectangle																																				
Prism																																				
Triangle																																				
Pyramid																																				
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SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 5

Sub-Goal 4: Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
11. Investigate, classify, and name solid shapes.	Pyramid has a polygon base and triangular sides that meet at a single point. Prism: has two congruent polygonal regions that are connected by parallel line segments		- Helping Children Learn Maths pg.367 - Mathematics in Motion: A Resource Book for Primary Teachers, pgs. 85, 87	Complete a worksheet on classifying and naming solid shapes.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 5

Sub-Goal 5: Collect, organize, and analyze data using statistical methods: predict results; and interpret uncertainty, using concepts of probability.

Essential Questions

1. What is the difference between the median and the range?
2. How can you find the mode of a set of data?
3. What is the benefit of charts, diagrams, tables, and graphs in our daily lives?
4. How is probability used to predict outcomes in problem-solving?
5. How can experimental and theoretical probabilities be used to make predictions and draw conclusions?

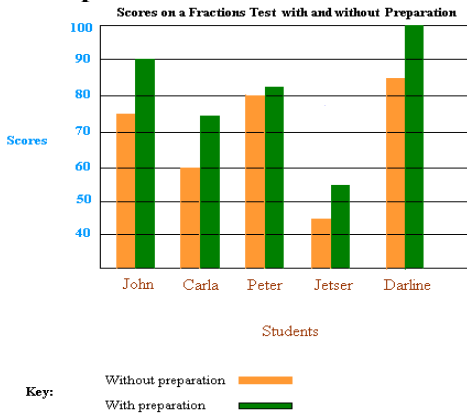
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 5

Sub-Goal 5: Collect, organize, and analyze data using statistical methods: predict results; and interpret uncertainty, using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Find mean, median, mode, and range of a set of data.	- The mean or average is the number found by dividing the sum of a set of numbers by the number of addends. - The mode is the number that occurs most often. There may be more than one mode, or there may be no mode. - The median is the middle number. Remember to arrange the numbers in order from least to greatest. - The range is the difference between the greatest and the least values in a set of data.	In groups, students use different graphs where they find the mean, median, mode, and range of a set of data.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 42 ✓ Textbook: pgs. 86-84 ✓ Workbook: pgs. 42-45 Video/Content https://youtu.be/1D_7qufZZcI Smile Test Scores https://www.transum.org/Software/SW/Starters_ Game with Cards https://www.youtube.com/watch/MoMxSK_kHZU	Students create problems and solve them. These problems deal with the mean, median, mode, and range of a set of data.
2. Determine the most appropriate graph for a given set of data	- Graphs are used to display data. - Bar graphs display countable data with horizontal and vertical bars. - Line graphs are used to show change, or increases and decreases over a period.	- Create varied types of graphs using local data. - Locate graphs in newspapers etc. a. Discuss data. b. Peruse and discuss graphs that are inappropriate for given data. - Create a concentration type game. Match the data with the name of the most appropriate type of graph.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pgs. 42 & 43 ✓ Textbook: pgs. 89-94 ✓ Workbook: pgs. 44 & 45 Online Game https://www.mathgames.com/skill/6.134-choose-the-best-graph-type	- Provide students with specific sets of data. Let them tell the most appropriate graphs to use for each set. - Examine students' completed games and answer keys.

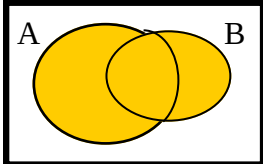
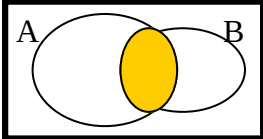
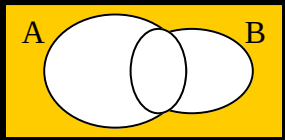
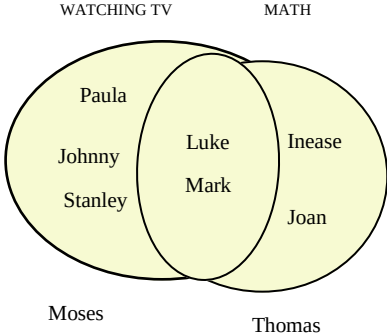
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 5

Sub-Goal 5: Collect, organize, and analyze data using statistical methods: predict results; and interpret uncertainty, using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
3. Analyze data to make decisions to solve problems.	Analyzing data is to study and understand the information. This information can be used to solve problems or make sound decisions.	- Propose the following problem to students. The Principal wants to create a weekly menu of healthy foods to be sold to students. Help this principal create a menu with cost per item. Have students: - Collect data from other students: favorite foods and the ideal costs - Create menu	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 42 ✓ Textbook: pgs. 86-94 ✓ Workbook: pgs. 42-45 Online Activity https://www.ixl.com/math/grade-5/multi-step-word-problems-identify-reasonable-answers	Present students with data and questions that require decisions to be made. Have students provide solutions.
4. Read and interpret double bar graphs.	A double bar graph is a graph that shows two different sets of data. Example  Key: Without preparation — Orange bar With preparation — Green bar	- Create graphs using local information Example: How many girls and how many boys like: - Pepperoni pizza - Sausage pizza - Vegetable pizza B. Allow students to: - Develop questions - Create answers keys	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 42 ✓ Textbook: pgs. 91-93 ✓ Workbook: pg. 43 Online Game Double Bar Graph https://www.mathgames.com/skill/6.95-interpret-double-bar-graphs	Create a double bar graph with questions and furnish the answers for the same.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 5

Sub-Goal 5: Collect, organize, and analyze data using statistical methods: predict results; and interpret uncertainty, using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
5. Read and interpret Venn diagrams.	- A Venn diagram is a picture of sets. - Sometimes sets have elements that overlap. - Symbols: $\in$ is an element/member of $\cap$ = Intersect $\cup$ = Union Within each set including the overlap (Union)  Where the sets overlap or intersects  Outside the sets 	- In groups, students answer questions using the Venn diagram below. Hobbies of a Group of Friends  - How many students enjoy watching television? - How many children enjoy both mathematics and watching television? - Which of the friends enjoy neither of these things?	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 42 ✓ Textbook: pgs. 92 & 93 ✓ Workbook: pg. 45 Online Games Venn Diagrams http://www.shodor.org/interactivate/activities/VennDiagrams/ http://files.pbslearningmedia.org/dlos/wnet/dlo1.html http://www.readwritethink.org/classroom-resources/student-interactives/venn-diagram-30973.html	Complete an activity sheet where students answer questions using a Venn diagram.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 5

Sub-Goal 5: Collect, organize, and analyze data using statistical methods: predict results; and interpret uncertainty, using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
6. Write probability as a fraction or ratio.	- Probability can be expressed as a ratio or a fraction. - Probability as ratios: a. 1 to 3 b. 1:3 - Probability as ratio in fraction form. a. $\frac{1}{3}$	Create board games that allow students to write probabilities as fractions or ratios.	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 69 ✓ Textbook: pgs. 159-163 ✓ Workbook: pg. None	Complete Problem Solving: Thinker's Corner. Harcourt Math Bk. 4. pg. 381 Example: Write a ratio to compare the number of jumpers to the number of jump ropes. Write each ratio in three ways.
7. Identify the probability of an event and verify by doing trials in an experiment.	- Probability is the chance that an event will happen. $P = \frac{\text{Number of Favourable Outcomes}}{\text{Number of Possible Outcomes}}$ - The probability of an event is a number from 0 to 1 - The probability of an event that is certain to occur is 1. The probability of an event NOT occurring is 0. expressed as 0, 1, or a fraction between 0 and 1	- Create Spinners a. Coloured b. Names of pets c. Things of interest to students - Conduct experiments where students find the probability of events. Examples of items that can be used a. A bag of marbles b. Tossing of coins	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 69 ✓ Textbook: pg. 159 ✓ Workbook: pg. 73 Game https://mrnussbaum.com/probability-fair-online-game	Conduct experiments and record outcomes.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 5

Sub-Goal 5: Collect, organize, and analyze data using statistical methods: predict results; and interpret uncertainty, using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
8. Identify situations involving chance	- Situations involving chance are those in which any outcome is possible. i.e. a desired outcome or Example: Winning a raffle - The set of all possible outcomes of a random phenomenon is called the sample space. - An event is any outcome, or set of outcomes of a random phenomenon. - A fair game is a game in which there is an equal chance of winning or losing.	- Allow students to create lists of situations involving chances - Let students create unique games. Online Game https://nzmaths.co.nz/resource/s-not-fair	- Bahamas Primary Mathematics Bk 5 ✓ Teacher's Manual: pg. 69 ✓ Textbook: pgs. 159-163 ✓ Workbook: pgs. 74 & 75 Probability Chances https://www.liveworksheets.com/nm1570416me	- Students will outline names of situations that occur based on chance. Example: Why the games are classified as Games of Chance? - Write in journal situations involving chance.

Scope of Work

Primary School Mathematics

Grade 6

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

Essential Questions

1. Why is it important to know how to read and write numbers through billions?
2. How does a square number differ from the square root of a number? Explain the steps to calculate the square and square root of numbers.
3. What are the different ways a number can be written?
4. How can I compare and order rational numbers?
5. How is comparing numbers essential in everyday life?
6. How is exponential notation useful?
7. What is the difference between LCM and HCF?
8. How is an understanding of positive rational numbers, their representations, and relationships useful in problem solving?

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

Essential Questions

9. How is estimation beneficial in real life situations?
10. How is mental mathematics useful? When is mental mathematics most useful?
11. How are models used to show how fractional parts are combined or separated?
12. Why is the order of operations essential?
13. How are commutative and associative properties different?
14. How are fractions, decimals, and percent related?
15. Why is it useful to know how to convert among fractions, decimals, and percent?

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Read, write and identify the place value of digits in whole numbers up to the billions period (12 digits).	- Numbers are part of the decimal system. This system uses ten digits: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 single or collectively. These digits form whole numbers or decimal numbers. - These numbers can be written in standard form, expanded form, word form, or short word form. Example: Standard Form: 28 964 371 045 Expanded Form: 20 000 000 000 + 8 000 000 000 + 900 000 000 + 60 000 000 + 4 000 000 + 300 000 + 70 000 + 1 000 + 000 + 40 + 5 Word Form: twenty-eight billion, nine hundred sixty-four million, three hundred seventy-one thousand, forty-five. Short Word Form: 28 billion, 964 million, 371 thousand, 045	School Campaign - Hold a school wide campaign “How Big is a Million?” Collect one million of some small items (Example: one-cent coins or bottle caps). Allow all students to contribute, count and decide where to display one million of selected items. - Students investigate the question: What size room would be needed to hold one million basketballs? - Have students play a game called “Step Forward”. Give a group of students digit cards and have them create a number. Call out a place in that number and the student holding that digit must step forward. If the students cannot identify themselves, that digit is removed from the number and the students are removed from the game. The game then continues with the new number formed.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher’s Manual: pgs. 12-15 ✓ Textbook: pgs.5-10 ✓ Workbook: pgs. 2-5 Videos/Content Numbers and Place Value – https://youtu.be/VWFEmp0V0os Numbers and Place Value Drill – https://youtu.be/yHH2kZkB5Ec Worksheets Average: Place Value to Billions https://www.liveworksheets.com/kr1252047cr Place Value of Whole Numbers https://www.liveworksheets.com/yx1259464hs Place Value of Underlined Digit https://www.mathworksheets4kids.com/place-value/large-numbers/underlined-digit-1.pdf Above Average: What number am I? https://www.mathworksheets4kids.com/place-value/large-numbers/what-number-1.pdf	Quiz: Students write numbers through billions. Examples: - Write 4 237 824 923 in expanded notation. - Name the value of 5 in the number 5 678 432 - Students compete to read and write numbers through billions.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
2. Compare numbers through billions using the symbols <, >, and =	Comparing numbers means to show how they are alike, or is equal to (=), which is less than <, or greater than >.	- Create place value mittens where numbers and symbols will be placed in the correct positions. - Give students flash cards with numbers and symbols. Students create number paths comparing numbers with symbols. Example: $63 = 59 + 4 > 30$ $674\ 123\ 900 < 54\ 985\ 653\ 349$ - Engage in the following games to practice the skills: Comparing and Ordering Whole Numbers https://create.kahoot.it/share/comparing-and-ordering-whole-numbers/cbe7c336-2df7-4b62-b0d8-1d0b49f07d97 https://quizizz.com/admin/quiz/5f4c29a6c65870001c5d4f35 https://www.mathgames.com/skill/4.27-compare-numbers-up-to-10000000	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs.12-15 ✓ Textbook: pgs.5-10 ✓ Workbook: pgs. 2-5 Videos/Content Ordering and Comparing Whole Numbers https://youtu.be/e0zRs1ceH9k Compare and Order Drill https://youtu.be/bvut-XNY3cI Worksheets Average: Comparing and Ordering Numbers https://www.liveworksheets.com/xa1339941cx https://www.liveworksheets.com/nf1310763tt Ordering Numbers https://www.math-salamanders.com/image-files/5th-grade-math-worksheets-ordering-7-digit-numbers-1.gif - Above Average Comparing Numbers https://www.math-salamanders.com/image-files/comparing-7-digit-numbers-1.gif	- Use number lines to compare numbers. - Complete worksheet comparing numbers up to billions.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
3. Estimate by several methods including rounding.	- Estimate means to find an answer that is closest to the exact answer. The answer is found by rounding, by clustering, or by using compatible numbers. Rounding means to replace a number with one that tells about how many or how much. Clustering is a method of rounding when all the addends are about the same. Example $669 + 678 + 699 + 682 = 700 \times 4$ or 2800 Compatible numbers are pairs of numbers that are easy to compute mentally. Example: Compatible numbers for 6 are divisible by 6 such as 12, 18, 24, 30, ... $541 \div 7 = 490 \div 7 = 70$ or $541 \div 7 = 560 \div 7 = 80$	- Guide students to solve problems using rounding, clustering, or using compatible numbers. - Show students sets of numbers. Example: $673 \rightarrow 670$ Have students tell which method was used to estimate rounding. Answer: Rounding - Engage students in the following games: Rounding Whole Numbers https://www.mathgames.com/skill/4.88-rounding-with-numbers-up-to-100-000 https://quizizz.com/admin/quiz/5f577ab7729b52001b3c6939 - Place a number on the board and have students race to round to the nearest place value given.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 27-29 ✓ Textbook: pgs.50-55 ✓ Workbook: pgs. 23 & 24 Videos/Content Rounding Whole Numbers https://youtu.be/ssUNwuufGD8 Rounding Word Problems https://youtu.be/56bGNQOl4g Worksheet Average https://www.liveworksheets.com/sr848602df Above Average https://www.liveworksheets.com/uv1308585so	Have students create a bulletin board display to show methods for estimating numbers.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
4. Apply mental math strategies to addition and subtraction (Continue).	- Mental Math strategies do not require paper and pencil for arithmetic calculations Addition: Use addition properties of zero, commutative, or associative. Example $7 + (9 + 6) = (7 + 9) + 6$ Compensation is a property where you add an amount to one number and subtract an amount from the other to make a simpler addition. Example 1: $58 + 72 = (58+2) + (72-2)$ This way you get an easy operation, e.g., $60 + 70$; and you can do it mentally. Example 2: Change one addend to a multiple of ten and then adjust the other addend to maintain the balance. $426 + 394 = 820$ $426 + (394 + 6) = 426 + 400$ $= 826 - 6$ $= 820$	Provide students with opportunities to apply mental math strategies involving the four operations.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 30 & 31 ✓ Textbook: pgs. 56-59 ✓ Workbook: pgs. 25-27 - Activity booklet of mental Mathematics: Department of Education 2007 Video/Content Addition and Subtraction Strategies https://youtu.be/ArtCLQeyOuk Worksheet Average https://www.liveworksheets.com/aq1009891eq	Students complete a speed test by applying mental math strategies using addition and subtraction.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
4. Apply mental math strategies to addition and subtraction.	- Some addition and subtraction strategies include: - Adding the tens and then the ones in both numbers to get the sum. Example: $65 + 34$ $60 + 30 = 90$ $5 + 4 = 9$ $90 + 9 = 99$ - Subtracting in parts Example: $73 - 21$ $73 - 20 = 53$ $53 - 1 = 52$	Math Relay Students complete number sentences in 15 seconds. The person with the most points wins the game.	Above Average https://www.liveworksheets.com/pi1666587oy	Students solve mental math problems and write the strategy used to solve them.

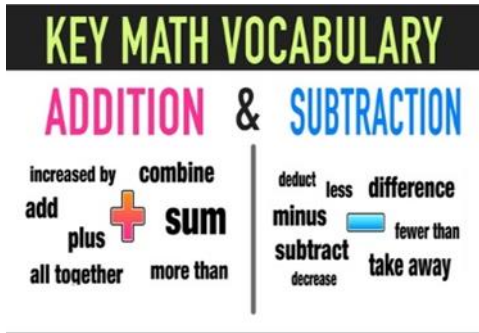
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
5. Perform calculations using addition and subtraction to solve word problems (Continued).	- Addition, subtraction, multiplication, and division are referred to as the four rules of operations. - Math vocabulary words or phrases in word problems determine which of the four rules of operations should be used to solve word problems	- Create an obstacle course setting with a variety of problems. Instruct students to manipulate the course by completing the problems. Time students. Game: Pass it On - The teacher calls out a number then tosses the ball to a student. - The first student adds a number to the number given by the teacher, and then tosses the ball. - The second student gives the sum, and then subtracts a number from it. The ball is tossed to the next student. - The third student gives the difference and then gives a number to multiply the difference by.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 37 &38; 39-41; 44-46 ✓ Textbook: pgs.79-83;85-87; 90 91, 102, 105 & 106 ✓ Workbook: pgs. 39 & 40 - ball Videos/Content Parts of an Equation https://youtu.be/keQOWvOjKuY Addition Properties https://youtu.be/1ac-boRufwg Addition and Subtraction of Whole Numbers https://youtu.be/AjF5cbaaKYA Mixed Word Problems https://youtu.be/Qhr9ps-P_Qw	Students match addition and subtraction problems with their answers. Additionally, they must provide justification.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
5. Perform calculations using addition and subtraction to solve word problems.		Problem-of-the-Day Grab Bag. In cooperative learning groups, students compete to solve word problems retrieved from the <i>Problem of the Day Grab Bag</i>. The group to complete the most problems in the set time wins the game.	Multi-Step Word Problems https://youtu.be/-jgTpuiBOP0 Addition and Subtraction Word Problems Drill https://youtu.be/Idu6BRo-B1E Addition and Subtraction Drill https://youtu.be/zsfubm_PPL8 Worksheets Addition Properties https://www.liveworksheets.com/bn266712kd	Students match addition and subtraction problems with their answers. Additionally, they must provide justification.
6. Apply mental strategies to multiplication and division (Continued).	Multiplication: Use the identity, distributive, commutative, or associative properties. - Move the decimal point when multiplying by whole number powers of ten or decimal powers of tenth. Division: Use the divisibility rules to move the decimal point when dividing by whole number powers of ten or decimal powers of tenth.	Create an obstacle course setting with a variety of problems. Instruct students to manipulate the course by completing the problems. Time students.	- Daily Mental Math – Grade 6, 2nd Edition: ISBN# 9781583243015 Videos/Content Multiplication and Division Strategies https://youtu.be/7ryrSBo8xqI Worksheet Dividing by 10, 100 or 1 000 https://www.liveworksheets.com/jx160332do	Students match multiplication and division problems with their answers. Additionally, they must provide justification.

**SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6**

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
6. Apply mental math strategies to multiplication and division.	Some division and multiplication strategies include: - When multiplying by 10, 100 or 100 place one, two or three zeros behind the number. Example: $19 \times 100 = 1\,900$ - When multiplying by 2, double the number Example: 24×2 $24 + 24 = 48$ - When multiplying by 5, multiply by 10, then half the answer. Example: 23×5 $23 \times 10 = 230$ $230 \div 2 = 115$ - When dividing by 2, half the values Example: $518 \div 2$ $500 \div 2 = 250$ $18 \div 2 = 9$ $250 + 9 = 259$	Guide students to compile a booklet with a variety of unique word problems. Students will highlight vocabulary words/phrases that assist with problem solving.	- Daily Mental Math – Grade 6, 2nd Edition ISBN# 9781583243015 Interactive Math Games https://www.mathplayground.com/grade_6_games.html	Students match multiplication and division problems with their answers. Additionally, they must provide justification.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
7. Multiply up to Three-Digits by Three-Digits	Steps: 1.Line up the numbers appropriately. 2.Multiply the digits in the ones place and regroup if needed. 3.Multiply the digits in the tens place and regroup if needed. 4.Multiply the digits in the hundreds place and regroup if needed 5.Add the products to get the final answer. Example $ \begin{array}{r} 15 \\ 529 \\ \times 267 \\ \hline 3703 \\ 3174 \\ +1058 \\ \hline 141243 \end{array} $	• Have students use a program called whiteboard.fi to display their individual working to a given multiplication equation. • Engage students in a Round Robin game to multiply 3-digit numbers by 3-digit numbers. Divide the students into groups. Provide them with a multiplication equation. Step by step, student by student, have them solve the equation. The group that finishes first is the winner. • Have students play this game to review their multiplication facts. https://quizizz.com/admin/quiz/59df7868f7cef011007b979f	Videos/Content Multiplication Properties https://youtu.be/M5BkvZRpg5M Multiplying Whole Numbers https://youtu.be/WSlVBmbjvQk Worksheets Multiplication Properties https://www.liveworksheets.com/ey266905sm Multiplying Large Numbers Average https://www.mathworksheets4kids.com/multiplication/advanced/4or5digit-by-3digit1.pdf Above Average https://www.liveworksheets.com/aq62366ai	• Complete a quiz multiplying 3 digits by 3 digits.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
8. Apply the divisibility rules for 2, 3, 4, 5, 6, 8, 9,10.	- A number is divisible by another number when the quotient is a whole number and there is a remainder of zero. - Divisibility rules can help you find factors. Example: A number is divisible by: 2 if the last digit is an even number. 3 if the sum of the digits is divisible by 3 4 if the last two digits form a number divisible by 4. 5 if the last digit is 0 or 5 6 if the number is divisible by 2 and 3 8 if the last three digits are divisible by 8 9 if the sum of the digits is divisible by 9 10 if the last digit is 0.	Divisible Numbers - Students work in groups of 2-4. - Teacher gives students a number to use as a divisor. - Students roll three to four dice (numbered cubes) then write as many 3-digit or 4-digit numbers that are divisible by the given divisor within 2 minutes.	Videos/Content Divisibility Rules https://youtu.be/o8P3RTWQ7Ik Worksheets Divisibility Rules Average https://www.liveworksheets.com/ap1027042mb Above Average https://wilmingtonms.org/ourpages/auto/2017/8/1/65294605/Divisibility%20Rules%20Worksheet.pdf	- Give students important dates in Bahamian history like 1492 and 1973 where they use the divisibility rules to determine if the number is divisible by 2, 3, 4, 6, 9, or 10. - Give students 3 or 4 digits where they form as many numbers that are divisible by a given divisor. Example: Use the digits 8 4 6 0 and make numbers that are divisible by 4 8640; 6048; 8640; 6840; 4608

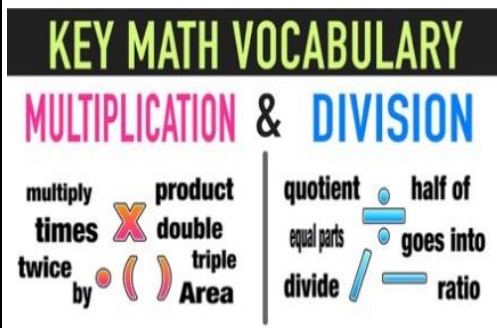
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
9. Divide up to 4-digit dividends by 2 digits divisors with and without remainders.	- To divide a four-digit dividend by a two-digit divisor, follow these steps: Example: $47 \overline{)3654}$ Steps: 1. Divide the left-most digit of the dividend by the divisor. 2. Multiply the quotient by the divisor 3. Subtract 4. Bring down 5. If there is a remainder, write it in the quotient $ \begin{array}{r} 77 \text{ R}35 \\ 47 \overline{)3654} \\ \underline{- 329} \\ 0364 \\ \underline{- 329} \\ 035 \end{array} $	- Have students use a program called whiteboard.fi to display their individual working to a given division equation. - Engage students in a Round Robin game to divide 4-digit dividends by 2-digit divisors. Divide the students into groups. Provide them with a division equation. Step by step/ student by student have them solve the equation. The group the finishes first is the winner. - Have students play this game to review their division facts https://quizizz.com/admin/quiz/5bd22afbf495d6001b4e04ed	Videos/Content Division Drill #1 https://youtu.be/sr-xhoEKWQE Division Drill #2 https://youtu.be/2cZRf1_cZX8 Dividing Larger Numbers https://youtu.be/LFeymDUxDyU https://www.aaamath.com/div4db2r.htm Worksheet Division https://www.liveworksheets.com/sh160738yj Dividing by 1-Digit Divisors https://www.math-drills.com/division/division_long_1dd4dd_r_001.pdf?v=1360945987 Dividing by 2-Digit Divisors https://www.math-drills.com/division/division_long_2dd4dd_r_001.pdf?v=1360946123	Complete a quiz dividing 4-digit dividends by 2 digit divisors.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
10. Perform calculations using multiplication and division to solve problems.		Calculations Race. In cooperative learning groups, students compete to solve multiplication and division problems. The team with the most points wins the game.	Videos/Content Division Word Problems https://youtu.be/3DQDR5Z8JaE Worksheets Division Word Problems https://www.liveworksheets.com/yh160860vq Multiplication and Division Word Problems https://www.k5learning.com/worksheets/math/grade-5-mixed-word-problems-b.pdf	Complete worksheet on word problems.
11. Read, write, and identify decimals through thousandths.	Decimals are numbers that use place value and a decimal point to show tenths, hundredths, thousandths and so on. - The decimal point is referred to as “and” in oral identification and word form. Call a decimal according to the last place value.	Complete charts to show decimals in standard form, word form, and expanded form.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher’s Manual: pgs. 23 & 24 ✓ Textbook: pgs.34-39 ✓ Workbook: pg. 15 - Place Value Board	Have students prepare and teach a mini lesson.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
11. Read, write, and identify decimals through thousandths (Continued).	Example 2.65 Standard Form – 2.65 Expanded Form: $2.00 + 0.60 + 0.05$ Word Form – Two and sixty-five hundredths	- Have students play a game called “Mix it Up”. Give a group of student’s digit cards and have them unscramble themselves to create the decimal number that given them. - Have students play a game called “Step Forward”. Give a group of student’s digit cards and have them create a decimal number. Call out a place in that number and the student holding that digit must step forward. If the students cannot identify themselves that digit/student is removed from the number and the game continues with the new number formed. - Have students play this game to review their decimal place value skills. https://www.math-play.com/Place-Value-Millionaire/place-value-millionaire-game_html5.html https://quizizz.com/admin/quiz/5f5803c3729b52001b3cc061	Videos/Content Decimals Review https://youtu.be/Uw-n9p-9z7k Worksheets Decimals Place Value https://www.liveworksheets.com/kj1374771ii https://www.liveworksheets.com/mn1204623gc https://www.liveworksheets.com/ai1204599bi https://www.mathworksheets4kids.com/place-value/decimals/underline-thousandths-1.pdf	Complete a worksheet in which decimals are written in various forms (standard, expanded, and word forms).

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
12. Compare and order decimals using $>$, $<$ and $=$ symbols.	- Comparing decimals mean to show how they are equal to, less than, or greater than. Steps - Stack your decimals. 34.567 36.34 39.938 39.902 32.397 - Put placeholders (zeros) in empty spaces, if needed. 34.567 36.340 39.938 39.902 32.397 - Compare/Order decimals. 32.397, 34.567, 36.340, 39.902, 39.938	Have students play these games to review comparing and ordering decimals: https://quizizz.com/admin/quiz/57fcfb07cfed2c55713ce440 https://create.kahoot.it/share/comparing-and-ordering-decimals/302281e9-1959-4dc0-bfd5-c0a14acf89f0 https://www.mathgames.com/skill/5.27-compare-decimal-numbers-up-to-4-places	Videos/Content Ordering Decimals Through Thousandths https://youtu.be/if03Xk7Dp-k Worksheets Ordering Decimals https://www.liveworksheets.com/ap1597260iu Comparing and Ordering Decimals https://www.exeter.k12.pa.us/cms/lib/P A01000700/Centricity/Domain/609/PW%2026-5.pdf	Complete online quiz at: https://kr.edugain.com/8-28-5063-5071/math/National-Curriculum/Grade-6/Ordering-Decimals

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13. Rounding decimals up to the thousandths.	- Rounding decimal numbers Example: Round 5.73 to the nearest tenth (1 decimal place) Steps: - Underline the digit in the given place (tenth) 5.<u>7</u>3 - Circle the number to its right 5.<u>7</u>(3) a. If the number is less than 5, the digit in the give place (tenths) remains the same 5.7 b. If the number is more than 5, the digit in the given place increases by 1. - Delete all digits to the given place. 5.7 5.73 rounded to the nearest tenth is 5.7	Have students play this game to review rounding decimals: https://www.mathgames.com/skill/7.110-round-decimals	Videos/Content Rounding Decimals https://youtu.be/7JGN71d3XVY Rounding Word Problems https://youtu.be/56bGNQOl4g Worksheets Rounding Decimals https://www.liveworksheets.com/zl1219713rg https://www.commoncoresheets.com/Math/Rounding/Decimals%20(Tenths%20and%20Hundredths)/English/All.pdf	Have students create a quiz, providing the answers for it.

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14. Multiply and divide by powers of 10	- To multiply a whole number by a power of 10, add on as many 0s as appear in the power to the right of the whole number. Examples: $36 \times 10 = 360$ Add one 0 $36 \times 100 = 3600$ Add on two 0s $36 \times 1000 = 36000$ Add on three 0s - To divide a whole number by a power of ten, start from the right of the whole number, separate as many decimal digits as there are 0s in the power. If there are not enough digits, add on 0s Examples: $265 \div 10 = 26.5$ Starting from the right of 245, separate one decimal digit. $265 \div 100 = 2.65$-Separate two decimal digits $265 \div 1000 = 0.265$ Separate three decimal digits	Guide students to create multiplication and division equations by powers of 10. Have them swap with their classmates to solve.	Videos/Content <i>Patterns of Multiplying and Dividing</i> https://youtu.be/ysErabXu_9I Worksheet Division https://www.liveworksheets.com/jx160332do	Create and solve multiplication and division equation by powers of 10

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15. Multiply and divide given amounts of money (No decimal divisors).	- Multiplication and division are inverse operations. - The rules for multiplying and dividing decimals apply to multiplying and dividing money.	- Allow students to participate in shopping sprees. Set up shopping centre like environment in the classroom. Provide students with list of items they must select. Set a time limit. - Have students play the following games multiplying and dividing money: <i>Multiplying Money</i> https://www.mathgames.com/skill/5.56-multiply-money-amounts <i>Dividing Money</i> https://www.mathgames.com/skill/5.59-divide-money-amounts	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs.44-46 ✓ Textbook: pgs.100 & 101; 103 & 104 ✓ Workbook: pgs. 49-52 <i>Videos/Content</i> https://www.youtube.com/watch?v=Vf5fn dAnqcs&t=12s https://www.youtube.com/watch?v=cvckE MBSpe0 <i>Worksheets</i> https://tinyurl.com/multiplyingmoney10-100-1000 <i>Word problems</i> https://tinyurl.com/multiplyingmoneywordproblems	- Have students prepare and teach a mini lesson. - Students solve problems in which they multiply and divide amounts of money.
16. Apply rules of addition subtraction, multiplication, and division to decimals (Continued).	- A decimal number is a number with one or more digits to the right of a decimal point. - To add or subtract decimal numbers, align decimal points in place value position. Add or subtract from right to left. Regroup/Rename as needed.	Going Grocery Shopping - Students visit a grocery store to collect cost of specific items using a pre-designed worksheet. - At a convenient location, have students perform calculations involving the four operations.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 53-55 ✓ Textbook: pgs.126-133 ✓ Workbook: pgs. 64-68 - Maps <i>Videos/Content</i> Adding & Subtracting Decimals https://youtu.be/vgs7UOKHMGU	In groups, have students write and dramatize television commercials that demonstrate how to add, subtract, multiply and divide decimals.

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16. Apply rules of addition, subtraction, multiplication, and division to decimals	- To multiply decimals, multiply the factors as whole numbers. Place the decimal point in the product after finding the total number of decimal places in the factors. Count that many places from the right in the product. - Division of decimals numbers is similar to division of whole numbers. In vertical or column division, place the decimal point in the quotient above the decimal point in the dividend. In horizontal division, place the decimal point in the quotient.	Using maps of The Bahamas, students add, subtract, multiply, and divide distances in decimals.	Videos/Content Dividing Decimals Word Problems https://youtu.be/TbiFg6fKsXo Multiplying Decimals https://youtu.be/k89svUoOg8I Worksheets Adding Decimals https://www.liveworksheets.com/un415359og Adding Decimals Word Problems https://www.liveworksheets.com/jj415740li Subtracting Decimals https://www.liveworksheets.com/ha416140eg Subtracting Decimals Word Problems https://www.liveworksheets.com/tq415962zt Multiplying Decimals https://www.liveworksheets.com/kh502531oj Multiplying Decimals Word Problems https://www.liveworksheets.com/he502654it Dividing Decimals https://www.liveworksheets.com/hq503047kd Dividing Decimals Word Problem https://www.liveworksheets.com/cq502870ip	- Students match addition, subtraction, multiplication, and division decimal problems with their answers. Additionally, they must provide justification. - Students create word problems, providing answers.

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17. Explain orally and in writing the differences between: even and odd numbers, factors and multiples, and square and square root and prime and composite.	- An even number is an integer that can be divided exactly into two. - An odd number of objects cannot be put into groups of two without an object left over. - A multiple is the product of a given whole number and another whole number. - A square is the product of a number and it can be expressed with the exponent 2. - The square root is one of the two equal factors of a number. A number multiplied by itself equals the original number. - A prime number has only 2 factors: itself and 1. Example: $11 = 11 \times 1 = (1, 11)$ - Composite numbers have more than 2 factors. Example: $9 = 3 \times 3$; $1 \times 3 = (1, 3, 9)$	- Use circle games (Venn-diagrams) to categorize types of numbers a. odd number b. even numbers c. multiples of given numbers - Students also find numbers that are common to sets.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 15 & 16; 32 & 33 ✓ Textbook: pgs. 11-14; 60-65 ✓ Workbook: pgs. 6, 28-30	- Teacher presents a list of problems. Students orally respond and explain their answers. Students also indicate if the answer is even, odd, factor, multiples, square, and square roots. - Students create riddles with answers using even, odd, factor, multiples, square, and square roots.

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18. Identify and represent integers on the number line.	• Integers are the set of whole numbers, their opposites and 0. Each integer, except 0, has an opposite that is the same distance from 0 but on the opposite side of 0. • Integers are classified as either positive or negative. Example: -3, -2, -1, 0, + 1, +2, +3, • Positive integers can be written with or without a positive (+) sign: + 6 or 6. • Negative integers are written with a negative (-) sign: -6	• Complete number lines with integers and their opposites. • Create thermometers where students show the positive and negatives of given temperatures.	• Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 21 &22 ✓ Textbook: pgs.30-35 ✓ Workbook: pg. 14 Video/Content Integers https://youtu.be/C88SPeeAYCM Worksheet Integers https://www.liveworksheets.com/ua1494872rg	• Activity: Order integers on a number line from least to greatest. Example: +1, -2, 0, -3 Answer -3, -2, 0, 1, • Complete number line and thermometers with integers.

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19. Use prime factors to find LCM and HCF	Least common multiple (LCM) is the smallest of the common multiples in a set of multiples. Example: 8 and 4 -Multiples of 8= 8, 16, 24, 32 -Multiples of 4 = 4, 8, 12, 16 LMC = 8 Highest common factor (HCF) or Greatest common factor (GCF) is the largest of the common factors in a set of factors. Example: 10 and 25 Factors of 10 = 1, 2, 5, 10 Factors of 25= 1, 5, 25 GCF= 5	- Use the fraction calculator to identify the HCF of two or more numbers. - Create concentration game cards to show sets of numbers and their: a. LCM b. HCF	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 32 & 33 ✓ Textbook: pgs.60-65 ✓ Workbook: pgs. 28-30 Videos/Content Factors vs. Multiples https://youtu.be/1qPfLkOEuYY Factors and Multiples https://youtu.be/0IZyGB1qQmM Worksheets Factors and Multiples https://www.liveworksheets.com/ym1253488xv LCM https://www.k5learning.com/worksheets/math/grade-6-least-common-multiple-lcm-3-numbers-2-30-a.pdf HCF https://www.math-salamanders.com/image-files/6th-grade-math-worksheets-greatest-common-factor-sheet-1a.gif	- Who Am I? Students answer questions like the following: a. I am the multiple of 2 and 5. Who am I? b. The factors of 36 are 1, 2, 3, 4, 6,9, 12,18, and 36. The factors of 81 are, 1, 3, 9, 27, and 81. My answer is 9? Who am I? - Students create instructional charts to explain how to use prime factors to find LCM and HCF.

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20. Write numbers as products of prime numbers using exponential notation where appropriate.	Numbers can be expressed as products of prime numbers using exponential notation/index form. A prime number is a whole number that is greater than 1 whose only factors are 1 and itself. Exponential notation or index form is a number that has a base and an exponent. The exponent shows how many times the number base is used as a factor. Example: $8 = 2 \times 2 \times 2 = 2^3$ $56 = 2 \times 2 \times 2 \times 2 = 2^3 \times 7$ - Two methods of finding prime factorization of a number are: i. dividing by prime numbers ii. using a factor tree.	- Create factor trees with a. cut outs of trees b. artificial foliage - Complete factor trees in at least two different ways. The stems have difficult factors.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 32 & 33 ✓ Textbook: pgs.60-65 ✓ Workbook: pg. 30 Videos/Content Introduction to Exponents https://youtu.be/IDie9CnFgUg Exponential Notations https://youtu.be/uruZYLCLcX0 https://youtu.be/4RjSlAU9POA	- Make models of factor trees. Students explain models to classmates. - Create booklets with factor trees. Students provide the answer key as well.

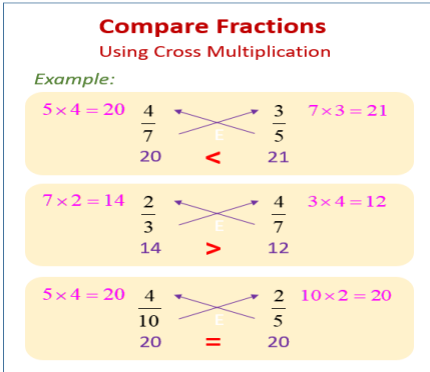
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21. Estimate square roots of non-perfect squares using at least one of the following strategies: - Identify the relationship between the number of digits in a number and the number of digits in its square root. - Deduce that if a number lies between two other numbers then the square root of that number must lie between the square roots of the other two numbers.	- A non -perfect square is a number that cannot be expressed as an integer multiplied by itself. - Non- perfect squares do not have square roots that are whole numbers. For example, 7 is not a perfect square. Its square root is 2.65. - To calculate the square root of a non-perfect square: - place the values of the adjacent perfect squares on a number line. - Interpolate between the points to estimate to the nearest tenth. Example $\sqrt{27}$ - The perfect square on each side of 27 is 25 (5) and 36 (6). - Half way on the number line is 30. - Therefore, $\sqrt{27}$ is 5.2	- Using a hundreds charts, let students highlight the numbers that are not perfect squares. a. Allow them to also write the square roots of these numbers.	Hundred Chart	Create and solve 5 non-perfect squares.

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22. Compare and order whole numbers, fractions and decimals using <, >, and = symbols.	- Comparing whole numbers, fractions, or decimals mean to show how they are equal to, less than, or greater than. Ordering numbers means to place them in order from least to greatest (ascending) or greatest to least (descending). Example: Greatest to least 13.393, 13.309, 13.339, 13.039 13.393, 13.339, 13.309, 13.039 	- Let students create a domino type game where they compare whole numbers, fractions, and decimals using the symbols >, <, and =. - Have student create a magnetic board that can be used to compare and order numbered strips. - Have students play the following games: Comparing Fractions https://www.mathgames.com/skill/7.126-compare-fractions https://www.mathgames.com/skill/7.127-compare-fractions https://quizizz.com/admin/quiz/5c097e32f49767001b7b4e0b Ordering Fractions https://quizizz.com/admin/quiz/5e25dcdb03fa67001b366ea2 https://create.kahoot.it/share/ordering-fractions/1d688b62-fb85-4fe8-9201-a3bd5b04020c	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 12-15; 19-21; 23 & 24 ✓ Textbook: pgs.5-10; 27-29; 34-39 ✓ Workbook: pgs. 3-5 Worksheets Comparing Fractions https://www.liveworksheets.com/hm1490991hf Comparing & Ordering Fractions https://www.liveworksheets.com/po1480920fc https://www.liveworksheets.com/sa1583996jy https://www.math-salamanders.com/image-files/comparing-and-ordering-fractions-worksheets-1.gif	Journal Writing: How to compare whole numbers, fractions, and decimals using the symbols >, <, and =. Students also give examples.

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OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
23. Identify and simplify fractions by using the HCF (Continued).	- Simplifying fractions means to write them in lowest terms. - Simplifying fractions means to divide both the numerator and denominator of the fraction until you can't go any further (try dividing by 2,3,5,7,... etc.). - To simplify fractions using the highest common factor (HCF), divide the numerator and denominator by the HCF Example: $\frac{2}{6}$ $\frac{2 \div 2}{6 \div 2} = \frac{1}{3}$	- Guide students to create and manipulate concentration type game cards with a fractional problems and matching simplified forms. Example $\frac{4}{8} \times \frac{8}{16}$ $\frac{1}{2} \times \frac{1}{2}$ - Have students play the following games: Simplifying Fractions https://www.mathgames.com/skill/7.125-reducing-fractions-to-lowest-terms https://quizizz.com/admin/quiz/5e84c4647f48a6001bc06851	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 19-21 ✓ Textbook: pgs.24-26 ✓ Workbook: pgs. 12 & 13 Video/Content Simplifying Fractions https://youtu.be/CROamQNTIfA Worksheets Simplifying Fractions https://www.liveworksheets.com/yv1416813ki https://www.k5learning.com/worksheets/math/grade-5-simplifying-fractions-a.pdf	- Write fractions in its lowest terms. - Complete journal entries to tell and show how to simplify fractions.

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23. Identify and simplify fractions by using the HCF.	Find the greatest common factor (GCF). Divide this numerator and denominator by their GCF . Example: $\frac{24}{30}$ 24 = 2, 3, 4, 6, 8, 12... 30 = 2, 3, 5, 6, 10, 15 The common factors are 2, 3, and 6. The GCF is 6. $\frac{24 \div 6}{30 \div 6} = \frac{4}{5}$	- Use fraction models to demonstrate how to simplify fractions. - Teacher directs students to create maze games. The path has all fractions in simplest form, which leads to specific goals.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 19 & 20; 51 & 52 ✓ Textbook: pgs. 121 & 122 ✓ Workbook: pg. 62 Video/Content https://youtu.be/CROamQNTIfA	Students explain in their mathematics journals how to simplify a fraction. Students also create and solve two word problems.

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24. Convert mixed fractions to improper fractions and vice versa (Continued).	There are three types of fractions: proper, improper and mixed. - In a proper fraction the numerator is less than the denominator Example: $\frac{1}{2}$ - An improper fraction has a numerator that is greater (or equal to) the denominator. Example: $\frac{9}{5}$ - A mixed fraction has a whole number and a proper fraction together. Example: $1\frac{2}{4}$ - To convert from an improper fraction to a mixed fraction: a. Divide the numerator by the denominator. b. Write down the whole number answer. c. Then write down any remainder above the denominator.	- Guide students to create and manipulate concentration type game cards with improper fractions and matching mixed number forms. Example $\frac{8}{3}$ $2\frac{2}{3}$ - Have students play the following game: https://www.mathplayground.com/fractions_improper.html	Video/Content Converting Mixed Fractions to Improper Fractions and Vice Versa https://www.youtube.com/watch?v=GpumUOiGS6Q https://www.youtube.com/watch?v=SSW0xqWP3OI https://www.mathsisfun.com/improper-fractions.html Worksheets Mixed Fractions to Improper Fractions and Vice Versa https://www.liveworksheets.com/bp1266974xs https://www.liveworksheets.com/uy1620102ed https://www.k5learning.com/worksheets/math/grade-4-improper-fractions-to-mixed-numbers-a.pdf	Convert fractions and place in its lowest terms if necessary.

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24. Convert mixed fractions to improper fractions and vice versa.	$\frac{33}{4} = 8\frac{1}{4}$ $\begin{array}{r} 4 \overline{)33} \\ \underline{-32} \\ 1 \end{array}$ - To convert from a mixed fraction to an improper fraction: a. Multiply the whole number by the fraction's denominator b. Add that product to the numerator c. Then write down the result above the denominator $3\frac{1}{5} = \frac{(5 \times 3) + 1}{5} = \frac{16}{5}$	Have students play the following game: https://www.mathgames.com/skill/5.67-convert-between-improper-fractions-and-mixed-numbers	https://s3-us-west-1.amazonaws.com/math-salamanders/Fractions/Fraction-Support-Sheets/Converting-Improper-Fraction/convert-mixed-numbers-to-improper-fractions-2.pdf	Complete journal entries to tell and show how to convert improper fractions to mixed numbers and vice versa.

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25. Apply rules of addition and subtraction to fractions and mixed numbers without and with regrouping.	- A mixed number is a whole number and fraction combined. - To find mixed numbers, follow these steps. Step 1: Find the LCM and then write as equivalent fractions. Step 2: Add or subtract the fractions. Step 3: Add or subtract the whole numbers. Step 4: If you cannot add or subtract the whole numbers regroup and then perform the necessary operation. Step 5: Simplify if possible.	- Allow students to use fractional models to illustrate problems with solution. - Give students recipes with fractions of common ingredients. Students find the amount of that item by adding and subtracting to make the ingredient more or less for the required number of persons. - Divide students into groups of fours. Have students compete in a relay race to correctly solve four addition/subtraction problems. The first team to complete the race wins.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 51 & 52 ✓ Textbook: pgs.123-124 ✓ Workbook: pg. 63 Videos/Content Addition and Subtraction of Fractions https://youtu.be/5juto2ze8Lg Adding and Subtracting Fractions https://www.math-drills.com/fractions/fractions_addsub_improper_easy_001.pdf?v=15	- Students use fraction bars to model addition and subtraction of mixed numbers. - Give students a mixed number. Have them write an addition and subtraction number sentence that would result in that mixed number. Answers may vary. Example: $3\frac{1}{2}$ Addition sentence $1\frac{1}{4} + 2\frac{1}{4} = 3\frac{2}{4} = 3\frac{1}{2}$ Subtraction Sentence $8\frac{7}{10} - 5\frac{1}{5} =$ $8\frac{7}{10} - 5\frac{2}{10} = 3\frac{5}{10} = 3\frac{1}{2}$

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26. Apply rules of multiplication to fractions.	- Multiplying fractions: - Multiply the numerators. - Multiply the denominators. - Reduce to simplest terms if possible. Example: $\frac{4}{7} \times \frac{5}{11} = \frac{4 \times 5}{7 \times 11} = \frac{20}{77}$ - Multiplying Mixed Numbers: - Convert to improper fractions - Multiply the numerators - Multiply the denominators - Convert back to a mixed number - Reduce to simplest form if possible.	Fraction Bingo - The teacher reads a fraction multiplication sentence. - Students complete the sentence and cover the product on their Bingo cards. - The first child to cover five boxes horizontally, vertically, or diagonally wins the game. - Provide solutions to word problems. Let student write possible problems.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 50 -52 ✓ Textbook: pgs.123 & 124 ✓ Workbook: pg.63 Videos/Content Multiplying a Fraction by a Whole Number https://youtu.be/kGRYtjrOIuQ Multiplying a Fraction by a Fraction https://youtu.be/M78qoTpSY6Y Multiplying a Fraction by a Mixed Number https://youtu.be/1UzWffE4ONA Worksheets Multiplying Fractions https://www.liveworksheets.com/uz333589bk https://www.liveworksheets.com/1-du332722dk https://www.math-salamanders.com/image-files/multiplying-fractions-3.gif Multiplying Fractions by a Whole Number https://www.liveworksheets.com/nx332860pn	Students solve fraction word problems that require multiplication.

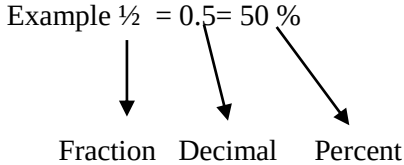
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Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
27. Apply rules of division to fractions and mixed numbers.	Dividing Fractions: - When dividing fractions, change the operation from division to multiplication. - As a result of changing the operation to multiplication, we must take the reciprocal/inverse of the divisor. - Multiply the numerators - Multiply the denominators - Reduce to simplest form if possible Example $\frac{7}{2} \div \frac{3}{5} = \frac{7}{2} \times \frac{5}{3}$ $= \frac{7 \times 5}{2 \times 3}$ $= \frac{35}{6} = 5\frac{5}{6}$ Dividing Mixed Numbers: - Convert to improper fractions - Find the reciprocal of the second fraction - Multiply the numerators - Multiply the denominators - Convert back to a mixed number - Reduce to simplest form if possible.	Divide students into groups. Give each group a worksheet with numerous fraction division problems. Have students compete in a round robin race to correctly solve fraction division problems. The first team to complete the race wins.	Videos/Content Dividing Fractions https://youtu.be/4lkq3DgvmJo https://youtu.be/nMZJKGyu-Kk Worksheets Dividing Fractions Average https://www.liveworksheets.com/hc1339031yz Above Average https://www.k5learning.com/worksheets/math/grade-6-dividing-fractions-a.pdf	Solve fraction word problems that require division.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
28. Describe and explain orally and in writing equivalent relationship among fractions, decimals, and percent.	- Fractions, decimals, and percentages are equivalent (equal) when they name the same amount in different forms. Example $\frac{1}{2} = 0.5 = 50\%$  Fraction Decimal Percent - Ratios of numbers can be written as percentages, fractions, and decimals. - Fractions, decimals, and percentages are related in their equivalent states. - Percentages greater than 100 are represented as a decimal greater than 1. - A percent is compared to part of a 100. A decimal represents a number of hundredth.	- Use the hundred wheel/chart to introduce percent as another way to show a fractional part. - Search newspaper for examples of fractions, decimals, and percentages. Write the equivalent forms. - Guide students to use models to create a display of equivalent fractions, decimals, and percentages. - Using raw scores of quizzes, students explain how the grades become a percent.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 23 & 24 ✓ Textbook: pgs. 34-39 ✓ Workbook: pgs. 15 & 16	- Journal Writing: Describe how fractions, percentages, and decimals are equivalent. Cite examples - Students write in their mathematics journals to explain how fractions, decimals, and percentages are related. Additionally, students give examples.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
29. Convert from fractions to decimal to percent (include mixed numbers such as $1\frac{1}{2}=1.5$).	- Fractions, decimals and percentages have equivalent forms to convert: - Fraction to decimals: divide numerator by denominator - Fraction to percentages: multiply to find equivalent ratios -divide numerator by denominators - Decimals to percentages: - multiply by 100 or use place value - Decimals to fractions - use place value - Percent to decimals divide by 100 - Percentages to fractions - write the percent as ratio (numerator) - with second term (denominator) of 100. Write in simplest form.	- Guide students to create game cards. One-half of the cards will have the conversion form and the other half will state the rules. Example: Decimals to fraction use place value % as decimals divide by 100 - Give students advertisement from newspapers that entail fractions, percentages, or decimals. Students convert the data from the advertisement to decimals, percentages, or fractions. - Have students play the following games: Fractions, Decimals and Percentages https://www.mathgames.com/skill/7.138-convert-between-percents-fractions-and-decimals https://quizizz.com/admin/quiz/5f43c53cd69ee6001bf4c5de	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 23 & 24; 53-55 ✓ Textbook: pgs.38 & 39 ✓ Workbook: pg. 16 - newspapers Videos/Content What are Percentages https://youtu.be/JeVSmq1Nrpw Fractions to Decimals https://youtu.be/WV5VY76Pf5U Decimals to Percentages https://youtu.be/7vJUSpP74Zo Worksheets Converting Fractions, Decimals and Percentages https://www.liveworksheets.com/pf1532398ej https://www.mathworksheets4kids.com/convert/f2dp-1.pdf	- Students make a flowchart showing the conversion of fractions to decimals to percent. - Students design newspaper advertisements with percentages, fractions, and decimals.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
30. Mentally compute the percent of a number.	- Other percentages can be related to 10% as this is an easy amount to calculate. Example 10 % of 20 = 2 Using 10 we move the decimal place once in the number 20 to get 2. - Other simple percentages to calculate mentally are 20 %, 25%, and 50%.	- Using the population numbers of the islands of The Bahamas, students calculate percentages of these numbers based on national averages. Example: If 60 % of Andros' population is under the age of 18, how much is that? - Have students practice using mental math to calculate the percent of various numbers.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 30 &31 ✓ Textbook: pgs.58 & 59 ✓ Workbook: pgs. Nil Videos/Content Percent of a Number https://youtu.be/rR95Cbcjzus http://www.youtube.com	Create brochures explaining how using multiples of 10 make mental math with percent easier.
31 .Create and solve word problems using fractions and decimals.	Fractions and decimals represent a part of a group	- Let groups of students - Create game boards with problems and answer keys - Exchange games and manipulate.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 39-41; 51-55 ✓ Textbook: pgs.85-87; 122,124, 128,130, 133 ✓ Workbook: pgs. 41-44	Compile a booklet of unique problems and supply an answer key.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
32. Describe and compare two sets of data using ratios and appropriate notation such as a/b, a to b and a: b.	Ratio is the comparison of two numbers/amounts. Ratios are used to compare a part to a part, a part to the whole, or the whole to a part. <i>Example:</i> There are 3 triangles and 2 squares.  We can write the ratio as 3 : 2 or 3 to 2 or $\frac{3}{2}$	- Provide students with situations. Let them write ratios in three ways. Example: What is the ratio of vowels to consonant in the word PARALLELOGRAM? Word: five to eight 5 : 8 Fraction: 5/8 - Have students play the following games: Ratios https://www.mathgames.com/skill/6.63-ratios https://www.mathgames.com/skill/6.122-describe-pictures-as-ratios https://create.kahoot.it/details/264c5b41-9329-4659-a2c0-209acaafa7d9	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 42 & 43 ✓ Textbook: pgs. 93-95 ✓ Workbook: pg. 54 Video/Content Ratios https://youtu.be/sUrvCM8gq6c Worksheets https://www.mathworksheets4kids.com/ratio/customary/pictures-3ways-1.pdf http://www.teach-nology.com/worksheets/math/ratios/ratioandprop5.pdf	- Students create a booklet with pictures or words that can be used for comparisons. - Write the ratio in three ways. - Highlight the condition. For example part to part

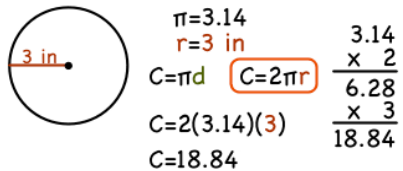
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal 1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
33. Represent ratios in decimal form.	- Ratio is the comparison of two quantities. Writing ratios as decimals may make it easier to compare ratios. To convert ratios in - Fractions – convert the fraction to a decimal. - Short word form or standard - write the ratio as a fraction. Convert the fraction to a decimal number. Example 7 out of 10 = $7/10 = 0.7$	Allow students to create bookmarks with equivalent ratio and decimal forms.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 42 & 43 ✓ Textbook: Nil ✓ Workbook: Nil	- Written quiz on ratio in decimal form. - Complete an assessment matching the ratio to its decimal form.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
34. Identify Pi as a special ratio and explain how it can be used to find the circumference of a circle.	- Pi (π) is the ratio of the circumference to the diameter of a circle. - An approximate decimal value of Pi is 3.142 or $\frac{22}{7}$. Find the Circumference:  $\pi = 3.14$ $r = 3 \text{ in}$ $C = \pi d$ $C = 2(3.14)(3)$ $C = 18.84$ $\begin{array}{r} 3.14 \\ \times 2 \\ \hline 6.28 \\ \times 3 \\ \hline 18.84 \end{array}$	Have students find the circumference or diameter of circular object such as cups, mugs, or CDs.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 42 & 43 ✓ Textbook: pg. 96 ✓ Workbook: pg. 46 Worksheet Circumference https://www.liveworksheets.com/uq683419tb	Written quiz: Students identify Pi as a special ratio and explain how it can be used to find the circumference of a circle.
35. Apply rules of order of Operations to whole numbers and fractions.	- Order of operations is a set of rules used to solve an expression with more than one operation. - You must know which operation to do first. Two mnemonics for remembering the orders are: (a) PEMDAS - Perform operations in parenthesis - Clear exponents	- Allow student to create unique equations that require the rules of order of operations. - Give students a variety of equations where some are correct and others incorrect. Let students justify why equations are correct or incorrect (Can be done orally or in writing).	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 49 & 50 ✓ Textbook: pgs. 116-119 ✓ Workbook: pgs. 59-61	Students solve equations in which they apply the rules of order of operations.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
35. Apply rules of order of operations to whole numbers and fractions. (continued)	iii. Multiply and divide from left to right iv Add or subtract from left to right (b) BODMAS i. bracket first ii.Orders (ie. Powers, square root, etc.) iii. Division and multiplication (left to right) iv. Addition and subtraction (left to right) Example: $47 + (3 \times 2^2 + 9)$ $47 + (3 \times 4 + 9)$ $47 + (12 + 9)$ $47 + 21 = 68$	Have students play the following games: Order of Operations https://www.mathgames.com/skill/6.149-order-of-operations https://quizizz.com/admin/quiz/5d124432b0e823001a6af559 https://create.kahoot.it/share/order-of-operations/42cacdd4-a140-4f75-a2ca-fe76f9c2aa5f	Videos/Content Orders of Operations Part 1 https://youtu.be/eoibAW3m7ek Orders of Operations Part 2 https://youtu.be/7pu0pLt70Kg https://youtu.be/7pu0pLt70Kg https://youtu.be/eoibAW3m7ek Worksheets Order of Operations https://www.liveworksheets.com/jg325393ef https://www.k5learning.com/worksheets/math/grade-5-order-operations-c.pdf	Students complete written quiz in which they solve equations using the rules of PEMDAS and BODMAS.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: NUMBER AND OPERATIONS
GRADE: 6

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT								
36. Read and write Roman Numerals up to 3 999	- Romans used seven letters to name numbers. - When using Roman Numerals place value is not used. The letter values are added or subtracted to find its total. <table><tr><td>I – 1</td><td>L – 50</td></tr><tr><td>V – 5</td><td>C – 100</td></tr><tr><td>X – 10</td><td>D – 500</td></tr><tr><td></td><td>M – 1000</td></tr></table> When a letter is repeated, add the value of each letter. Example: MMM = 1 000+1 000+1 000 = 3 000 When a smaller value is placed before a larger one, you subtract. Example: CM = 1 000 – 100 = 900	I – 1	L – 50	V – 5	C – 100	X – 10	D – 500		M – 1000	Students will engage in the following games to practice the skill of Roman Numerals: Roman Numerals Have students complete levels 5 and 10. https://www.transum.org/software/SW/Starter_of_the_day/Students/Roman_Numerals.asp https://www.factmonster.com/math/roman/game?level=3 https://www.factmonster.com/math/roman/game?level=3&reverse=3 https://quizizz.com/admin/quiz/585974fe4e99d13366029196	Videos/Content Roman Numerals https://youtu.be/vAmCV_lEqsc https://www.mathsisfun.com/roman-numerals.html	- Explain how to find the value of Roman Numerals - Lesson quiz where they identify various numbers in Roman Numerals.
I – 1	L – 50											
V – 5	C – 100											
X – 10	D – 500											
	M – 1000											

**SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: ALGEBRA
GRADE: 6**

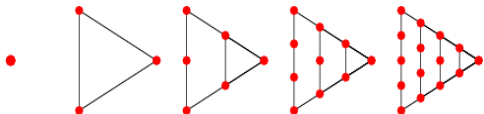
Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationship in data, solve problems and predict results.

Essential Questions

1. How can patterns, relations, and functions be used as tools to best describe and help explain real life situations?
2. What different interpretations can be obtained from a particular pattern or relationship?
3. How can a non-routine problem be solved?
4. How do models, tables, and graphs help to represent, analyze, and extend numerical and geometrical patterns?
5. How do algorithms work in addition, subtraction, division, and multiplication?
6. Why do we use variables?
7. How can algebraic symbols be used to efficiently express mathematical situations?

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: ALGEBRA
GRADE: 6

Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Identify and construct patterns relating to rectangular, square, oblong, and triangular numbers. (Continued)	- Figurate numbers are represented by geometric patterns. Figurate numbers are sequences generated by figures made up of evenly spaced dots. - Oblong, triangular, rectangular, and square numbers are examples of figurate numbers. Oblong Numbers: Any number that is the product of two consecutive integers. The first few oblong numbers are: 0, 2, 6, 12, 20, and 30. Triangular numbers are numbers that create triangles. In other words 1, 3, 6, 10, 15, 21 ... They can be calculated by 1, 1+2, 1+2+3, 1+2+3+4, etc. 	- Use product grid or an array to build types of numbers. - Create rectangular, oblong, square, and triangular patterns with varied concrete objects.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 15 & 16 ✓ Textbook: pgs.12-14 ✓ Workbook: pg. 6 Videos/Content Square Numbers https://youtu.be/PDyyvPdi1tI Triangular Numbers https://youtu.be/26YCC4N_IgY	Present students with a variety of numbered patterns. Have them classify the patterns as square, oblong, rectangular, or triangular. Allow students to justify their answers.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: ALGEBRA
GRADE: 6

Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Identify and construct patterns relating to rectangular, square, oblong, and triangular numbers.	• Rectangular numbers are numbers that create rectangles. Rectangular numbers are: 4, 6, 8, 9, 10, 12, 14, 15, 16, 18, 20, 21, 22, etc. • Square numbers are <u>numbers</u> that is the product of two <u>equal integers</u>. For example 9 is a square number because $9 = 3 \times 3$	• Create rectangular, oblong, square, and triangular patterns with varied concrete objects.	Rectangular Numbers https://youtu.be/ddCj2_IhReg https://www.teachercreated.com/lessons/160	• Lesson quiz where they complete patterns with and without pictures.
2. Solve non-routine problems where finding a pattern is an appropriate strategy.	• Non-routine problems are problems that require non-traditional algorithms or sums to solve them. • Non-routine problems provide a more highly probable method for discovering the solution to a problem. Building a model, drawing pictures, work backwards are non-routine problem solving strategies. • Finding a pattern is a strategy in which you look for patterns in the data in order to solve the problem. Look for items or numbers that are repeated, or a series of events that are repeated.	• Give students task card with a variety of problems. Allow them to work in groups to develop patterns to solve. For example, how many different handshakes would take place between three and four friends?	• Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 39-41 ✓ Textbook: pgs.85-87 ✓ Workbook: pgs. 41 & 42 Video/Content https://youtu.be/w40E9RX6-XE https://youtu.be/lvvdCVit0a8 https://www.onlinemathlearning.com/find-patterns.html Worksheets https://www.teachnology.com/worksheets/math/patterns/patwordprob.html	• Have students create non-routine problems. • Have students create a short video broadcast to show the solutions to specific problems.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: ALGEBRA
GRADE: 6

Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
3. Use patterns to make computation more efficient.	Patterns are used to make computation easier. $40 \times 9 = 360$ $400 \times 9 = 3\,600$ $4000 \times 9 = 36\,000$ What pattern do you notice?	- Give students a variety of work cards with pattern starters. Let them complete up to the 'n' pattern set For Example: $8 \div 2 = 4$ $80 \div 20 = 4$ $800 \div 20 = 40$ $8000 \div 20 = \underline{\quad}$ $80000 \div 20 = \underline{\quad}$ - Allow students to teach a mini lesson on the skill.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pg. 6 ✓ Textbook: pgs.15 & 16 ✓ Workbook: pg. 7 Videos/Content Special Number Patterns https://youtu.be/GcoDAdTizoQ by: Ms. Devonian Brown Number Patterns https://youtu.be/FPIAfR7bhSc by: Ms. Devonian Brown Worksheets Finding Patterns to Calculate https://www.liveworksheets.com/nq1013691ej by: Ms. Antonia Bain	- Have students create sets of pattern starters and allow their classmates to complete the patterns. - Complete journal entries to explain how patterns make computation easier. - Have students create a quiz.
3. Solve single variable linear equations using pictures and abstraction. (Continued)	- A variable is a letter or symbol that stands for a number. - A single variable linear equation is an equation that has one variable that represent a number. Example: $5y = 20$ $y = 4$	Present students with problems and guide them to write and solve equations.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 39-41 ✓ Textbook: pgs.88 & 89 ✓ Workbook: pg. 43 Videos/Content Solving Single Variable Equations. https://youtu.be/I1JTiWmPHFM	Students will create single variable linear equations with answer key.

**SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: ALGEBRA
GRADE: 6**

Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
4. Solve single variable linear equations using pictures and abstraction.	- Some equations can be solved by inspection. This means that you look at the equation and use reasoning to find the value of the variable. - You can also use the inverse to find the missing value. $5y = 20$ $y = 20 \div 5$ $y = 4$	- Students will engage in the following games to practice finding the unknown variable: Addition and Subtraction https://www.mathgames.com/skill/3.75-solve-for-the-variable-with-addition-and-subtraction Multiplication and Division https://www.mathgames.com/skill/3.76-solve-for-the-variable-with-multiplication-and-division Algebraic Equations https://quizizz.com/admin/quiz/5c9bd17983cd17001a533403	Worksheets Multiplication and Division https://www.liveworksheets.com/mi1324692ql Addition and Subtraction https://www.liveworksheets.com/ez1312733of Mixed Operations https://s3-us-west-1.amazonaws.com/math-salamanders/Algebra/Basic-Algebra-Worksheets/solve-the-equation-1.pdf	Have students design a learning centre with their unique equations and answer keys.

**SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: ALGEBRA
GRADE: 6**

Sub-Goal 2: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems and predict results.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
5. Create and solve story problems using algebraic equations.	An algebraic equation is a number sentence that has a number, a variable, and uses the equal sign to show that two amounts are equal. $2 + y = 53$	- Present students with stories. Guide them to write and solve equations. Example Pete had 13 apples. Tina also had the same number of apples. Together they had 26 apples. How many apples did they have? $13 + y = 26$ $y = 26 - 13$ $y = 13$ - Let students: - Create stories - Write answer keys - Exchange stories and solve problems - Students will engage in the games to practice the following: Writing Equations https://www.mathgames.com/skill/3.77-write-variable-equations-to-represent https://www.mathgames.com/skill/4.94-write-variable-expressions https://www.mathgames.com/skill/4.95-write-variable-equations-to-represent	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 39-41 ✓ Textbook: pgs.90 & 91 ✓ Workbook: Nil Worksheets Mixed Operations https://s3-us-west-1.amazonaws.com/math-salamanders/Algebra/Basic-Algebra-Worksheets/generate-expressions-1.pdf Word Problems https://s3-us-west-1.amazonaws.com/math-salamanders/Algebra/Basic-Algebra-Worksheets/algebra-word-problems-2.pdf	- Students will write and solve algebraic equations from stories. - Have students create and perform skits based on their stories.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 6

Sub-Goal 4: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

Essential Questions

1. What is perimeter and how is it measured?
2. How do you find perimeter, area, and volume of geometric figures?
3. Why is it easier to use a geometric formula to solve real-world problems?
4. Why is it important to be able to convert from one unit of measurement to another?
5. How will using the tools and relationships of measures in the metric and customary systems help to estimate or find solutions to real-world problems?
6. What does the acronym SI stand for? How can we use SI to write dates?
7. Why is it important to know how to use the formula $D = R \times T$?
8. How can you use reading and interpreting scales on maps in everyday life?

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 6

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Identify if a given situation requires a measure of length, volume, capacity, temperature, or mass.	- Certain situations require specific measuring outcomes. For example: - A person's height- measure of length. - The amount of water needed to fill a cup-capacity.	- Give groups of students' different measurement topic: length, mass, volume, or capacity. Have students generate examples of situations that use assigned types of measurement. - Have students play "Swat it". Place measures of unit word cards on the board. Choose two students and provide them with a given situation. The first student to swat the correct unit of measure is the winner.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 17 &18 ✓ Textbook: pgs.19 & 20 ✓ Workbook: pg. 8 Video/Content Using Metric Units https://youtu.be/4MSb4ma3_Bs Worksheet Using Metric Units https://www.liveworksheets.com/se1030879ko	- Have students create and solve story problems in their mathematics journals - Have students complete a quiz identifying the unit of measurement in given situations.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 6

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT									
2. Estimate and measure customary and metric units of length, mass, capacity, volume, and temperature (express in notations where applicable). (Continued)	Metric units of length: millimetre, centimetre and metre, kilometre.	- Allow students to estimate and measure real objects. Then have them show the information on a table. For Example: <table><tr><th>Object/Item</th><th>Estimation</th><th>Actual Measure</th></tr><tr><td>1. A cup of ice.</td><td></td><td></td></tr><tr><td>2. distance around a desk or table</td><td></td><td></td></tr></table> - Engage students in the following games to practice the skills: Which Unit is Appropriate? - https://www.mathgames.com/skill/2.124-which-customary-unit-of-length-is-appropriate https://www.mathgames.com/skill/2.125-which-metric-unit-of-length-is-appropriate https://www.mathgames.com/skill/3.9-which-metric-unit-is-appropriate	Object/Item	Estimation	Actual Measure	1. A cup of ice.			2. distance around a desk or table			- Bahamas Primary Mathematics Bk 6 ✓ Teacher’s Manual: pgs. 17 &18; 34 ✓ Textbook: pgs.19 & 20; 66-69 ✓ Workbook: pgs. 8-11; 31-33 Video/ Content: Converting Metric Units https://youtu.be/wsDnAvWgqx0 Converting Customary Units https://youtu.be/56nvviY3ZrE Metric Units Word Problems https://youtu.be/7leuOqPiPe0 Volume https://youtu.be/qJwecTgce6c Measurement Index https://www.mathsisfun.com/measure/index.html Measurement https://www.splashlearn.com/math-vocabulary/measurements/measurement	Quiz Example: What would be the most appropriate measure for the volume of a soda can? i. a. 360mL b. 2 liters c. 50 liters.
Object/Item	Estimation	Actual Measure											
1. A cup of ice.													
2. distance around a desk or table													

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 6

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
2. Estimate and measure customary and metric units of length, mass, capacity, volume, and temperature (express in notations where applicable).	Temperature is the hotness or coldness of a body or environment.	Temperature https://www.mathgames.com/skill/6.56-working-with-temperatures-above-and-below-zero	Worksheets Converting Metric Units https://www.liveworksheets.com/pe1067089nz https://www.k5learning.com/worksheets/math/grade-6-conversion-metric-units-mixed-practice-a.pdf Converting Customary Units https://www.liveworksheets.com/ki1067045gy https://www.k5learning.com/worksheets/math/grade-5-converting-units-mixed-a.pdf	Students write in their mathematics journal explaining how to estimate and measure length/distance, volume, capacity mass and temperature in metric units.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 6

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT				
3. Solve problems in measurement which require the conversion of metric and customary units. (Continued)	- Some problems require conversion of units. To change smaller units to larger units, divide. - To change larger units to smaller units, multiply. - Units 7 days = 1 week 60 seconds = 1 minute 1 month= 28 to 31 days or about 4 weeks 1year = 12 months or 52 weeks or 365 days 1m = 100cm - Customary Measures 1 quart = 2 pints 1 gallon = 4 quarts 1 foot = 12 inches	- Place students in cooperate groups. Each group is given a problem to solve. Students solve problems and report findings to class. Sample questions - The instructions for a science experiment call for 227 milligrams of potassium. What is the difference between this amount and 1 gram? - The longest mammal is the blue whale. Its length is 31 meters. How many centimeters is that? - David is making punch. He needs 3 cups of orange juice and 6 pints of lemonade. How many fluid ounces of orange juice and how many quarts of lemonade does he need? - How many days are in 7 months?	- Bahamas Primary Mathematics Bk 6 ✓ Teacher’s Manual: pgs. 17 &18 ✓ Textbook: pgs.18-23 ✓ Workbook: pgs. 10 & 11	Create charts to show the rules for converting from one metric unit to another. <table><tr><th>Items</th><th>Items</th></tr><tr><td>kilo to hecto multiply by__</td><td>gram to kilo divide by ____</td></tr></table>	Items	Items	kilo to hecto multiply by__	gram to kilo divide by ____
Items	Items							
kilo to hecto multiply by__	gram to kilo divide by ____							

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 6

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
3. Solve problems in measurement which require the conversion of metric and customary units.	- Capacity is the amount a container can hold. Metric units of capacity are millilitre, litre, and kilolitre. Customary units of capacity are gallons, quarts and pints. - Mass is the amount of matter in an object. Metric units of mass are milligrams, gram, and kilogram Customary unit of mass are pounds and tons. - Length is the measurement of something from end-to-end Metric unit of length are centimetres, metres, and kilometres. Customary unit of length are feet, inches, yards and miles Examples: 9 400 m = 9.4 km 6 000 g = 6 kg 120 ins. = 10 ft. 3 ft. = 36 ins. 1 qt. = 4 cups	Students will engage in the following games to practice the following: Compare and Convert Customary Units https://www.mathgames.com/skill/5.6-compare-and-convert-customary-units https://www.mathgames.com/skill/6.80-compare-and-convert-customary-units-with-numbers-up-to-20 Compare and Convert Metric Units https://www.mathgames.com/skill/5.7-compare-and-convert-metric-units	Worksheet Measurement Conversion Word Problems https://www.abcteach.com/free/m/md_conversion_wordproblems_metric.pdf	Have students create and solve story problems in their mathematics journals.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 6

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
4. Solve problems which require addition, subtraction multiplication and division of customary and metric units of length, mass, capacity and temperature.	Solving word problems involving customary and metric units of length, mass, capacity and measurement is the same as solving word problems involving whole numbers.	Engage students in the following games to practice the skills. Add and Subtract Mixed Metric Units https://www.mathgames.com/skill/5.125-add-and-subtract-mixed-metric-units Add and Subtract Mixed Customary Units https://www.mathgames.com/skill/5.11-add-and-subtract-mixed-customary-units Multiply and Divide Mixed Metric Units https://www.mathgames.com/skill/6.153-multiply-and-divide-mixed-metric-units Multiply and Divide Mixed Customary Units https://www.mathgames.com/skill/6.82-multiply-and-divide-mixed-customary-units	Video/ Content Measurement Word Problems https://youtu.be/0x4hi513D6g Worksheets Measurement Word Problems https://www.liveworksheets.com/se1067168lb Word Problems using Metric Units https://www.liveworksheets.com/hp1042540qc	Have students create and solve story problems.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 6

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
5. Describe how other countries measure (time and money).	- Some countries measure in ways that are different from ours. For examples in Haiti, money can be written as 10, 00 for \$10.00. - Some countries use customary units and others use metric measures. - Customary measurements include feet for length, gallons for capacity, and pounds for mass. Some countries that use the metric units are Rome, Germany, and the United States of America. Metric units include metre for length, liter for capacity and gram for mass. Some countries that use this system are Australia and New Zealand.	- Have students examine the ways other countries measure that is different from ours. Create Venn diagrams to compare/contrast details. - Create a sundial to explore time.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 61 & 62 ✓ Textbook: pgs.152-157 ✓ Workbook: pgs. 76 & 77 Note: Make connection to countries content in Grade Six Social Studies Curriculum	Create a unit of measure that can be used in a country. Have students explain how they came up with their invention.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 6

Sub-Goal -1: Demonstrate and apply knowledge of numbers, including multiple ways of representing numbers, relationship among numbers and number systems; compute fluently using the four rules of operations and make reasonable estimates.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
6. Round the purchase amount for items in a penny exempt trading system (to be referred to as “Rounding for Cash Exchange”).	Penny Elimination When you pay by cash: The price of your purchase will be rounded up or down to the nearest nickel. - Amounts ending in \$0.01 or \$0.02 will be rounded down to \$0.00 (Example: \$102 3614.21 becomes \$102 364.20). - Amounts ending in \$0.03 or \$ 0.04 will be rounded down to 0.05 (Example: \$6 547.23 becomes \$6 547.25). - Amounts ending in \$0.06 or \$0.07 will be rounded down to \$0.05. (Example: \$150 824.67 becomes \$150 824.65). - Amounts ending in \$0.08 or \$0.09 will be rounded down to \$0.10 (Example: \$127.89 becomes \$127.90).	Have students pretend that they are shopping for items in a food store. Students are to pay the cashier the rounded price of the item. Example:  Price: \$1.03 Student should pay \$1.05	Videos/Content Bahamian Dollar https://youtu.be/W-u58UaNkEk DECOMMISSIONING OF THE BAHAMIAN PENNY - YouTube Worksheets Rounding Bahamian Currency https://www.liveworksheets.com/1-yz2037720zy	Have students complete a quiz rounding Bahamian money.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 6

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
7. Express metric and customary measure using decimal notation.	- Decimal notation is the writing of a number in decimal form. Example: 50 cm = 0.5m - Use calculators to change linear units	- The class is divided into two teams to play the game Metric Decimals. a. Teacher calls metric measure problems. The group writes decimal notation on a miniature chalk or dry erase board. b. If the answer is correct, the team gets the point. If the team does not get the problem correct, it is referred to the next team. The team with the most points wins the game.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 17 & 18 ✓ Textbook: pgs.21-23 ✓ Workbook: pgs. 8-11	Have students write the decimal notations for numbers given.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
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Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
8 . Describe and record the date in SI format.	SI means International System of Units. The units are placed in order starting with the largest first. Example: Year Month Day 1998 2 14	- Allow students to create a directory of dates important to them in SI Format. - Students create a list of countries and occupations that use the SI Format.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 61 & 62 ✓ Textbook: pgs.152-157 ✓ Workbook: pg. 77 Video/ Content https://youtu.be/HppTBrrWNcA Worksheets http://www.w3.org https://www.liveworksheets.com/bg682652ab - Mathematics in Motion: A Resource Book for Primary Teachers, pg. 118	- Create a timeline of historical dates in SI format. - Complete test items that allow students to - Select dates in SI format - Write dates in SI format

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 6

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT																														
9. Solve non- routine problems involving measures.	Non- routine problems are unlike the common types that require a formula or state specific tools to use to solve them. Critical thinking skills are necessary to arrive at a solution.	- Have students work in groups to provide solutions to open ended problems such as: - How many cornflakes are in a box? - How many students can fill a specific area?	- Bahamas Primary Mathematics Bk 6 ✓ Teacher’s Manual: pgs. 61 & 62 ✓ Textbook: pgs.152-157 ✓ Workbook: Nil	- Have students work in pairs to investigate how many different totals they can make choosing two of the numbers: 6, 7, 8, and 9. - Allow the pairs some time to work on the problem in whatever way they decide - Encourage students to organize their work in a two-way table. - Discuss the different ways that they are keeping track of the possible combinations of numbers. <table border="1"> <tr> <th>+</th><th>6</th><th>7</th><th>8</th><th>9</th></tr> <tr> <td>6</td><td></td><td></td><td></td><td></td></tr> <tr> <td>7</td><td></td><td></td><td></td><td></td></tr> <tr> <td>8</td><td></td><td></td><td></td><td></td></tr> <tr> <td>9</td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td></td><td></td><td></td><td></td></tr> </table> - Teacher asks the following questions. - What do you noticed about the table? It is symmetrical about the diagonal - What is the minimum total? (12) - What is the maximum total? (18) - How many different totals are there in the table? (12)	+	6	7	8	9	6					7					8					9									
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SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 6

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
10. Apply area and perimeter formulas to triangles and rectangles. (Continued)	- Perimeter is the distance around a figure. - Formula to find perimeter: a. Regular Polygons: Perimeter = sum of the number of sides b. Rectangles : Perimeter = (2 x length) + (2 x width) - Area is the number of square units needed to cover a surface.	- Have students measure triangular and rectangular shaped areas. - Find the area and perimeter of your garden at home or at school. - Engage students in the following games : Area and Perimeter https://www.mathgames.com/skill/7.122-area-and-perimeter Area of Squares and Rectangles https://www.mathgames.com/skill/5.115-area-of-squares-and-rectangles	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 56 & 57 ✓ Textbook: pgs.134-141 ✓ Workbook: pgs. 69-72 Video/ Content Perimeter https://youtu.be/ynMNHufjVoc Perimeter of Compound Shapes https://youtu.be/7rOsNsh7vdo Basic Area https://youtu.be/RjX084GeHGk Area of a Triangle https://youtu.be/nW6rjuewXug Area and Perimeter https://www.splashlearn.com/math-vocabulary/measurements/area-and-perimeter	- Find the area and perimeter of a room in your house. - Quiz: Students use the formula to calculate the area and perimeter of triangular and rectangular figures.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
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Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
10. Apply area and perimeter formulas to triangles and rectangles.	- Formula to find Area: a. Area of square = side x side b. Area of rectangle = length x width c. Area of triangles = $\frac{1}{2} \times (b \times h)$ Note: Include unknown sides in problems.	Compare Area and Perimeter of Two Figures https://www.mathgames.com/skill/6.107-compare-area-and-perimeter-of-two-figures Area of Right Triangles https://www.mathgames.com/skill/6.121-area-of-right-triangles	Worksheets Basic Area https://www.liveworksheets.com/mi596103mq https://www.mathworksheets4kids.com/area/rectangle/customary/integers-t2-l1-1.pdf Area of Triangles https://www.mathworksheets4kids.com/triangles/area/customary/decimals-t1-1.pdf Basic Perimeter https://www.liveworksheets.com/ro595900je https://www.mathworksheets4kids.com/rectangle/perimeter/customary/decimals-t2-1.pdf https://www.mathworksheets4kids.com/triangles/perimeter/customary/integers-t1-l1-1.pdf Perimeter of Compound Shapes https://www.liveworksheets.com/dy596036ez	- Find the area and perimeter of a room in your house. - Quiz: Students use the formula to calculate the area and perimeter of triangular and rectangular figures.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 6

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
11. Estimate and measure area of rectangular and irregular polygons.	- Area is the number of square units needed to fill in a shape. - Guide the students to find the area.	Provide students with a variety of irregular shaped polygons. Have students trace outlines of the polygons on grid paper and find the area thereof.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 56 & 57 ✓ Textbook: pgs.134-141 ✓ Workbook: pgs. 69-72 Video/ Content Area of Irregular Polygons https://www.mathsisfun.com/geometry/area-irregular-polygons.html Worksheet Area https://www.liveworksheets.com/mo596217ct Area and Perimeter of Irregular Shapes https://www.k5learning.com/worksheets/math/grade-6-area-and-perimeter-irregular-rectangular-shapes-f.pdf	Have students find the area of irregular polygons using grid paper.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 6

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
12. Estimate and measure volume.	- Volume is the amount of space a solid figure occupies. It is measured in cubic units. - Find the volume of a rectangular prism by counting individual cubic units; counting the number of cubic units in a “layer” and multiplying by the number of layers; or multiplying the length, width and height of the figure. The latter two strategies correspond to the formulas $V = l \times w \times h$ - Calculate the volume of a rectangular prism by multiplying edge lengths in any order because of the associative property. - Two-dimensional figures are classified by their properties into categories but can fit into more than one category at the same time.	Students work with various representations of rectangular prisms to find the volume of each.	Video: Song https://www.youtube.com/watch?v=LZxXUb9iAZc	Complete worksheet on finding volume

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: MEASUREMENT
GRADE: 6

Sub-Goal 3: Make and use measurements of objects, quantities, and relationships, and determine acceptable level of accuracy.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT																
13. Solve problems using km/hr. where students apply $s \times t = d$, $t = d \div s$ and $s = d \div t$ formula.	Speed is the rate of distance per unit of time. The formula distance divided by time is used to calculate the speed. $S = D \div T$ The distance travelled is how far you travel. The formula speed times time is used to calculate distance. $D = S \times T$ Time is measuring how long an action takes. The formula distance divided by speed is used to calculate time. $T = D \div S$	Guide students to set up a ramp and race match boxcars. Time the cars and the distance they travel. Compute the rate of travel.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher’s Manual: pgs. 58 & 59 ✓ Textbook: pgs.142-145 ✓ Workbook: pgs. 73 & 74 Video/Content Speed, Distance, Time https://youtu.be/86xuTrYOdV8 https://www.softschools.com/formulas/physics/distance_speed_time_formula/75/	Complete a chart to show outcomes. <table border="1"><thead><tr><th>Car</th><th>Time</th><th>Distance</th><th>Rate</th></tr></thead><tbody><tr><td>A</td><td>7</td><td>4</td><td>?</td></tr><tr><td>B</td><td>?</td><td>16</td><td>2</td></tr><tr><td>C</td><td>3</td><td>?</td><td>9</td></tr></tbody></table>	Car	Time	Distance	Rate	A	7	4	?	B	?	16	2	C	3	?	9
Car	Time	Distance	Rate																	
A	7	4	?																	
B	?	16	2																	
C	3	?	9																	
14. Read and interpret scales on maps.	- Scale is a ratio between two sets of measurement. On maps, scales are used to convert distances on the earth to distances on paper. - Scales compare inches or centimetres on a map to miles or kilometres on a real surface. To compare distances on a map with actual distances, use the ratio map actual distance.	- Have students measure and draw to scale (on cm graph paper) their classroom and a room in their house. - Engage students in the following games to practice the skills: Distance between Two Points https://www.mathgames.com/skill/6.113-distance-between-two-points Scale Drawings and Scale Factors https://www.mathgames.com/skill/7.159-scale-drawings-and-scale-factors	- Bahamas Primary Mathematics Bk 6 ✓ Teacher’s Manual: pg. 34 ✓ Textbook: pgs.66 -69; 97 & 98 ✓ Workbook: pgs. 31-33; 47 & 48	- Have students use scales on maps to: a. explain what the ratios represents b. compare scales: draw conclusion about how events could happened.																

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 6

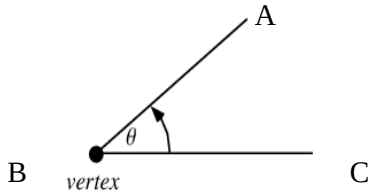
Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

Essential Questions

1. How can describing, classifying, and comparing properties of different lines, angles, and certain 2- and 3-dimensional shapes be useful for solving geometric problems in our 3-D world?
2. How can transformations and symmetry be used to investigate and describe geometric situations?
3. How are points, lines, line segments, rays, and angles related?
4. What are some examples of lines and line segments in the real world?

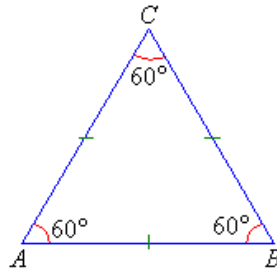
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 6

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Identify angles through estimation and measurement as acute, obtuse, or right.	- An angle is formed by two rays with the same end point. - Angles can be named by three letters: - a point from each side and the vertex as the middle letter. They can also be named by a single letter, their vertices.  B vertex C - Angles can be different sizes. - An acute angle is greater than 0 and less than 90°. - An obtuse angle is greater than 90° and less than 180°. - A right angle measures 90°.	- Students create models that can be used to show types of angles. For example: - Guide students to join two drinking straws by inserting the twister from a sandwich/ bread bag into one of the ends of each straw. This model can be bent to form any angle. - Have student estimate the setting for specific degree settings and check their estimates by measuring with a protractor. - Students will engage in the following games to practice the skills: Types of Angles https://www.mathgames.com/skill/4.1-acute-right-obtuse-and-straight-angles Estimation of Angles https://www.mathgames.com/skill/4.22-estimate-angle-measurements Angles Quizizz https://quizizz.com/admin/quiz/5ee99afd9b7e3b001b3a4c05	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 25-27 ✓ Textbook: pgs.41 & 42 ✓ Workbook: pg. 17 - Mathematics in Motion: A Resource Book for Primary Teachers, pg. 82 Videos/ Content https://youtu.be/xzAGoErwAyg https://youtu.be/NVuMULQjb3o Worksheets Average: https://www.mathworksheets4kids.com/angles/acute-right-obtuse/identify-1.pdf https://www.mathworksheets4kids.com/angles/acute-right-obtuse/match-1.pdf	- Make models using toothpicks - Complete a quiz

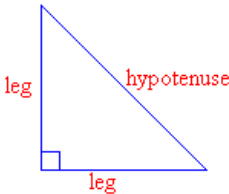
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 6

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
2. Classify and name triangles as scalene, isosceles, and equilateral.	- Triangles can be classified by the length of their sides. - A scalene triangle has no congruent sides. - An isosceles triangle has two sides that are congruent. - An equilateral triangle has all congruent sides. 	- Have students: (a) show examples of triangles by using grid paper. (b) examine flags of various countries and name the triangles on the flags. - Students will engage in the following game to practice the skills: Triangles by Sides https://www.turtlediary.com/quiz/classify-triangles-by-sides.html Triangles Quizizz https://quizizz.com/admin/quiz/5b61eb548bdd40001919ffaa	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 25-27 ✓ Textbook: pgs.43 & 44 ✓ Workbook: pg. 18 Videos/ Content https://youtu.be/JQUTVgT9RXY https://youtu.be/oQeK4LyKLHw Worksheets Low https://www.mathworksheets4kids.com/triangles/classifying/customary/sides-numerals-1.pdf Average https://www.mathworksheets4kids.com/triangles/classifying/customary/sides-1.pdf	- Create songs to identify triangles and their properties. - Using a map of The Bahamas, students plot three trips to separate destination that form a triangle. Students identify the triangles that are formed by these trips (plots).

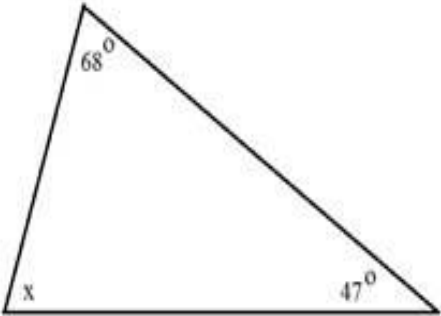
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 6

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
3. Classify and name triangles as right, acute, and obtuse.	- Triangles can be classified by the measures of their angles. - A triangle that has a right angle (90°) is a right angle triangle. The hypotenuse is the side opposite the right angle and is the longest side. The other sides are called legs.  - An acute triangle has three acute angles. An acute angle is an angle measuring between 0 and 90 degrees (less than 90°). - An obtuse triangle has one obtuse angle. An obtuse angle measures between 90° and 180° degrees.	- Students create an electrical circuit board to match triangles and their properties. - Students classify and name triangles formed by three points in their environment. - Students will engage in the following game to practice the skills: Triangles by Angles https://www.mathgames.com/skill/5.3-types-of-triangles Triangles Quizizz https://quizizz.com/admin/quiz/5b61eb548bdd40001919ffaa	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 25-27 ✓ Textbook: pgs.43 & 44 ✓ Workbook: pg. 18 Videos/ Content https://youtu.be/JQUTVgT9RXY https://youtu.be/eBE41Fm94Sc Worksheets Low https://www.mathworksheets4kids.com/triangles/classifying/customary/angles-numerals-1.pdf Average https://www.mathworksheets4kids.com/triangles/classifying/customary/angles-1.pdf https://www.liveworksheets.com/pr223843gs Above average https://www.mathworksheets4kids.com/triangles/classifying/customary/angles-and-sides-1.pdf	- Match triangles and their properties. - Create songs and poems about triangles. - Create and highlight parts of a circle. - Write in mathematics journal how to classify the various triangles.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 6

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
4. Calculate the missing angle in a triangle	- The interior angles of a triangle add up to 180°. - To find the missing angle in a triangle complete the following steps:  Step 1: Add together the known angles. $68^\circ + 47^\circ = 115^\circ$ Step 2: Subtract the sum from 180°. $180^\circ - 115^\circ = 65^\circ$ The measure of angle x is 65°	Give students various triangle cutouts and have students race to find the unknown angle.	Video/Content https://www.softschools.com/math/geometry/topics/missing_angles_in_triangles/ Angles in a Triangle https://youtu.be/bp5UxYKPie8 Worksheets Average https://corbettmaths.com/wp-content/uploads/2013/02/angles-in-a-triangle-pdf1.pdf	Complete a quiz identifying the missing angles in a triangle.

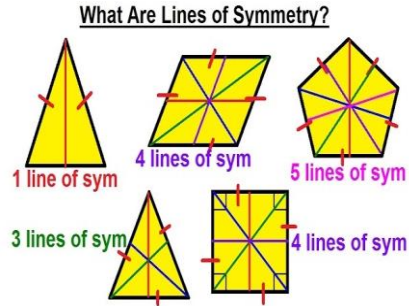
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 6

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
5. Identify types of quadrilaterals and their properties.	- Quadrilaterals are polygons with four sides and four angles. Some common quadrilaterals and their properties are: a. Square: Four congruent sides and four right angles. b. Rectangles: Two pairs of congruent sides and four right angles. c. Parallelograms: Two pairs of congruent sides and two pairs of parallel sides. d. Rhombus: four congruent sides and two pairs of congruent angles. e. Trapezoid: exactly one pair of parallel sides.	- Allow students to a. create models of quadrilaterals b. construct figures such as a building with various quadrilaterals. - Engage students in the following games to practice the skills: Quadrilaterals https://www.mathgames.com/skill/5.1-classify-quadrilateral-shapes https://www.sheppardsoftware.com/mathgames/geometry/shapeshoot/QuadShapesShoot.htm Quadrilaterals Quizizz https://quizizz.com/admin/quiz/5aceb0df261e9300194fc8c9 https://quizizz.com/admin/quiz/5ae0a953490b14001f662fb5	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 25-27 ✓ Textbook: pgs.45 & 46 ✓ Workbook: pgs. 19 & 20 - Mathematics in Motion: A Resource Book for Primary Teachers, pg. 79 Videos/ Content Quadrilaterals https://youtu.be/WMkY_uIku9Q https://youtu.be/0OW2bU0So-4 Worksheets Low/ Average https://www.mathworksheets4kids.com/quadrilateral/identify/coloring-1.pdf Average https://www.mathworksheets4kids.com/quadrilateral/identify/identifying-1.pdf Above Average https://www.mathworksheets4kids.com/quadrilateral/identify/who-am-i-1.pdf https://www.liveworksheets.com/jf1427742lv	- Create models of quadrilateral with specific properties. - Complete test items on quadrilaterals.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 6

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
6. Find the lines of symmetry in polygons.	- Line of symmetry is defined as the axis or imaginary line that passes through the center of the shape or object and divides it into identical halves. - A polygon has a line symmetry if it can be reflected on a line so that the two parts are congruent.  <i>What Are Lines of Symmetry?</i> 1 line of sym 2 lines of sym 5 lines of sym 3 lines of sym 4 lines of sym	- Allow students to use grid paper to determine if polygons have line symmetry. - Fold the figures in half in various ways. - Highlight lines that prove the figure is symmetrical. - Use miras to justify symmetrical figures. - Students will engage in the following game to practice the skills: Symmetry https://www.mathgames.com/skill/4.6-symmetry Symmetry Quizizz https://quizizz.com/admin/quiz/5aa2018ff4199a001921f747	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 46-48 ✓ Textbook: pgs.109 & 110 ✓ Workbook: pgs. 53-55 - Mira Videos/ Content https://youtu.be/SUDpU2ZFy4w https://youtu.be/ejrex7I1Jyc https://youtu.be/i86kSXZ7rss Worksheets Low https://www.mathworksheets4kids.com/symmetry/recognize1.pdf Average https://www.mathworksheets4kids.com/symmetry/single-line-symmetry1.pdf https://www.mathworksheets4kids.com/symmetry/more-lines1.pdf https://www.liveworksheets.com/bv424224nu	- Draw polygons and highlight lines of symmetry. - Have students make a scrapbook showing the lines of symmetry of various polygons.

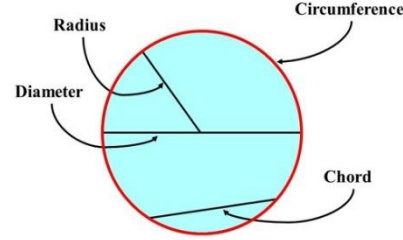
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 6

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
7. Identify parts of a circle: - Centre - Radius - Diameter - Circumference. (continued)	- A circle is a closed plane figure with all points the same distance from the centre point. It has no beginning point and no end point. - The radius is a line segment that connects the centre with a point on the circle.  - The diameter is a chord that passes through the centre of the circle. 	- Using a cake, place an M & M at the centre of the cake. - Use white icing to highlight the circumference. - Use colored sprinkles (candies) to show the diameter. A row of gummy bears can represent the radius. - In pairs, students create riddles about parts of a circle. - Students will engage in the following games: Parts of a Circle https://www.mathgames.com/skill/7.3-parts-of-a-circle https://www.turtlediary.com/quiz/parts-of-a-circle.html	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 25-27 ✓ Textbook: pgs.47 & 48 ✓ Workbook: pg. 20 - Mathematics in Motion: A Resource Book for Elementary Teachers, pg. 90 Video/Video https://youtu.be/Z0kq9kaNjRo Worksheets Average https://www.mathworksheets4kids.com/circles/customary/parts-easy-1.pdf https://www.mathworksheets4kids.com/circles/customary/radius-diameter-easy-1.pdf	Create a chart highlight parts of a circle.

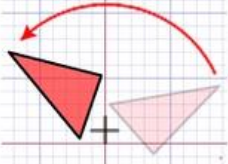
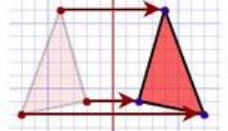
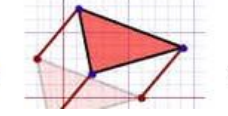
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 6

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
7. Identify parts of a circle: • Centre • Radius • Diameter • Circumference.	• The circumference is the distance around the circle. Parts of a Circle 	Circles Quizizz https://quizizz.com/admin/quiz/60072e519c81de001bc47018	Worksheet Above Average https://www.liveworksheets.com/x1420842jk	• Write in mathematics journals their favorite part of the circle and explain why they have selected the part.
8. Identify motions of transformation as translation, reflection, or rotation. (Continued)	• Motions, movement, or rigid transformations do not change the size or shape of a figure, only its position. • Slides or translation is the movement of a figure along a straight line. • Flip or reflection is the movement of a figure over a line. • Turn or rotation is the movement of a figure around a vertex or point of rotation.	• Have students use graph paper to show types of transformations. Using graphs paper have students: a. draw coordinate planes b. graph specific points and connect them to form intended figures. c. trace the figure on a sheet of paper and cut it out. d. place the cut out figure on the figure draw on the co-ordinate plane. e. translate, reflect, or rotate the cut out figure.	• Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 46- 48 ✓ Textbook: pgs.111-114 ✓ Workbook: pgs. 56-58 Videos/Content https://youtu.be/s7tHUXAojVU https://youtu.be/iIIwtE7ESsA	• Display examples of transformations using objects.

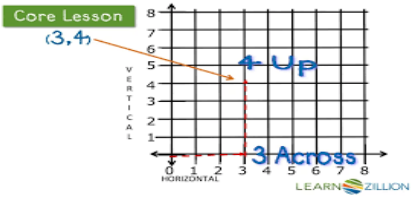
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 6

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
8. Identify motions of transformation as translation, reflection, or rotation.	Rotation  Turn! Reflection  Flip! Translation  Slide!	Students will engage in the following games to practice the following: Transformations https://www.mathgames.com/skill/8.17-identify-reflections-rotations-and-translations Transformations Quizizz https://quizizz.com/admin/quiz/5ba83d5c4febf30019148d29	Content/ Video https://youtu.be/s7tHUXAojVU https://youtu.be/X0hllwR2zL4 https://youtu.be/0Z1aUhGCZs0 Worksheets Average https://www.mathworksheets4kids.com/transformation/mcq1.pdf https://www.mathworksheets4kids.com/transformation/write1.pdf	Participate in a debate: Which transformation is best?

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: GEOMETRY AND SPATIAL SENSE
GRADE: 6

Sub-Goal 4: Use geometric methods to analyze, categorize, and draw conclusions about points, lines, planes, and space.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
9. Graph specific point and transform figures.	 A point in a plane contains two components where order matters! It comes in the form (xx,yy) where xx comes first, and yy comes second. The xx-component of the point (xx,yy) moves the point along a horizontal line. If the xx-value is positive, the point moves “xx-units” towards the right side. On the other hand, if the xx-value is negative, the point moves “xx-units” towards the left. The yy-component of the point (xx,yy) moves the point along a vertical line. If the yy-value is positive, the point moves “yy-units” in an upward direction. However, if the yy-value is negative, the point moves “yy-units” in a downward direction.	Students will engage in the following game to practice the skills Transformations https://www.mathgames.com/skill/6.118-translations-graph-the-image https://www.mathgames.com/skill/6.119-reflections-graph-the-image Transformations Quizizz https://quizizz.com/admin/quiz/58f56c45b95b911003e66d6	Content/Video: https://youtu.be/iIlwtE7ESsA Worksheet https://www.math-aids.com/cgi/pdf_viewer_4.cgi?script_name=transformation_combined.pl&p_trans=1&p_rotate=1&p_reflect=1&triangles=1&polygons=1&boxes=1&language=0&memo=&answer=1&x=66&y=26	Complete a test quiz.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 6

Sub-Goal 5: Collect, organize; and analyze data using statistical methods: predict results; and interpret uncertainty using concepts of probability.

Essential Questions

1. Why are graphs important?
2. What are some ways to collect data for graphs?
3. How does the type of data influence the choice of graph?
4. How can the mean, median, mode, and range be used to describe the shape of the data?
5. How can the mean, median, and mode be computed and compared?
6. What is probability?
7. How is the probability of an event determined and described?

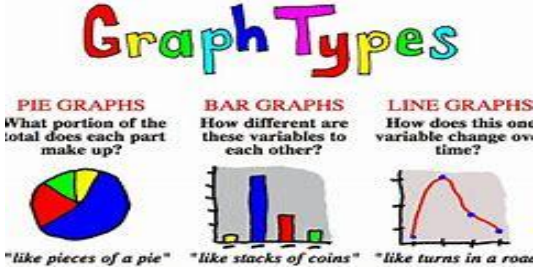
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 6

Sub-Goal 5: Collect, organize; and analyze data using statistical methods: predict results; and interpret uncertainty using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
1. Interpret circle graphs	A circle graph is a graph that shows how parts of the data are related to the whole and to each other. Each part is known as a sector.	- Guide students to create circle graphs to show: a. their study schedule b. how they spend a school day. *Students will create questions and answers for the graphs - Have students create a bulletin board display. - Students will engage in the following game to practice the skill: https://www.mathgames.com/skill/6.142-interpret-circle-graphs	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 35 & 36 ✓ Textbook: pgs.71-74 ✓ Workbook: pgs. 34-37 Content/Video https://youtu.be/wMWgmfpCRCE Worksheets Average https://www.mathworksheets4kids.com/pie-graph/beginners1.pdf https://www.mathworksheets4kids.com/pie-graph/basic-percent1.pdf https://www.mathworksheets4kids.com/pie-graph/percent1.pdf	- Write in mathematics journals explaining what circle graphs are and how to interpret them. - Lesson quiz: Have students complete test items by answering questions based on circle graphs.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 6

Sub-Goal 5: Collect, organize; and analyze data using statistical methods: predict results; and interpret uncertainty using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
2. Identify the type of graph (s) most suitable for displaying a given set of data.	- A graph is a table that displays data. Pictographs display countable data with symbols or pictures. They have a key to show that each picture represents a specific amount. Bar graphs display countable data with horizontal or vertical bars. They allow you to compare facts about groups of data. Line graphs show how data change over time. Circle graphs show how parts of data are related to the whole and to each other. - Compare and contrast types of graphs. 	- Have students collect data from local media sources. Students will create displays to show the kinds of graphs used to display the data. - Have students create and manipulate pieces for concentration game. Students will use pictures of graphs, definitions, and specific data to create questions and answers. - Students will engage in the following game to practice the following: https://www.mathgames.com/skill/6.134-choose-the-best-graph-type	- Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 35 & 36 ✓ Textbook: pgs.71-73 ✓ Workbook: pgs. 34-37 Content/ Video http://www.teach-nology.com/worksheets/math/graph/grap30.pdf Worksheet Average https://www.lcps.org/cms/lib4/va01000195/centricity/domain/10878/notesandhw.pdf	- Lesson quiz: Present students with sets of data. Have them tell the most suitable graph to use to display the data. - Have students create a crossword puzzle using names of graphs and their specific characteristics.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 6

Sub-Goal 5: Collect, organize; and analyze data using statistical methods: predict results; and interpret uncertainty using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
3. Collect, organize, graph, and analyze a set of data as the answer to a question or problem.	- There are many methods for collecting data. In some cases, it will already be recorded, and you merely need to "find" it. In other cases, you will need to construct a test, survey or other instrument to obtain the information you need. - A survey is a question, or questions, used to gather information called data. - A graph has a title and is always labeled.	- Have students work in groups: - Survey “n” number of students with the focus question: Which of the following summer activities do you prefer? swimming, camping, watching T.V, bike riding or traveling - Graph the data - Create questions and answer keys - Exchange completed projects among peers to provide answers for other assignments. - Have students create a picture puzzle. The pieces will be used to sequence the events of collecting, organizing, graphing, and analyzing data. - Students will engage in the following games to practice the skills: Graphs https://www.mathgames.com/skill/6.108-interpret-pictographs https://www.mathgames.com/skill/6.93-interpret-bar-graphs https://www.mathgames.com/skill/6.98-interpret-line-graphs	Bahamas Primary Mathematics Bk 6 ✓ Teacher’s Manual: pgs.35& 36 ✓ Textbook: pgs.71-74 ✓ Workbook: pgs. 34-37 Content/Video https://youtu.be/yrTB5JSQPqY https://youtu.be/mfNu8yrMPA8 Worksheets Average https://www.liveworksheets.com/qm1263960cm https://www.liveworksheets.com/ga1004292tq https://www.liveworksheets.com/xb202034qe https://www.math-aids.com/Graph/	- Students will create a display of their graphs. - Have students create a booklet to outline procedure and outcomes of data.

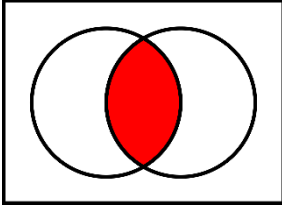
SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 6

Sub-Goal 5: Collect, organize; and analyze data using statistical methods: predict results; and interpret uncertainty using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
4. Solve problems involving mean, median, mode and range	Mean is the sum of all the numbers in a set of data divided by the number of addends. Example: $95 + 87 + 84 + 61 + 83 = 430$ $430 \div 5 = 86$ Median is the middle number in a set of data that are arranged in order. If there are two middle numbers that are not the same, find the mean of the two numbers Mode is the number or numbers that occur most often in a set of data. There may be one mode, more than one mode, or no mode Range is the difference between the greatest and least number in a set of data.	- Guide students to - use “n” number of persons to measure the following: - Heights - Weights - Find the mean, median, mode and range of the heights and weights of students in the class. - Create a chant/rap to assist with finding the mean, median, mode and range. Students will engage in the following games to practice the skills: Mean, median, mode & range https://www.mathgames.com/skill/6.91-calculate-mean-median-mode-and-range Mean, median, mode and range Quizizz https://quizizz.com/admin/quiz/5cab20175f28af001aef28a8	- Bahamas Primary Mathematics Bk 6 ✓ Teacher’s Manual: pgs. 35 & 36 ✓ Textbook: pgs.75-76 ✓ Workbook: pg. 38 Video/Video https://youtu.be/5C9LBF3b65s https://youtu.be/B1HEzNTGeZ4 Worksheets Average Range https://www.mathworksheets4kids.com/central-tendency/range1.pdf Median https://www.mathworksheets4kids.com/central-tendency/median1.pdf Mixed Review https://www.mathworksheets4kids.com/central-tendency/mixed-level1-1.pdf Word Problems https://www.mathworksheets4kids.com/central-tendency/wp-level1-1.pdf https://www.liveworksheets.com/ly141216db	- Lesson quiz: Students will solve problems to identify mean, median, mode, and range. - Create a chart to display mean, median, mode, and range of a specific set of data.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 6

Sub-Goal 5: Collect, organize; and analyze data using statistical methods: predict results; and interpret uncertainty using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
5. Collect, organize, graph, and analyze a Venn Diagram. (Continued)	- Venn diagram is used to organize facts in an informational text. - Intersection of two sets $A \cap B$  - A set is a collection of things. For example, the items you wear is a set: these include hat, shirt, jacket, pants, and so on. {hat, shirt, jacket, pants, ...} You can also have sets of numbers: - Set of whole numbers: {0, 1, 2, 3 ...} - Set of prime numbers: {2, 3, 5, 7, 11, 13, 17 ...}	Engage students in the game to practice the following: Venn Diagram https://www.mathgames.com/skill/7.139-use-venn-diagrams-to-solve-problems	Content/ Video: https://youtu.be/OC_0krYDM7o Worksheets Average https://www.commoncoresheets.com/Math/Venn/Reading%20Venn%20Diagrams/English/All.pdf	Complete a quiz.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 6

Sub-Goal 5: Collect, organize; and analyze data using statistical methods: predict results; and interpret uncertainty using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
5. Collect, organize, graph, and analyze a Venn Diagram.	Union of sets refers to everything in a specified set/sets. Union of sets has a special symbol $\cup$. Intersection of sets is when you must be in BOTH sets. Intersection of sets has a special symbol $\cap$. You can also use Venn diagrams for 3 sets. 	Classroom Relay Game. The class is divided into two teams (A and B). Random questions based on Union of Sets and Intersection of Sets will be projected. Students race to answer the questions. If a student answers correctly, he crosses the finish line. If a student gets a question incorrect, he returns to the back of the line and tries again until he gets an answer correct. The team to finish all questions first, wins the relay. - Students create Venn diagrams to show union and intersection of sets using data given by the teacher.	Worksheet Above Average https://www.commoncoresheets.com/Math/Venn/Reading%20Venn%20Diagrams/English/All.pdf	Students complete a Venn Diagram for 3 sets of data given to show similarities and differences.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 6

Sub-Goal 5: Collect, organize; and analyze data using statistical methods: predict results; and interpret uncertainty using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
6. Verify the probability of a particular outcome and write it as a fraction or ratio.	• Probability is the chance that an event will happen. It compares the number of favourable outcomes and the number of possible outcomes. • Probability = $\frac{\text{number of favourable outcomes}}{\text{total number of possible outcomes}}$ Example: Fraction 2/3; ratio = 2 to 3 or 2:3 Reuben writes each letter of his name on a separate piece of paper and puts them in a bag. He chooses one piece of paper from the bag without looking. What is the probability that Rueben will chose the letter B? There is 1 favourable outcome out of 6 possible outcomes, R E U B E N. The outcomes are equally likely. The probability of choosing the letter B is 1/6 or 1 to 6 or 1:6 • A tree diagram is a diagram used to organize outcomes of an experiment.	• Guide students to create spinners with topics that interest them. E.g. Name brand shoes, favorite singers, words, restaurant names. • Allow students to: a. create and solve questions/answer keys b. exchange problems among peers and provide answers • Have students compete under timed conditions to write probability outcomes as fractions and ratios. • Students will engage in the game to practice the following: Probability Quizizz https://quizizz.com/admin/quiz/5c0dd93c4e04be001ac254d7 https://quizizz.com/admin/quiz/5cdb782adb598b001f5c8afb	• Bahamas Primary Mathematics Bk 6 ✓ Teacher's Manual: pgs. 59 &60 ✓ Textbook: pgs.146-151 ✓ Workbook: pg. 75 Video/Content https://youtu.be/KzfwUEJjG18 Worksheets Average https://www.liveworksheets.com/fy1066845ko https://www.liveworksheets.com/ob1020067rs https://www.liveworksheets.com/kp1031108pf	• Students create questions, conduct experiments, and record answers. • Create picture booklets to show outcomes.

SCOPE OF WORK
PRIMARY SCHOOL MATHEMATICS
STRAND: DATA ANALYSIS AND PROBABILITY
GRADE: 6

Sub-Goal 5: Collect, organize; and analyze data using statistical methods: predict results; and interpret uncertainty using concepts of probability.

OBJECTIVES	CONTENT	ACTIVITIES	RESOURCES	ASSESSMENT
7. Use probability to make reasonable prediction. - tells what could happen because outcomes are likely to occur.	- A reasonable prediction is one that indicates what could happen based on specific conditions. - Using probability to make reasonable predications must include all possible outcomes.	- Lead students to create a Silly Billy booklet that answers questions such as the following: Rashad says to Billy “The probability of rolling a 6 with a die is 1 to 6. - Roll the die. Whenever a 6 comes up, you win and Rashad will pay you \$5.00. Whenever a 6 doesn’t come up, I win and you pay me \$5.00.” Billy accepts the challenge. What do you think will happen and why? - Guide students to create a set of task cards with probability scenarios and at least two predictions of outcomes- one reasonable and the other unreasonable.	- Bahamas Primary Mathematics Bk 6 ✓ Teacher’s Manual: pgs. 59 & 60 ✓ Textbook: pgs.146-151 ✓ Workbook: pg. 75	Write an advice column about playing Silly Billy. Have students provide reports to explain why predications are logical or illogical.
8. Describe a fair game.	A fair game is one in which all players have an equal chance to win.	- Allow students to: a. play games and keep scores each time a player wins. At the end of ‘n’ games, students should justify why the game is fair/unfair. b. create a unique “fair game”	- Bahamas Primary Mathematics Bk 6 ✓ Teacher’s Manual: pgs. 59 & 60 ✓ Textbook: pgs.146-151 ✓ Workbook: pg.75	- Create a bookmark that outlines criteria for fair games. - Complete a paragraph to justify why their game is fair.

Problems of the Day

Primary School Mathematics

Grade 4

THE BAHAMAS PRIMARY MATHEMATICS CURRICULUM
PROBLEMS OF THE DAY
GRADE: 4

Instructions: The following can be read aloud or written and discussed with students.

1. How many 3-digit numbers can you make using the following digits: 3 6 8 5 ?

Answer: 24 3- digit numbers can be formed.

2. How many 3- digit numbers can you make using the following digits: 7 4 6?

Answer: 6 3-digit numbers can be formed.

3. Burger King sold 1 090 876 hamburgers. Wendy's sold 10 000 more than that. How many hamburgers did Wendy's sell?

Answer: 1 100 876 hamburgers

4. Mc Donald's sold 2 080 529 orders of French fries. Kentucky Fried sold 10,000 less than that. How many orders of fries did Kentucky Fried sell?

Answer: 2 070 529 orders of fries

5. Scott, Marcy, and Pedro set up chairs for the class play. Scott sets up 30 chairs, Marcy sets up 29 chairs and Pedro sets up 28 chairs. About 100 parents are expected. Do they have enough chairs? Explain.

Answer: No. Explanations will vary.

7. Earth is about 8 000 miles in diameter. The sun is about 93 000 000 miles away from Earth. About how many Earth's set side-by-side, would it take to equal the distance from Earth to the sun?

Answer: 11 625 Earths

8. Jessica has 5 bills in her pocket. Two of the bills contain the image of Sir Roland Symonette, 2 bills contain the image of a Blue Marlin and 1 bill contains the image of the Royal Bahamas Police Force Band,. How much money does Jessica have in her pocket?

Answer: \$301.00

8. Which would you rather have and why: \$34.12 rounded to the nearest \$20.00, or \$34.12 rounded to the nearest \$10.00?

Answer: \$34.12 to the nearest 10 because it is more.

9. Jill has 3 ¼ watermelons. Jack has 5 ¼ watermelons. How many watermelons do the children have altogether? Reduce your answer.

Answer: the children have 8 ½ watermelons.

10. This table shows bowling averages for a three- month period.

Names	January	February	March
Mary	187	198	211
John	151	163	182
Paul	139	147	161

a. If the bowler’s averages were rounded to the nearest hundred, during which month could each bowler claim a 200 average?

Answer: March

11. Five addition facts have a sum of 4. Six addition facts have the sum of 5. How many addition facts have a sum of 6? List them.

Answer: 7 (1+5) (5+1) (4+2) (2+4) (3+3) (0+6) (6+0)

12. How many raindrops make a puddle? Explain your strategy.

Answer: Answers will vary.

13. How many corn flakes can fit in a bowl? Explain your strategy.

Answer: Accept reasonable explanations.

14. In the game “Tic-Tac-Toe,” how many squares are on the Board?

Answer: 9

15. The fire station is 1 kilometer away from Princess Margaret Hospital. The police station is 1 000 meters from Princess Margaret Hospital. Which station is closer to Princess Margaret Hospital? How do you know?

Answer: They are equidistant. 1000 meters= 1 kilometer

16. The average field mouse is about 11cm long, not counting its tail. The average cat is about 45cm long, not counting its tail. What is the average of both animals?

Answer: 28 cm

17. Dairy Maid has half dozen flavours of ice cream. How many flavours are there? Show the different combinations of double scoop cones Dairy Maid can sell.

Answer: 6 flavours. Let students draw the combinations. Discuss whether 2 scoops of the same flavors count as a combination.

18. Estimate how many Cheerios in a box?

Teacher’s note: Change this to M & M’s in a bag, raisins in a box, etc. for more Problems of the Day.

Answer: Accept all reasonable solutions and strategies.

19. Two sticks are each 9 cm long. They are taped together to form a longer stick that is 12 cm long. How long is the overlap?

Answer: 6 inches

20. A fly and a frog were hopping up a set of 12 steps. The fly landed on every 2nd step, and the frog landed on every 3rd step. Draw a diagram to find out on which steps they both landed. Start by drawing a staircase with 12 steps, or a ladder with 12 rungs.

Answer: Check all drawings. 6th and 12th steps.

21. In 1990, Jerome and his family visited the Pompey Museum in a building built 2 centuries earlier. About when was it built? If you need to, look up the word ‘century’ in the dictionary.

Answer: 1 790

22. The Super Frosty at Wendy’s costs \$12.45. Angie has \$8.50, Scott has \$9.25, and Devon has \$7.50. Do the three have enough money to share 2 Super Frosties?

Answer: Yes.

23. Twin Brothers sold 348 orders of Fish snacks and 400 orders of conch snacks. It also sold 598 chicken snacks. How many more orders of the fish and conch snacks than chicken snacks were sold?

Answer: 150 more were sold

24. Chico used five squares to form a block letter T. If each square is 2 cm long on a side, find the perimeter of the entire letter.

Answer: 24 cm

25. Maria worked on her insect report for several days. On Monday she worked from 7:25 to 8:45. On Tuesday she worked from 4:20 to 5:05. On Wednesday she worked from 3:30 to 4:45 and from 7:20 to 8:00. How much time did she spend on her report in all?

Answer: 4hrs

26. The library checked out 114 books on Monday. 142 books on Tuesday and 129 books on Wednesday. The librarian reported to the principal that 405 books had been checked out in three days. Use estimation to decide if her report is reasonable.

Answer: Accept reasonable explanations

27. There were 2 dozen Chocolate cakes entered in the cake contest. There were twice as many Rum cakes and half as many Fruit Cakes. 15 Carrot Cakes and 1 Yellow Cake were also entered in the contest. How many cakes did the judges have to taste?

Answer: 100 cakes

28. In a recent local election, 8 254 people voted. 4 198 of them voted for one of the major 3 candidates. A fourth candidate got exactly 300 votes. About how many people voted for the fifth candidate? Can you tell who won?

Answer: 3 756. No.

29. Sarah has estimated that there are 20 weeks until the end of school. What month is it now?

Answer: January or February depending on when the last day of school is scheduled this year.

30. Tell which information is extra, then solve the problem: A chef can cook 8 hamburgers in 10 minutes. It takes him 15 minutes to cook 5 hotdogs. How many hamburgers can he cook in 20 minutes?

Answer: Extra information is about the hotdogs. 16 hamburgers.

31. Meecka found a treasure map with a graph but the treasure was not marked on the map. Instead there was a note saying: “(7, 9) is too far north; (1, 2) is too far west; (4, 5) is too far south; (6, 8) is too far east. It is north of (2, 6); it is east of (4, 9); and (3, 8) is too far north.” Can you name the location of the treasure for Meecka?

Answer: Have the students draw a coordinate plane to find the answer.

32. Josie’s ruler is 10 centimeters long. She uses it to measure a 3-meter-long piece of string. How many times must she move the ruler along the string?

Answer: 30 times

33. Pedigree is the only dog food Pierre the poodle will eat. It is sold in cartons that hold 6 servings. If Pierre eats 5 cartons a month, how many servings of Pedigree does he eat in a month?

Answer: 30

34. Sixty-four students and 8 adults went to a track meet. They rode in an Explorer that held the same number of people. If each adult drove an Explorer, how many people traveled in each Explorer? How many of them were students?

Answer: 9 people in each van, 1 adult and 8 students

35. Jenny is reading a local rainfall graph. The total rainfall for the months of April, May and June is 12 cm. The total for January through June is 34 cm. How much rain fell from January through March?

Answer: 22cm

36. Judy invited 20 friends to her birthday party. Then she went out and bought 20 party flavours. Now she found that 4 people can’t come, and that 4 others are each bringing a cousin. Does she still have enough party flavours? Explain.

Answer: Yes. The four extra guests brought the total number of friends to 20

37. Each day Mr. Franks makes 5 sandwiches for his family's lunch. Use 3 factors in a multiplication number sentence to show how many slices of bread he would use in 3 days. Solve the number sentence.

Answer: $5 \times 3 \times 2 = 30$

38. Decide which operation to use to solve the problem, tell why, and solve the problem:
Zach started a collection of miniature cars from all over The Bahamas. He started with 6 Androsian cars. Then his pen pals in Exuma sent him 5 more cars. How many more does he need to have a total of 20 cars? How many cars does he have in his collection now?

Answer: Explanations will vary.

39. Find the secret number.
It is even, it is a multiple of 4, it is a factor of 32, it is greater than 4 but less than 10. What number is it?

Answer: 8

40. Last year, 4 000 people visited Grand Bahama in every month that had a "r" in it. Write a multiplication sentence to show how many visitors came to Grand Bahama in those months last year, and then find the answer.

Answer: $4\ 000 \times 8 = 32\ 000$

41. There are some Hummers and some tricycles in a field. All together there are 55 wheels. How many Hummers and how many tricycles are there?

Answer: There are several solutions to this problem. Accept all that fit the conditions of the problem.

42. The carnival came to town for five shows. The first four shows were sold out, but only 707 people went to the last show. If the big tent had 965 seats, how many people saw the Carnival?

Answer: 4 567 people

43. The Pirates of Nassau Museum gift shop sells a model of a pirate ship for \$25.70. If 8 models were sold last week, how much money was collected? If the gift shop paid the model factory \$15.70 for each model, how much profit did the gift shop make on the 8 sales?

Answer: \$205.60; \$80.00

44. Ms. Smith makes straw dolls of children and she has received 50 orders for gifts. She is trying to get them finished in a month. After 2 days she has finished 3 dolls. After 4 days she has finished 3 dolls. After 4 days she has finished 6 dolls, and after 6 days she has finished 9. How many will she have done after 10 days? Make a table that shows the pattern and the answer. Will she finish the 50 in a month of 30 days?

Answer: 15 days; check the tables; No.

45. Draw a 3-by-3 square box around any 9 dates on a calendar. Find the sum of 3 numbers in a line. The line may be a horizontal, vertical or diagonal. Then multiply the middle number of your line by 3. What do you notice about the sum and the product?

Answer: They are always equal.

46. Ruby pays \$0.75 a day for lunch in the school cafeteria. How much does she spend on lunch each school week? How much does she spend in 8 school weeks?

Answer: Answer: \$3.75 per week. \$30.00 for 8 weeks.

47. Denise picked 2 dozen mangoes. If she uses 5 mangoes to bake a batch of mango cupcakes, how many batches can she make? How many mangoes, if any, will she have left?

Answer: 4; 4 left over

48. A Junior High Softball team plays 162 games during a regular season. A season lasts about 6 months. Use compatible numbers to estimate how many games a team plays each month. Explain whether the estimate is greater of less than the exact answer.

Answer: Accept all reasonable solutions

49. Each of the 6 cars of the Car Racing at the Sports Center can hold 8 riders. How many riders can the Car Racing hold at once? If 216 people buy tickets to ride the Car Racing, how many cars could they fill?

Answer: 48; 27

50. The Bamboo Shack orders juice in 2-gallon jugs. One gallon is equal to 128 ounces. Last week they used up 3 jugs of apple juice. If a serving of apple juice is 6 ounces, how many servings were sold from the total quantity of apple juice?

Answer: 64 servings were sold

51. To solve this problem, draw a picture that shows the chickens in the right order, and then label the chickens. Five chickens are flapping in a circle. Alexander is wearing a hat. Alexander is between Barret and Curtis. Curtis is followed by Forest. One chicken is named Georgetown.

Answer: check pictures with information in the story. Georgetown, Barret, Alexander, Curtis and Forest

52. In football, a touchdown is worth 6 points and a safety is worth 2 points. The Bahamas Blue Marlin scored 36 points on some touchdowns and at least 1 but fewer than 6 safeties. What combination of touchdowns and safeties did the team score? Prove that your answer works.

Answer: 5 touchdowns, 3 safeties

53. Isaac practices the goatskin drums every day. Last week he spent a total of 224 minutes practicing and he played for the same amount of time each day. Did he practice more or less than a half hour each day? Explain your answer.

Answer: More. Accept reasonable explanations.

54. Suzy made 4 round-trips on the jitney last weekend to visit her grandfather in Doctor's Hospital. She spent \$5.20 for her total jitney fare. Explain how you could find the cost of a one-way jitney fare?

Answer: Accept reasonable explanations.

55. Use a calendar showing a complete month. Find the median of the dates in the first full week, from Sunday to Saturday. Then find the average of the dates in the next full week. What do you notice?

Answer: The median and mean of a week's dates are equal.

56. I am a capital letter made of 3 line segments. Two of my lines are equal and parallel. My third segment is shorter and intersects both parallel line segments. What letter am I?

Answer: H

57. An architect is planning a new house. She wants the front of the house to have a vertical line of symmetry. The front of the house must have one door and five windows. The shapes have yet to be chosen. Sketch how you think the front of the house should look.

Answer: Accept all drawings that fit the criteria in the problem.

58. A track field is 100 meters long. A crayon is 1 cm long. How many crayons fit end-to-end down the field? If crayons come 8 to a box, how many boxes would you need to try this experiment?

Answer: Let students use calculators; 910 crayons; 114 boxes

59. Paul notices at least five different geometric figures in the playground at school. What items can you find in your school yard that are in the shape of 5 different geometric figures?

Answer: Answers will vary

60. Use the clues to draw a simple map of 4 straight streets in Danny's neighborhood. Danny lives on Meadow Street, which runs east to west. It is parallel to Meeting Street. Augusta Street is perpendicular to both streets. Dumping Ground Corner intersects Meadow Street and Augusta Street, but it does not meet Poinciana Drive.

Answer: Check the maps

61. Nancy, Jane and Brent have a total of 80 marbles in their collections. The total number of marbles that Nancy and Brent have equals the number that Jane has. Jane has 4 times as many as Brent. How many marbles does each person have?

Answer: Nancy 30; Jane 40; Brent 10

62. Donna, Dawn and Doug live with their parents, Denise and Dwayne Davis and their dog, Digit. What fraction are females? What fractions are adults? What fractions are children?

Answer: Answers depend on how students classify Digit.

63. Fanny loves freshly squeezed Dilly juice. She has learned that it takes the juice of 15 Dilly halves to serve the 3 members of her family. How many Dillies is this?

Answer: 7 ½ Dillies

64. Quinn talked on the phone to his best friend for $\frac{4}{6}$ hour. Next, he and his grandfather spoke for $\frac{1}{6}$ hour. Then he chatted with his sister for another $\frac{1}{6}$ hour. How many minutes did he spend on the phone?

Answer: 60 minutes or 1 hour

65. A bed frame is 4 m long and 3 m wide. Each side of the bed is 1 ft. shorter than the frame. The springs that connect the bed to the frame fill that space. What is the perimeter of the frame? What are the perimeter and area of the bed? Can you find the area of the frame? Explain

Answer: 14cm (perimeter); 12cm² (area).

66. A D. J. Counselor's concert lasted 48 minutes. Write the length of the concert as a fraction of an hour. Then rewrite the fraction in simplest form.

Answer: 48/60; 4/5

67. Alan needs 5 pounds of flour for a pottery project. He finds three partially filled bags of flour. They contain $2\frac{1}{4}$ pound and $1\frac{3}{4}$ pounds. Does Alan have enough flour for the project?

Answer: No

68. Gayle did warm-up stretches for $\frac{2}{12}$ hour. Then she did sit-ups for $\frac{1}{12}$ hour and jogged in place for $\frac{3}{12}$ hour. For how many minutes did Gayle exercise?

Answer: 30 minutes

69. One morning 740 flamingoes landed on Lake Cunningham to feed. That afternoon 67 of the flamingoes flew away, but another 428 flamingoes arrived. How many flamingoes were now on Lake Cunningham?

Answer: 1101

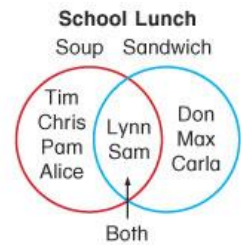
70. Using 4 fours and any combination of operations, write number sentences that equal 1,2,3,4 and 5.

Answer: Answers will vary. One possible answer is $[(4 \times 4) \div 4] \div 4 = 1$

71. The new copy machine in the principal's office can copy a 100-page report in 2 minutes. How long will it take to copy 0.5 of the report?

Answer: 1 minute

72. **Anika** made the Venn diagram below to show what some children ate for lunch at a party. Did more children eat only soup or only sandwiches?



Answer: Soup

73. Draw a figure that has twice as many vertices as a triangle.

Answer: Check figures

74. How many ninths equal $\frac{1}{3}$?

Answer: 3

75. Deborah and her friends are painting. They each painted $\frac{1}{8}$ of the painting. How many people make the painting altogether?

Answer: Accept all reasonable answers

76. There are 7 marbles in a bag. Three of the marbles are blue, two are orange, and the rest are red. What is the ratio of red marbles?

- a. 3 out of 5 b. 2 out of 5 c. 2 out of 7 d. 3 out of 7

Answer: C

77. Wendell and Terry both rounded the number 3.4682. Wendell says that he rounded the number up. Terry says that he rounded the number down. To what place value might the number have been rounded by Wendell? By Terry? Explain.

Answer: Wendell: Tenths and Hundredths; Terry: Thousandths,

78. If 5 times the first number plus three times the second number equals 47, and 10 times the first number minus 4 times the second number equals 54, what are the numbers?

Answer: 7; 4

79. If the ratio of Howard Stern fans to non-fans in a group is 4 to 1, what fraction of the people in the group are non-fans?

Answer: 1/5

80. Jenny wanted to purchase 2 dozen pencils and a pen. Those items cost \$8.45 and she did not have enough money. So she decided to purchase 8 fewer pencils and paid \$6.05. How much was a pen?

Answer: A pen cost \$1.25 and 16 pencils cost \$4.80

81. Bob, Keith, and Toi each have some money. The sum of Bob's and Keith's money is \$18.00. The sum of Keith's and Toi's money is \$21.00. The sum of Bob's and Toi's money is \$23.00. How much money does each person have?

Answer: Bob = \$10.00; Keith = \$8.00; Toi = \$13.00

82. What number comes next in the following sequence? 1, 1, 2, 3, 5, 8, __?__

Answer: 12, 17

83. Gary scored 7 foul shots out of every 10 attempts in a basketball game. How many foul shots did Gary miss in 20 attempts?

Answer: 14

84. Use both of these symbols to make the number sentence true: +, —.

$$2 \bigcirc 4 \bigcirc 2 \bigcirc 3 \bigcirc 5 = 10$$

Answer: +, +, -, +

85. Peter was running a race that was a distance of 1 kilometre. Rhonda outran him when Peter was only 1 metre away from the finish line. How far had Peter run when Rhonda won the race?

Answer: 999 metres

86. The sum of two numbers is 10. The product of the two numbers is 24. What are the numbers?

Answers: 6 and 4

87. The boys are playing a "blindfold" number game. Sam put his hand in a box and picked 3 successive numbers with a sum of 27. What numbers did Sam pick?

Answer: 8, 9, 10

88. Maria and Vanria like to read. Maria read 3 hours a day for 22 days. Vanria read 4 hours a day for 18 days. Who read for more hours?

Answer: Vanria

89. Patsy's grandmother lives 36 km. from Patsy's home. Patsy goes two times a week with her family to visit her grandmother. How many km. do they travel each week going to her grandmother's home and back?

Answer: 144 km

90. CeRon's bedtime was usually 9:30 p.m. The night he went to the basketball game, he was one hour and fifteen minutes late going to bed. What time did he go to bed? Write the answer two ways.

Answer: 10:45 p.m. or 15 (quarter) minutes to 11

91. Jermicia, Donald, John, and Simone are waiting in line to see a movie. Simone is between Jermicia and Donald. John is last in line. Jermicia is not first in line. John is next to Jermicia. Donald is not second in line. In what order are they standing?

Answer: Donald, Simone, Jermica and John

92. There are 16 softball team members and two coaches in the dugout. If nine players go onto the field, how many people are still in the dugout?

Answer: 9

93. It takes Betsy 25 minutes to walk home. She leaves school at 3:15 p.m. What time does she get home?

Answer: 3:40 p.m.

94. Jim drove 768 miles of a 1200 miles journey. How many more miles does he need to drive to finish his journey?

Answer: 432 miles

95. Each of the four shapes below contains one of the numbers 3, 4, 6, or 8. The number inside each shape does *not* match the number of its sides. The number in the circle is odd. The number inside the triangle is the greatest. Which shapes contain which numbers?



Answer: Circle 3, triangle 8

96. Jim built pens for his dogs. If he puts 1 dog in each pen, he will have 2 dogs left over. If he puts 2 dogs in each pen, he will have 2 empty pens. How many dogs and pens does Jim have?

Answer: 8 dogs and 6 pens

97. What single digit number can you multiply by 4, subtract 3, divide by 5, and add 2 to arrive at the same number that you started with?

Answer: 7

98. The sum of the digits in the month, day, and year for Steve's birthday is 26. If he was born in 1990, in what months could he not have been born?

99. Ellen works 5 days a week for \$9 an hour. How much does she earn in a week?

Answer: \$45.00

100. Mrs. Johnson has 24 students in her fifth grade class. For every 5 girls in the class there are 3 boys. How many boys are in the class?

Answer: 9

Problems of the Day

Primary School Mathematics

Grade 5

THE BAHAMAS PRIMARY MATHEMATICS CURRICULUM
PROBLEMS OF THE DAY
GRADE: 5

Instructions: The following can be read aloud or written and discussed with students

1. Kenneth and Jan live on a straight road exactly 5 miles apart. One day, Kenneth rides his bike 3 miles toward Jan's house. At the same time, Jan rides her bike 1 mile toward Kenneth's house. They are now exactly 4 miles apart. What's wrong with the last statement?

Answer: They will be 1 mile apart. Draw a picture to help.

2. Cars are lined up in this pattern: black, black, red, black, black, red. If this pattern continues, what will be the color of the thirty-fourth car? How did you arrive at your answer?

Answer: The thirty-fourth car is black. Strategies will vary

3. The range of four numbers is 12. Three of the numbers are 28, 35, and 37. What is the fourth number?

Answer: 25 or 40 is the fourth number

4. Jason used 6 rolls of film to take 120 photos of animals at the Ardastra Garden. Some rolls of film had 12 exposures on each roll; others had 24 exposures. If all of the film were used, how many rolls of each kind of film did Jason use?

Answer: 2 rolls of 12 exposures; 4 rolls of 24 exposures

5. Jeannie was collecting money to help clean up the Humane Society animal shelter. She collected \$165 and had 18 bills. What combination of bills might she have collected?

Answer: Answers may vary. One possible solution is 2-twenties, 9-tens & 7-fives.

6. Matthew is 8 years old, and Joanna is 6 years younger. How old will Matthew be when he is twice as old as Joanna?

Answer: Matthew will be 12.

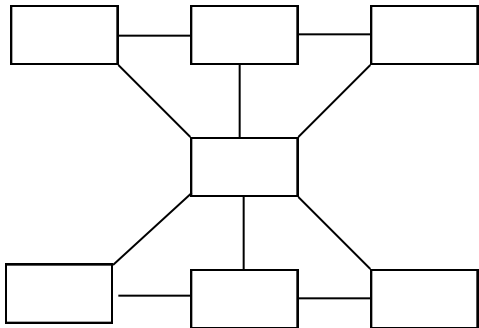
7. A goat’s owner receives \$1 000 for appearing on ZNS-TV and \$500 for starring in commercials. In one month the goat performed just seven times and earned \$4 500. Exactly how many times was the goat on ZNS? And, how many commercials was the goat in during the month?

Answer: 2 times on ZNS; 5 times in commercials.

8. A grade five class held a catching crab contest. Admission prices were \$0.50 for students and \$1.00 for adults. After the first half-hour, the class had \$20 in the cash box. How many students and how many adults might have bought a ticket?

Answer: Accept all answers that equal \$20.00 worth of tickets because there are several correct answers.

9. Place the number 1 through 7 in the boxes so the sum of any three boxes in a straight or diagonal line is 12. Use each number only once.



Answer: 1, 5, 6
4
2, 3, 7

10. The floor in The Poop Deck Restaurant needs new tiles. The floor measures 36 feet by 42 feet. Tiles that are 1 foot by 1 foot cost \$0.90 each. A box of 500 tiles is \$450. What combination of boxes and single tiles should the restaurant buy to get the lowest cost?

Answer: 3 boxes and 12 single tiles.

11. Forty-eight goldfish were in tanks. Each tank held either six or eight fish. All the tanks were full. How many fish were in each tank?

Answer: Answer will vary.

12. Use the rule below. Choose any three inputs. What are the outputs? Tell what happens when you multiply and divide by the same number. Rule: Input $\times 6 \div 6 =$ output

Answer: The division reserves the multiplication and the input = output.

13. In each riddle, the answer is one more different whole numbers. Use the clues to find each mystery number.

- a. Clue: I am less than 100.
Clue: The sum of my digits is 4.
Clue: If you divide me by 2, you get an odd number. I am the number_____

Answer: 22

- c. Clue: If multiplied by 2, I become a number greater than 20 and less than 40.
Clue: If multiplied by 6, I end in 8.
Clue: If multiplied by 4, I end In 2. I am the number_____

Answer: 13 or 18

14. Marco wanted to put three 3-foot shelves over his desk. He bought a 9-foot board and had it cut into three equal pieces. Kelly’s Lumber Yard charged \$1.50 per foot for the board, and \$0.50 for each cut. Marco received this bill and was upset. He said he was charged too much. What’s wrong? Kelly’s Lumber Yard

ITEM	COST
9-ft.board	\$13.50
3 cuts at \$0.50 each	1.50
Total	\$15.00

Answer: He only needed 2 cuts to get 3 pieces.

15. It took the Millers 20 minutes to drive from the villa in Eleuthera to the beach. They stayed on the beach for 2 hours. They spent another 20 minutes driving back to the villa. They arrived back at 4:40pm. What time did they leave for the beach?

Answer: 2:00 p.m.

16. The Rolles and their 3 children bought postcards to send to their friends and relatives from Eleuthera. Mr. and Mrs. Rolle sent 8 postcards. The children sent 2 postcards each. They have 4 postcards left. How many postcards did they buy?

Answer: 18 postcards

17. Mr. and Mrs. Johnson and their three children visited a straw market. They spent \$15.00 on souvenirs, \$25.75 for lunch and \$8.00 on the adult coconut water. If they spent a total of \$56.25 at the straw market, what did they spend on the children's strawberry daiquiri?

Answer: \$7.50 (\$2.50 per child)

18. While in Eleuthera, Mr. Rolle filled his empty gas tank with 20 gallons of gas. He drove a total of 250 miles and then bought 10 gallons of gas to fill his tank. How many miles per gallon does he get?

Answer: 25 mpg

19. In Acklins, a grade five class of 25 students collected bottles to turn in for a \$0.05 deposit on each. If they got \$17.50, what is the average number of bottles each student collected?

Answer: 14 bottles

20. How many edges does a rectangular prism have?

- a. 12
- b. 8
- c. 6

Answer: 12

21. Mrs. Smith lives in Abaco and is planning a 500-mile trip. Her car gets 29 miles per gallon. Can she make the trip on 17 gallons of gas? Explain.

Answer: No, she will run out of gas at 493 miles.

22. Craig bought some crushed ice for \$1.75. Then he spent twice as much on snacks. If Craig had \$5.60 left, how much money did he have before buying the ice and snacks?

Answer: \$10.85

23. Lillymae leaves the playground and walks 120 metres west. Then she walks 40 metres north. After that, she walks 50 metres east and then 40 metres south. Where is she now?

Answer: 70 metres west of where she started.

24. The caterer suggests ordering twice as many paper napkins as the number of guests expected. The napkins come in packs of 100, 50 and 25. Based on the suggestion, how many napkins will be needed for 172 guests? What combination of packs should be ordered?

Answer: 344 napkins. Accept any reasonable combination.

25. When Keisha divided 1 954 by 19, she got an incorrect answer of 12 R16. Why is her answer not reasonable? What is the correct answer? What did Keisha do wrong?

Answer: Accept all reasonable explanations. a. the estimate is 200 b. 102 r 16 c. she left out the zero

26. Bethel Baptist Church plans to serve Christmas dinner to 624 senior citizens. The chefs plan to have one pound of turkey for every 2 guests. If they purchase 24-pound turkeys, how many do they need?

Answer: 13 turkeys

27. You measure an angle to be 60. Your classmate uses the same protractor and thinks the angle is 120. What is wrong with one of the measurements?

Answer: Student is reading the incorrect number used for obtuse angles.

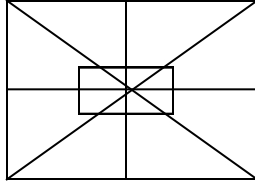
28. Can a triangle be an acute triangle and also a scalene triangle? A right angle triangle and also an isosceles triangle? Why or why not?

Answer: Yes, explanations will vary.

29. A square, a rectangle, a trapezoid and triangle were used in a sketch of a building. The square is above the rectangle and below the triangle. The trapezoid is below the triangle and above the square. What is the order of the figures from top to bottom?

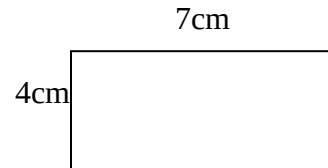
Answer: Rectangle, square, trapezoid, triangle.

30. Look at the drawing below. How many quadrilaterals can you find? How many triangles?



Answer: 26 quadrilaterals; 32 triangles

31. Find the area of the figure.



Answer: 28 sq.cm

32. A. Batelco uses capital letters as designs on the tags of their key chains. Which letters of the alphabet are symmetrical? Which letter has the most lines of symmetry?
B. Draw your own symmetrical design. The design could represent a junkanoo shack, a club, a company, or just an interesting pattern. Show the lines of symmetry.

Answer: (A) The letter O has the most lines of symmetry. (B) Designs will vary.

33. The first time the carnival juggler appears, he juggles two balls; the second time, four balls; and the third time, six balls. If this pattern continues, how many balls will he juggle the fifth time?

Answer: 10

34. Square boxes 3 cm on each side are packed in a larger box 24cm on each side. How many small boxes can be packed on the bottom layer of the box?

Answer: 64 small boxes

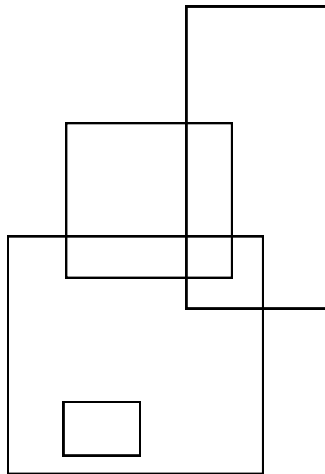
35. Carol wants to put a sea grape leaf with a diameter of 10 inches into the box shown. Will the sea grape leaf fit?

Answer: No, the sea grape leaf cannot fit. Diameter is longer than the width of the box.

36. You want to stack three circular puzzle boxes in a cardboard carton 10 in. wide, 10 in. long and 4 in. high. Each puzzle box is 8 in. in diameter and 2 in. thick. Will the boxes fit? Tell why or why not.

Answer: No, because the carton is only 4 inches high and the 3 puzzle boxes will be six inches high.

37. How many rectangles are there? Hint! Remember that a square is a special rectangle.

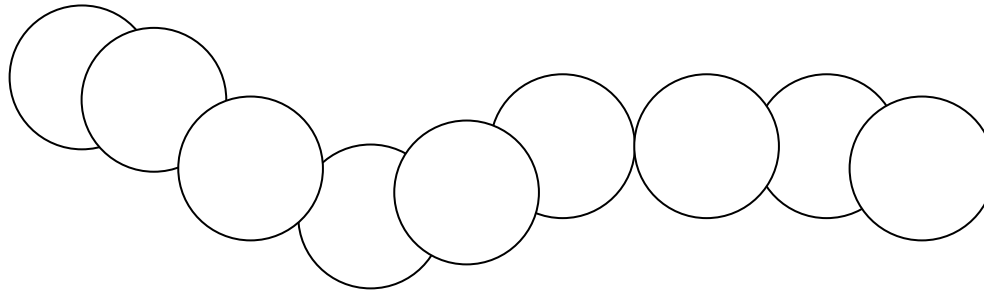


Answer: 13 rectangles

38. The brass section in the Royal Bahamas Police Force Band is arranged in a 5 by 11 rectangular array. Is the total number of brass players a prime or composite number? Explain

Answer: 55-composite

39. Copy the drawings below on a sheet of paper. Place the numbers 1-9 in each of the nine sections so that the sum of the numbers in each pair of circles is 20. Use each number only once.



Answer: Tell what strategy you used

40. Andy deposited five hundred twenty-seven thousand, eight hundred fifty-five dollars into an account. The account was credited with the amount written in reverse. How much was credited to Andy's account?

Answer: \$558 725 credited to Andy

41. Outside of Adelaide Primary School there were 7 bicycles and tricycles. There were 18 wheels altogether. How many were bicycles and how many were tricycles?

Answer: 4 tricycles, 3 bicycles

42. It took 10 years for the Nassau Guardian to make 1 million dollars per year. Then the services yearly earnings increased 10 times every 5 years. What would be their yearly earnings given the rate of increase was the same each year?

Answer: \$2 000 000.00 would be their yearly earnings

43. The brass section in the Royal Bahamas Police Force Band is arranged in a 5 by 11 rectangular array. Is the total number of brass players a prime or composite number? Explain

Answer: 55 Composite

44. A survey showed that 91 people watched ZNS from 7 o'clock to 8 o'clock. Also, 109 people watched JCN from 7 o'clock to 8 o'clock. Did more than half of the people surveyed watch ZNS from 7 o'clock to 8 o'clock? How do you know?

Answer: No, because 91 is less than half of 200

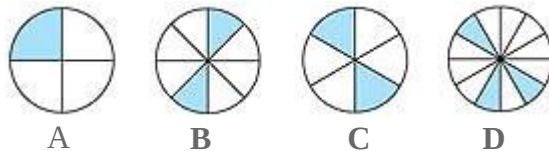
45. Renaldo rounded the price of a textbook to get \$20.00. What is the cheapest price of the textbook?

Answer: \$15.00 is the cheapest price of the textbook

46. In the backyard there were some animals. Some were chickens and some pigs. Altogether there were 15 heads and 44 legs. How many chickens and how many pigs were in the backyard.

Answer: 7 pigs and 8 chickens

47. In which of the figures below is there the greatest probability that a dart landing inside the figure will land on a shaded area?



Answer: C

48. Willie's mother is 5 feet tall and his sister is 4 feet tall. His mother is taller than the hibiscus bush in the yard, but the bush is taller than his sister. Willie estimates that the height of the bush is between 4 feet and 5 feet. Is he correct? Why or why not?

Answer: Yes, Willie is correct because his sister is 4 feet tall and his mother is 5 feet tall.

49. What is 25?

[Teacher's Note: Students should answer this question in as many ways as possible such as: 25 is 5×5 ; 25 is the date of Christmas ; 25 is $20 + 5$; 25 is one less than 24]

Change the number to create another problem of the day.

50. Mrs. Davis is decorating a rectangular room for a party that measures 30 m by 25 m. She ordered a 100 m length of crepe-paper streamers. Will she have enough streamers to decorate all around the room? Tell why or why not.

Answer: No. The room's perimeter is 110 m.

51. A farmer wanted to cross a lake in a dingy with a sheep, an iguana and a head of cabbage. The dingy could only hold two of them. The farmer could not leave the sheep with the cabbage because he would eat it. He could not leave the iguana with the sheep because the iguana would eat the sheep. How does the farmer get everyone across the lake?

Answer: First take the iguana and the cabbage, then take the sheep

52. What is the greatest possible number of zeros contained in a number that starts with a 5 in the thousands place and ends with a 5 in the thousandths place?

Answer: 5

53. Warren says that he estimated how much money he has in his bank account. His estimation is \$200.00 to the nearest hundred dollars. How much money could Warren have in his account exactly?

Answer: Lowest amount is \$150.00 and highest amount is \$240.00

54. The Bahamas National Basketball League has 12 teams. If there are 9 players on each team, how many players belong to the league? How would you solve this problem if you did know the basic multiplication fact?

Answer: 108. Accept all reasonable explanations.

55. Bahamas Power and Light charges \$12.00 per Kilowatt-hour (kwh) of use. In one month, the Davis' family used about 669 kwh of electricity. The Davis' are trying to estimate the cost of the electricity to record in their household budget. What is the greatest amount that might record as an estimation? How did you arrive at your estimation?

Answer: $12 \times 700 = \$8\,400.00$ estimation

56. Brittney is making a pictograph to show the number of Family Island students in her high school. She has found that 21 students come from Abaco, 49 from Exuma, 63 from Grand Bahama, 14 from Acklins and 28 from Inagua. What value should she choose for the pictograph symbol? Explain your answer.

Answer: value = 7, numbers are all multiples of 7

57. Aaron's parents promised that he could go to Adventure Learning Centre if his math average was at least 85. Aaron got these scores on math tests: 62, 81, 100 and 87. What score does Aaron need on his next math test to have an 85 average?

Answer: 100

58. Mrs. Ingraham has a set of wooden boxes that fit inside one another. The width of the smallest box is 2 cm. The width of the next box is 5 cm. The width of the third box is 9 cm. What is the width of the fifth box if this pattern continues? Describe the pattern. Tell how you used the pattern to solve the problem.

Answer: Pattern increases by 1(3, 4, 5, 6,7...) add 5 to 9 to get 14 then add 6 to 14 to get 20

59. Marcia bought some presents for Jill, Calvin and Sarah. She gave 4 to Jill and twice as many to Calvin. She gave the other half of her presents to Sarah. How many presents did she buy?

Answer: 24 presents

60. Tracey bought 6 model planes at Kelly's. Each plane cost \$3.50. She gave the salesperson \$18.30. The salesperson told Tracey that she will owed \$2.70. What did Tracey do wrong?

Answer: She switched the 5 and 0 before she multiplied.

61. A recipe calls for 8 cups of dilly juice, 4 cups of guinep juice and 12 cups of pineapple juice to make a fruit punch. How many cups of dilly juice and pineapple juice should Evan use if he has only 1 cup of guinep juice?

Answer: Dilly Juice = 2 Pineapple Juice = 3

62. I am a closed-plane figure. I have straight sides. I do not have any right angles. None of my sides are the same length. I have fewer sides than a quadrilateral. What am I?

Answer: Scalene triangle

63. We are three numbers. Our least common multiple is 30. Our sum is 14. Who are we?

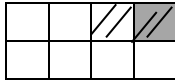
Answer: 3, 5, 6

64. Max weighs $12\frac{1}{2}$ pounds more than his little sister. Max's little sister weighs $14\frac{1}{2}$ pounds more than his baby brother. Max's baby brother weighs $18\frac{1}{4}$. How much does Max weigh?

Answer: $45\frac{1}{4}$ pounds

65. Suppose one quarter of an athletic field is devoted to basketball. One half of the basketball section has lower baskets. Make a diagram to find what fraction of the athletic field has lower baskets.

Answer: 1/8



66. Ed is building a picket fence. He needs 3 pickets for $\frac{1}{4}$ of a section of the fence. The whole fence is 4 sections long. Make a diagram to find out how many pickets he needs.

Answer: Check all diagrams

67. Two groups in Ms. Jackson’s class have been assigned to decorate the bulletin board. The groups have decided to divide the space diagonally. This creates two right triangles. The board measures 4 ft. high by 12 ft. long. How much space will each group have to decorate?

Answer 24 sq. ft.

68. 300 000 people live in New Providence. If they were standing in a line, holding hands with their arms outstretched about how many kilometers long would this line be?

Answer: Accept all reasonable solutions, not just answers

69. If you drew a dot in every square of a 25 x 40 grid every second for 24 hours a day and 365 days a year, would it take more or less than two years to draw 1 billion charts?

Answer: Use a calculator: More than 2 years (2 years = 63 062 000 dots)

70. Hamblin volunteered to bring cupcakes for the class. His mother made 3 dozen cupcakes. Each of the 21 students ate a cupcake. Write an algebraic equation that shows how many cupcakes are left. Use C as the variable.

Answer: C = 36-21

71.A student averages 72 on 5 different tests. If the lowest score is dropped, the average rises to 84. What is the lowest score?

Answer: The score removed to change the average from 72 to 84 is 24.

72. How many whole numbers between 100 and 300 contain the digit 3 exactly once?

Answer: 36

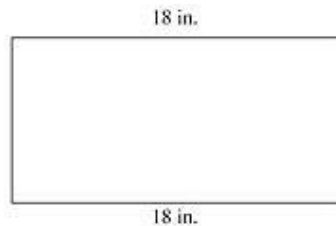
73. If 4 days ago was the day before Monday, what is tomorrow?

Answer: Monday

74. Nick plays for a hockey team. In his first 3 games he scores a total of 8 goals. He scores 1 less goal in the third game than in the second game. If he scored 3 goals in the third game, how many goals did he score in the first game?

Answer: 13 goals

75. In the figure below, the smaller sides of the rectangle are half the length of the longer sides. What is the perimeter of the rectangle?



Answer: Perimeter is 54 ins.

76. The sum of the digits of a 4-digit number is 28. The digits are in order from greatest to least and are not repeated. What is the number?

Answer: The number is 9 874

77. If a number is multiplied by 7, the product is 56. If you double the number and divide the result by 3, what is the remainder?

Answer: The remainder is 1

78. How many $\frac{1}{8}$ in. pieces can be cut from a length of pipe 16 ft long?

Answer: $16 \times 12 = 192$ inches- $192/8 = 24$ pieces

79. What part of a dollar is 2 quarters, 2 dimes, 1 nickel, and 2 nickels?

Answer: $80/100 = 4/5$

80. What three consecutive numbers have a sum of 33?

Answer: 10, 11, 12

81. Norman buys baseball cards at 9 for \$10 and sells them at 6 for \$10. How many cards must he sell to make a profit of \$100?

Answer: 72

82. Find the next set of letters in the pattern: am, BN, co, DP, eq,?

Answer: FR

83. Five girls ran in a race. Ellen came in behind Lita. Ruth was behind Ellen and Lita. Sally was between Ruth and Ellen. Nelda came in second. Who came in first?

Answer: Lita

84. Claudia divided \$1 520.00 between different charities. If she divided the money equally and gave to less than 8 charities, how many charities did Claudia give the money to? How much did she give each charity?

Answers: \$305.00 to 5 charities; \$380.00 to 4 charities; \$760.00 to 2 charities

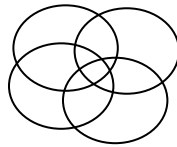
85. If you take a certain number, divide it by 4, add 14, multiply by 3, and subtract 5, the answer is 49. What is the number?

Answer: 16

86. The figure below shows how three circles can be placed so that each circle intersects every other circle. Show how you can place four circles so that each circle intersects every other circle.



Answers



87. At a toy shop a bell rings every hour and 15 minutes, and a whistle blows every 25 minutes. If the bell and whistle sound together at noon, when will they sound together again? After this event, when will they sound together again?

Answer: They will sound together again at 1:15 p.m. and 2:20 p.m.

88. Your class raised some money for a field trip to Spanish Wells. The first week you raised \$9 less than the second week. The third week you raised half as much as the second week. The fourth week you raised \$5 more than the third week. If you raised \$30 the fourth week, how much did you raise the first week?

Answer: \$41.00

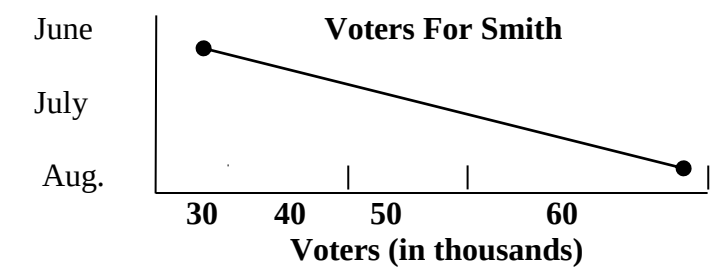
89. The caterer suggests ordering twice as many paper napkins as the number of guests expected. The napkins come in packs of 100, 50, and 25. Based on the suggestion, how many napkins will be needed for 172 guests? What combination of packs should be ordered?

Answer: 344 napkins. Accept any reasonable combination.

90. When Keisha divided 1 954 by 19, she got an incorrect answer of 12 R16. Why is her answer not reasonable? What is the correct answer? What did Keisha do wrong?

**Answer: Keisha's answer was not reasonable because estimate = $2000/20 = 100$; Keisha left out the zero
The correct answer is 102 r16**

91. Senator Dion Foukes saw this graph and thought that people did not like him. Is it true?



Answer: Accept all reasonable interpretation

92. How many addition signs should be put between digits of the number 987654321 and where should we put them to get a total of 99?

Answer: a. $9 + 8 + 7 + 65 + 4 + 3 + 2 + 1 = 99$ (7 addition signs) b. $9 + 8 + 7 + 6 + 5 + 43 + 21 = 99$ (6 addition signs)

93. A man has to be at work by 9:00 a.m. and it takes him 15 minutes to get dressed, 20 minutes to eat and 35 minutes to walk to work. What time should he get up?

Answer: 7 hours + 120 minutes - 70 minutes = 7 hours and 50 minutes = 7:50 AM

94. If you begin with a one digit integer, multiply by 3, add 8, divide by 2 and subtract 6, you will get the integer back.

Find the number.

Answer: $[(3 \cdot x + 8)/2] - 6 = 4$

95. Rachel opened her math book and found that the sum of the facing pages was 243. What pages did she open to?

Answer: $243/2 = 121.5$

121.5 pages are whole numbers therefore the pages are 121 and 122

96. There are 12 people in a room. 6 people are wearing socks and 4 people are wearing shoes, 3 people are wearing both. How many people are in bare feet?



Answer: $12 - 7 = 5$ people in bare feet

97. An ice cream stand has nine different flavours. A group of children come to the stand and each buys a double scoop cone with two flavours of ice cream. If none of the children choose the same combination of flavours, and every different combination of flavors is chosen, how many children are there?

- FLAVOURS**
- 1 Vanilla**
 - 2 Maple**
 - 3 Chocolate**
 - 4 Tiger**
 - 5 Raspberry**
 - 6 Strawberry**
 - 7 Coffee**
 - 8 Moon Mist**
 - 9 Cherry Vanilla**

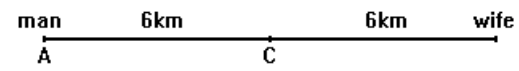
Answer: $36 = 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1$ **There are 36 children.**

98. Super Value Food Store has a sale on bananas. If you buy six bananas you get the sale price. If the grocer has 489 bananas, how many bunches of six can he sell at his sale price? In this case how many can be sold at the regular price?

489 divided by 6 equals 81 with a remainder of 3

Answer: **He can sell 81 bunches, which would leave him 3 to sell at regular price.**

99. If a man can walk 4km in 1 hour and his wife can walk 5km in 1 hour, how many minutes will it take them to meet if they begin walking at the same time at opposite ends of a 12km road, and have agreed to meet at the half way point?



Time for Man	Time for Wife
6km / 4km/hr.	6km / 5km/hr.
=	=
$\frac{3}{2}$ * 60mins.	$\frac{6}{5}$ * 60mins.
=	=
90 minutes	72 minutes

Answer: As the woman will get there first, she will have to wait for the man. The time taken to meet will be 90 minutes.

100. A math student interviewed 50 fifth graders. 41 said they like peanut butter sandwiches, 35 liked jam sandwiches and 30 liked both on their sandwiches. How many students liked neither?

Only Jam	Only Peanut Butter	Jam/Peanut Butter
35 - 30	41 - 30	30
5	11	

Answer: Number that liked neither = 50 - (5+11+30) = 4

Problems of the Day

Primary School Mathematics

Grade 6

THE BAHAMAS PRIMARY MATHEMATICS CURRICULUM
PROBLEMS OF THE DAY
GRADE: 6

Instructions: The following can be read aloud or written and discussed with students.

1. Thomas paid \$7.00 for 8 conch shells. Small shells cost \$0.50 each. Large shells cost \$1.50 each. How many of each size did he buy?

Answer: 5 small and 3 large shells

2. A video titled The Explorer's Guide to The Bahamas is 35 minutes longer than The Explorer's Guide to Mount Alvernia. The combined running time of the videos is 2 hours 11 minutes. How long is each video?

Answer: Oceans 1 hour 23 min; Rivers, 48 min

3. Karyn paid \$27.00 for two books about hurricanes. The hardcover book cost three times as much as the paperback book. How much did each book cost?

Answer: Paperback, \$6.75; hardcover \$20.25

4. Ryan bought 27 seashells. He bought twice as many pieces of conch shells as he did sand dollars and 3 times as many pieces of star fish as he did conch shells. How many did he buy?

Answer: 3 sand dollars, 6 conch shells, and 18 starfish

5. Josie gave 12 conch shells from her collection to Andy. She then received 15 conch shells from Lisa and gave 24 to Sophia. She now has 62 conch shells. How many conch shells did she have originally?

Answer: 83

6. In the jewelry case, a necklace is displayed to the left of a bracelet and next to a ring. A watch is displayed to the right of the necklace but to the left of the bracelet. List the pieces of jewelry in order, from left to right, as they appear in the case.

Answer: sample answer; ring, necklace, watch, bracelet

7. Lauren received \$0.55 in change after buying 3 large Bahamian postcards at a cost of \$0.75 each and 4 small Bahamian postcards at a cost of \$0.55 each. How much money did she give the clerk?

Answer: The clerk received \$5.50

8. In a display case, six rocks are arranged according to weight. The lightest rock weighs 3.4 oz., and the next rock weighs 4.5 oz. If the samples increase in weight by the same amount, what are the weights of the remaining rocks in the display?

Answer: The weights are 5.6 oz., 7.8 oz., 8.9 oz.

9. Look at the problem below (part number and part letters) and use the clues to complete the number.
555-abcd

Clue 1: All digits are different

Clue 2: d is the only odd number

Clue 3: a is the only prime number

Clue 4: $d = 3$

Clue 5: $c < 8$

Clue 6: $c - b = a$

Answer: The number is 555-2469

10. Look at the problem below (part number and part letters) and use the clues to complete the number.
800-jkmn

Clue 1: All digits are different

Clue 2: Only m, and n are prime

Clue 3: Only j, m, and n are odd

Clue 4: $n = 5$

Clue 5: $m < n$

Clue 6: $j \times j = j$

Clue 7: $k \times k = k$

Answer: The number is 800 – 1035

11. One model plane travels around a loop every 5 minutes. The other plane travels on another loop every 4 minutes. If they begin at the same point at the same time, how much time will pass before they meet at that point again?

Answer: 20 minutes

12. One airplane leaves Lynden Pindling International Airport for Cat Island every 15 minutes. Another leaves for Inagua every 20 minutes. If service to both Islands start at 9:15 a.m., when will the airplanes leave the airport again at the same time?

Answer: The airplanes leave the airport at the same time is 10:15 a.m.

13. Suppose the Welcome Center gives a discount coupon to every tenth visitor. Every twelfth visitor gets a free T-shirt. Which will be the first visitor to receive both?

Answer: 60th visitor

14. Lenny, Mark, and Liza are going to jog along 3 different trails at Goodman's Bay. To complete one lap, Lenny takes 6 minutes, Mark takes 12 minutes, and Liza takes 9 minutes. If they start at the same time, how many minutes will it be before they are together again at the starting point?

Answer: 36 minutes

15. Which is more money: 50% of the sum of \$150 and \$50 or 1.5 times the difference \$50 and \$150?

Answer: 1.5 times the difference between \$50 and \$150

16. Would you rather have 10 000 000 ten-dollar bills or 100 000 thousand-dollar bills? Explain

Answer: Either, both quantities equal \$100 million

17. An accountant wrote 4.527 billion dollars as 4.526 billion dollars. How much was this small mistake worth in dollars? Write your answer in whole numbers.

Answer: 1 000 000

18. How many numbers less than 1,000 are there that contain only the digits 5 or 6 or both 5 and 6? A digit may be used more than once.

Answer: 14

19. There are two lines of people. One person leaves the shorter line. Eight move from the longer to the shorter line. There are now 10 people in each line. How many started in each line?

Answer: the lines had 18 people and 3 people

20. Ian is going away. He has budgeted \$35 each day for food. What is a reasonable amount to budget for total food costs if he goes away for three weeks?

Answer: A reasonable amount to budget for total food is \$800

21. Paul has invited 221 people to a party. All but 33 who people accepted actually attended. Half of the people who attended brought a friend. How many people came?

Answer: 276

22. A number N increases by 29 when it is rounded to the nearest hundred. N decreases by 1 when rounded to nearest ten. If N is between 400 and 500, what is N ?

Answer: 471

23. An elevator has a weight capacity of 13 adults. When 9 adults and 10 children get on the elevator it is a full capacity. Using 150lb as the average weight of an adult, estimate the average weight of a child.

Answer: 60 lbs.

24. The sum of five decimals is 25.0. Each decimal is 0.1 greater than the one that precedes it on the number line. What are the decimals?

Answer: 4.8, 4.9, 5.0, 5.1, 5.2

25. Subtracting a number from 30 gives the same result as adding the number to 18. What is the number?

Answer: 6

26. Ben follows a pattern of pushes up each week. From Week 1 to Week 6 he does 0, 20, 10, 30, 30 and 40 push ups. When will he be doing 70 and 80 push ups?

Answer: week 12 and week 14

27. Write +, -, or x in each box:

$$12 \square 6 \square 3 =$$

How many different whole numbers can you express? What are they?

Answer: 9 different numbers

28. What is the greatest number you can make using two different operations and the numbers 25, 40, and 6?

Answer: 1240

29. A number is doubled and the product is increased by 10. Then 3 is subtracted from the result. The final number is 57. What is the number that was doubled?

Answer: 25

30. Bus fare to and from school is \$1.00 each week. Fifteen students decide to save money by walking. If they make the round trip five days a week, estimate how many weeks it will take them to save \$1 500

Answer: about 20 weeks

31. What is the value of DE?

ABC

X DE

EEE

ABCE

ABCE

Answer: 10

32. The product of 12.5 and another decimal number is greater or equal to 1. What is the least value the other decimal can be?

Answer: 0.08

33. The difference between two numbers is 4 less than their sum. One number is one less than the other number. What are the two numbers?

Answer: 2 and 3

34. 4 is how many times as great as the product of 0.2×0.2 ?

Answer: 100

35. Harvey made 24 pounds of tamarind sauce. He wants to fill an equal number of 4 pound jars and 2 pound jars with the tamarind sauce. How many of each size will he need?

Answer: 4 of each size jar

36. A small plant grew 2.5 cm in 100 days. At this rate, about how much will the plant grow in 3 years?

Answer: 27 cm

37. George drove 310 miles on 16 gallons of gas. He has 3 more gallons of gas in his tank. Can he make it 62 miles to the next gas station? Explain using estimation.

Answer: No. He is getting about 20 miles per gallon so $3 \times 20 = 60$

38. Find the dividend, divisor, and quotient for the 8th problem in the series. (Hint: Carry out the divisions to find the pattern)
 $2 \div 2$; $36 \div 3$; $492 \div 4$; $6,170 \div 5$; $74,070 \div 6$.

Answer: 111 111, $102 \div 9 = 12$ 345 678

39. Charlene divided a number by a 2-digit divisor and got a quotient of 99 R 98. What is the divisor? What is the dividend?

Answer: 99; 9 899

40. A broken calculator always gives a quotient which is 10 times the real quotient. How would you need to enter this problem to have the calculator show the correct answer?
 $3793.62 \div 46$

Answer: $379.362 \div 46$ or $3,793.62 \div 460$

41. Each cookie from a 24 –oz. box of cookies weighed 0.8 oz. A new box with 10 fewer cookies also weighs 24 oz. How much heavier is a cookie from the new box than a cookie from the first box?

Answer: 0.4 oz heavier

42. If this pattern continues, what will be the letter in the 40th position?

Monday Monday Monday

Answer: d

43. If M is not 0 or 1, find the value of M if $3(M + M) = 3(M \times M)$.

Answer: M = 2

44. Tim has 5 more blue ties than half the number of his red ties. He had 3 more yellow ties than one quarter the number of his blue ties. He has 6 red ties. How many ties of each color does he have?

Answer: 6 red, 8 blue, 5 yellow

45. Suppose a person bought an antique chair for \$40, sold it for \$45, bought it again for \$50, and sold it again for \$55. How much profit was earned?

Answer: \$10.00

46. Guess and check to find the missing numbers in this data set. The mean of the data set is 105. The mode is 108. (100, 103, ?, 108, ?)

Answer: 107; 108

47. You have 1-lb, 10-lb, and 100-lb cowbells. What is the number of cowbells needed to balance a scale with 185-lb on one side of the balance?

Answer: 8 cowbells

48. The sum of four numbers is 40. If a fifth number is added, the mean of the numbers becomes 12. What is the fifth number?

Answer: 20

49. Jan is walking up a down escalator. For every 6 steps she walks up, the escalator moves down 2 steps. If there are 28 steps between floors, how many steps will Jan climb to reach the next floor?

Answer: 42 steps

50. Choose any number. Subtract 3. Multiply by 4. Divide by 2. Add 6. Divide by 2. Try other numbers. What do you find? Why do you think that is?

Answer: the answer is always the number with which you start

51. One April 15, Kara planted a seed that will grow at a rate of 4 cm every 15 days. What will be the height of her plant on July 4?

Answer: greater than 20 cm. but less than 24 cm.

52. Use 4s and show the operations to make the number 2.

Answer: sample answer

$$\frac{(4 \times 4)}{(4 + 4)}$$

53. One half of Karl's father's age added to one third of his mother's age is 31. His father is 38 years old. Karl was born when his mother was 25 years old. How old is Karl?

Answer: 11 years old

54. A fraction is equivalent to $\frac{1}{2}$. Its numerator is a multiple of 5 and its denominator is between 21 and 39. What is the fraction?

Answer: 15/30

55. Find two equivalent fractions, A and B. A's numerator is 3 times B's numerator. A's denominator is 36. B's numerator is 5.

Answers: A= 15/36; B= 5/12

56. The Bahamian Prime Ministers Pindling and Ingraham were elected in the only years between 1789 and 2000 that were divisible by 2, 3, 4, 5, 6, 9, and 10. What are the years? (Hint: Elections occur every 4 years, and the year 2000 is an election year.)

Answers: The years are 1800 and 1980

57. Pat has \$25.00 to buy a pair of kneepads and a pair of elbow pads. Kneepads cost \$7.50 each. Elbow pads cost \$6.00 each. How much more does she need?

Answer: \$2.00

58. Put these numbers in order from least to greatest.

5, 2, 0.5, 0.5, 0.2

Answer: 0.2, 0.5, 0.5, 2, 5

59. What is the smallest number that is divisible by each of the first three prime numbers?

Answer: 30

60. What's the number? It is a multiple of 5. It is a factor of 50. Its tens digit is 3 less than its one's digit.

Answer: 25

61. Larry has some flamingoes and rabbits. He counts 16 heads and 42 legs in the barnyard. How many of each animal does he have?

Answer: 5 rabbits and 11 flamingoes

62. Clock A rings every 9 min. clock B rings every 12 min. clock C rings every 20 min. All the clocks rang at noon. When is the next time all 3 will ring at the same time?

Answer: The next time is 3:00 p.m.

63. Nobody knows how old Aunt Helen is but she gave a few hints. She had passed $\frac{1}{20}$ of her life before she started school. She spent $\frac{3}{20}$ of her life in school; She worked for $\frac{1}{10}$ of her life before she got married. She was married for $\frac{2}{5}$ of her life. Her husband died after $\frac{7}{10}$ of her life.

From reading Uncle Harry's gravestone you find out that she has been a widow for 24 years. How old is Aunt Helen?

Answer: $(\frac{3}{10}) * ? = 24$ and $24 / (\frac{3}{10}) = 80$. Aunt Helen is 80 years old.

64. An example of five consecutive even numbers is 10, 12, 14, 16, and 18. Find five consecutive even numbers whose sum is 450.

Answer: 86, 88, 90, 92, 94

65. Which of these numbers has the least number of different prime factors? Explain how you know.

360 810 1 000

Answer: 1 000

66. Find the missing denominators so that the sums of these fractions is 1.

$$1/\square + 2/\square + 3/\square + 4/\square = 1$$

Answer: Answers may vary. Sample answer: the denominator of each fraction is 10

67. Ty is ordering pizza for a party. Each person will eat $\frac{3}{8}$ of a pizza. No slices will be left over. What is the least number of pizzas he should order?

Answer: 3 pizzas

68. A and B are mixed numbers. B is greater than A. When you round each to nearest whole number and add them together, the sum of the rounded numbers is 10. Find the numbers.

Answer: sample number: A = $3\frac{4}{5}$ and B = $5\frac{3}{4}$

69. Wendy received scores 5, 5.9, 5.7 and 6 from four judges. What score did she receive from a fifth judge if her average score was 5.7?

Answer: 5.9

70. The numerator of each of four fractions is 1. Each denominator is a different number. Name the fractions.

Answer: sample answer: $\frac{1}{12}$, $\frac{1}{6}$, $\frac{1}{4}$, $\frac{1}{2}$

71. Each pair of fractions has a sum of 1. Find the missing denominators.

$$\frac{3}{4} + \frac{3}{\quad} = 1 \quad \frac{4}{5} + \frac{4}{\quad} = 1$$

$$\frac{5}{6} + \frac{5}{\quad} = 1 \quad \frac{6}{7} + \frac{6}{\quad} = 1$$

Answer: 12; 20; 30; 42

72. The sale price of a shirt is the regular price minus $\frac{1}{5}$ of the regular price. What fraction of sale price will be equal to the discount received?

Answer: $\frac{1}{4}$

73. Theo has \$1.00 in five cents and ten cents. He has twice as many five cents as ten cents. How many five cents does he have? How many ten cents?

Answer: 5 ten cents and 10 five cents

74. Find $a + b$. write your answer in simplest form.

$$\frac{1}{1 \times 2} + \frac{1}{2 \times 3} + \frac{1}{3 \times 4} = a$$
$$\frac{1}{4 \times 5} + \frac{1}{5 \times 6} = b$$

Answer: $\frac{5}{6}$

75. Anne gave $\frac{1}{3}$ of her stamps to Mary, $\frac{1}{5}$ to Lucy, and her 7 remaining stamps to Leah. How many stamps did Anne give away?

Answer: 15 stamps

76. Find the missing members of this sequence.

$$4\frac{1}{6}, 2\frac{5}{6}, 4\frac{1}{2}, 6\frac{1}{6}, ? ?$$

Answer: $7\frac{5}{6}, 9\frac{1}{2}$

77. Half of 36 students brought some food to school. Half of those who brought food brought some fruit. How many did not bring fruit?

Answer: 27 students

78. Jeff multiplied a fraction by itself to get product P. He then multiplied P by 18 to get a product of 2. What is the fraction?

Answer: $\frac{1}{3}$

79. Alex made two equal groups of pears. He began with a number between 60 and 70 pears. One group was for a pie. He gave away $\frac{3}{8}$ of the other group. How many pears did he begin with?

Answer: 64

80. Of A, B, and C, two numbers are fractions and one is a mixed number. If $A \times B = C > B$, and $C < A$, then which number is the mixed number? Explain.

Answer: A because C is greater than B but less than A.

81. A is a whole number and B is a fraction, where $A \times B = C$ and $A \div B = D$. Rank A, B, C, and D from greatest to smallest. Explain using examples.

Answer: $D > A > C > B$. answer will vary. Check student’s examples.

82. The gauge in Ted’s tank is one $\frac{1}{8}$ Gas cost \$1.50 a gallon. The tank holds 18 gallon. What will it cost Ted to fill the tank?

Answer: \$23.50

83. Angela is cutting shelves from 14-ft board. Each cut takes her $1\frac{1}{2}$ minutes. How many shelves will she make if she spends 9 minutes sawing?

Answer: 7 shelves

84. Jed was on a plane trip. Halfway into his flight, Jed began reading his book. When he stopped reading, the distance remaining in the flight was half the distance flown when he was reading. For what fraction of the trip was Jed reading?

Answer: $\frac{1}{3}$ of the trip

85. Find the value of A,B, C, and D. then complete the addition sentence.

$$\begin{array}{r} A\ BCD \\ + C\ ABC \\ \hline 13\ 986 \end{array}$$

Answer: $A = 7, B = 2, C = 6 ; D = 0; 13\ 986$

86. When rounded to nearest hundredth, $\frac{8}{9}$ is 0.89. find another fraction that has the same digits in both the fraction and the rounded decimal.

Answer: $\frac{3}{8} = 0.38$

87. Which is the pattern used for these numbers? 15, 12, 13, 10, 11, 8, 9

$$+ 1, - 3 \qquad + 3, - 1 \qquad - 3, + 1$$

Answer: -3. +1

88. Tanya has 56 marbles. Billy has 24 more than Tanya, and Jerry has 5 more than Billy. How many marbles do they have in all?

Answer: 201 marbles

89. Mr. Sands decided to grow a garden so he could make salad. He wants to make it 10.1 m long and 4.2 m wide. However, in order to avoid Bugs Bunny from entering his garden he must make a fence surrounding the garden. He decides to make the fence 11.2 m long and 5.0 m wide. What is the area between the fence and the garden?

Answer: 13.58 m²

90. If you saved \$2.00 on January 1, \$4.00 on February 1, \$6.00 on March 1, \$8.00 on April 1, and so on, how much money would you save in one year?

Answer: $2 + 4 + 6 + 8 + 10 + 12 + 14 + 14 + 18 + 20 + 22 + 24 = \$156.00$

91. Scooby Doo is thinking of two numbers. Their greatest common factor is 6. Their least common multiple is 36. One of the numbers is 12. What is the other number?

Answer: The other number is 18.

92. Melissa made a list of all the whole numbers between 1 to 100. How many times did she write the number 2?

Answer: 19 times

93. Henny passed around a basket of scarlet plums to the girls at her party. Before the party she ate 5 scarlet plums and gave a friend 3. Eight girls arrived at the party. The first girl took a scarlet plum, the second girl took 3 scarlet plums, the third girl took 5 scarlet plums and so on. After the last girl took her scarlet plums, the basket was empty. How many scarlet plums were in the basket at the beginning?

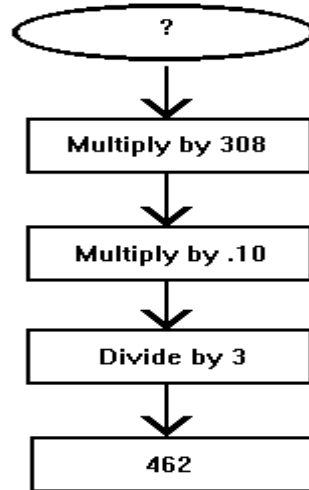
Answer: 72 scarlet plums were in the basket at the beginning.

94. Rob wanted an allowance. His father gave him a choice of getting it on a weekly or on a daily basis. He said he would either pay him \$1.25 a week or pay him in the following manner for a week: On Monday he would give him \$0.05; On Tuesday \$0.10; On Wednesday \$0.15 and on through Sunday. What would you tell Rob to do so he can get more allowance?

Answer: : $\$0.05 + \$0.10 + \$0.15 + \$0.20 + \$0.25 + \$0.30 + \$0.35 = \$1.40 > \$1.25$

Rob should ask for a daily allowance.

95. What is the number you started with?



Answer: $(462 * 3) / 0.1 = 13860 - 13860 / 308 = 45$ Started with 45

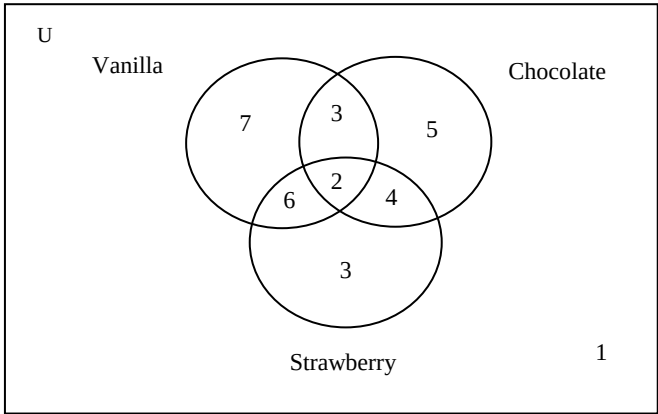
96. Carpet World is having a sale and Mrs. Black is looking for some carpet for her living room. Her living room is 4m by 5m. How much will it cost her to do this at sale price?

CARPET SALE
Regular \$9.90 square metre
Now on Sale for 20 percent off

Answer: Area = 4 m x 5 m = 20 m²
 $\$9.90 \text{ m}^2 \times 20 \text{ m}^2 = \$198.00 \times .8 = \$158.40$

97. In a class of 31 students a survey was conducted on their preference for ice cream. It was found that 18 students preferred vanilla (V) ice cream, 14 preferred chocolate (C) ice cream and 15 preferred strawberry (S) ice cream. In addition, 5 preferred vanilla and chocolate, 8 preferred strawberry and vanilla and 6 preferred chocolate and strawberry. Also, 2 students preferred all three flavors of ice cream. Draw the Venn diagram and calculate how many students did not like any of these flavors of ice cream

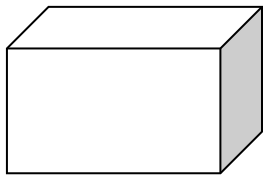
Answer:



98. The area of a rectangle is 62.4 cm^2 . If the length of this rectangle is 12 cm find the width.

Answer: 5.2 cm

99. Look at the following shape. Write the number of faces, edges and vertices.



Answer: faces = 6, vertices = 8, edges = 12

100. A pizza place has 3 types of crust and 4 types of toppings. How many combinations of crust and toppings can you choose from altogether?

Answer: 12 combinations

Rubrics

Primary School Mathematics

REPORT RUBRIC

	Beginning 1	Developing 2	Accomplished 3	Exemplary 4	Score
Topic	Totally unrelated	Remotely related	Somewhat relevant	Directly relevant	
Organization	Not organized, events make no sense	Some organization, events jump around, start and end are unclear	Organized, events are somewhat jumpy	Good organization, events are logically ordered, sharp sense of beginning and end	
Quality of Information	Unable to find specific details	Details are somewhat sketchy	Some details are non-supporting to the subject	supporting details specific to subject	
Grammar & Spelling	Very frequent grammar and/or spelling errors	More than two errors	Only one or two errors	All grammar and spelling are correct	
Interest Level	Needs descriptive words	Vocabulary is constant, details lack "color"	Vocabulary is varied, supporting details need work	Vocabulary varied, supporting details vivid	
Neatness	Illegible writing, loose pages	Legible writing, some ill-formed letters, print too small or too large, papers stapled together	Legible writing, well-formed characters, clean and neatly bound in a report cover, illustrations provided	Word processed or typed, clean and neatly bound in a report cover, illustrations provided	
Timeliness	Report handed in more than one week late	Up to one week late	Up to two days late	Report handed in on time	
				Total	

ARTbeat@school

<http://www.sdcoe.k12.ca.us/score/actbank/reportrub.html>

The Bahamas Primary School Mathematics Curriculum 2022-2027

GROUP DISCUSSION SCORING GUIDE

Teacher Name: _____

Student Name: _____

CATEGORY	4	3	2	1
Contributions	Routinely provides useful ideas when participating in the group and in the group discussion. A definite leader who contributes a lot of effort.	Usually provides useful ideas when participating in the group and in classroom discussion. A strong group member who tries hard!	Sometimes provide useful ideas when participating in the group and in classroom discussion. A satisfactory group member who does what is required.	Rarely provides useful ideas when participating in the group and in classroom discussion. May refuse to participate.
Attitude	Never is publicly critical of others. Always has a positive attitude about the task (s).	Rarely is publicly critical others. Often has a positive attitude about the task (s).	Occasionally is publicly critical of others. Usually has a positive attitude about the task (s).	Often is publicly critical of the project or others. Often has a negative attitude about the task (s).
Working with Others	Almost always listen to, shares with, and supports the efforts of others.	Usually listens to, shares with, and supports the efforts of others.	Often listens to, shares with and supports the efforts of others.	Rarely listens to, shares with, and supports the efforts of others.
Effort	Participation reflects student’s best efforts.	Participation reflects a strong effort from this student.	Participation reflects some effort from this student.	Participation reflects very little effort on the part of this student.
CATEGORY	4	3	2	1
Contributions	Routinely provides useful ideas when participating in the group and in classroom discussion. A definite leader who contributes a lot of effort.	Usually provides useful ideas when participating in the group and in classroom discussion. A strong group member who tries hard!	Sometimes provide useful ideas when participating in the group and in classroom discussion. A satisfactory group member who does what is required.	Rarely provides useful ideas when participating in the group and in classroom discussion. May refuse to participate.

Rubric Made Using: RubiStar (<http://rubistar.4teachers.org>)

COOPERATIVE LEARNING RUBRIC				

	1	2	3	4
Contribution to group goals	Works toward group goals only when prompted	Works toward group goals with occasional prompting	Works toward group goals without occasional prompting; accepts and fulfills individual role within group	Consistently and actively works toward group goals; willingly accepts and fulfills individual role within group
Consideration of others	Needs occasional reminders to be sensitive to the feelings of others	Shows sensitivity to the feeling of others	Shows and expresses sensitivity to the feelings of others; encourages the participation of others	Shows sensitivity to the feeling s and learning needs of others; values the knowledge, opinion, and skills of all group members and encourages their contribution
Contribution of knowledge	Contributes information to the group only when prompted	Contributes information to the group with occasional prompting or reminding	Contributes knowledge, opinions, and skills without prompting or reminding	Consistently and actively contributes knowledge, opinions, and skills without prompting or reminding
Working and sharing with others	Participates in needed changes when prompted and encouraged; always or often relies on others to do the work	Participates in needed changes with occasional prompting; often needs reminding to do the assigned work	Willingly participates in needed changes; usually does the assigned work and rarely needs reminding	Helps the group identify necessary changes and encourages group action for change; always does the assigned work without having to be reminded

Signatures and comments:

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CLASS DEBATE RUBRIC

Category	Excellent	Good	Satisfactory	Needs Improvement
Information	All information was accurate and clear	Most information was accurate and clear	Most information was accurate and clear, but not usually thorough	Information had several inaccuracies or was usually unclear
Rebuttal	All counter-arguments were accurate, relevant, and strong	Most counter-arguments were accurate, relevant and strong	Most counter-arguments were accurate, and relevant, but several were weak	Counter-arguments were not accurate or relevant
Organization	All arguments were logical and clearly followed a premise	Most arguments were logical and clearly followed a premise	Arguments were logical, but did not always follow a premise	Arguments were illogical and did not follow a premise
Understanding of Topic	The team clearly understood the topic fully and presented convincingly	The team clearly understood the topic and presented with ease	The team understood the main points of the topic and presented those well	The team did not exhibit an adequate understanding of the topic
Respect for Other Team	Showed high respect for other team in language, responses, and body language	Showed good respect for other team in language, responses, and body language	Showed moderate respect for other team in language, responses, and body language	Language, responses, and body language were consistently disrespectful

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JOURNAL RESPONSE AND COMPREHENSION RUBRIC

Use this rubric to assess students’ abilities to complete the journal activities assigned for this lesson. Share this assessment with students prior to completing the journal-writing lesson so they will understand how they will be assessed. You can also use the rubric as a basis for discussion and feedback with each student.

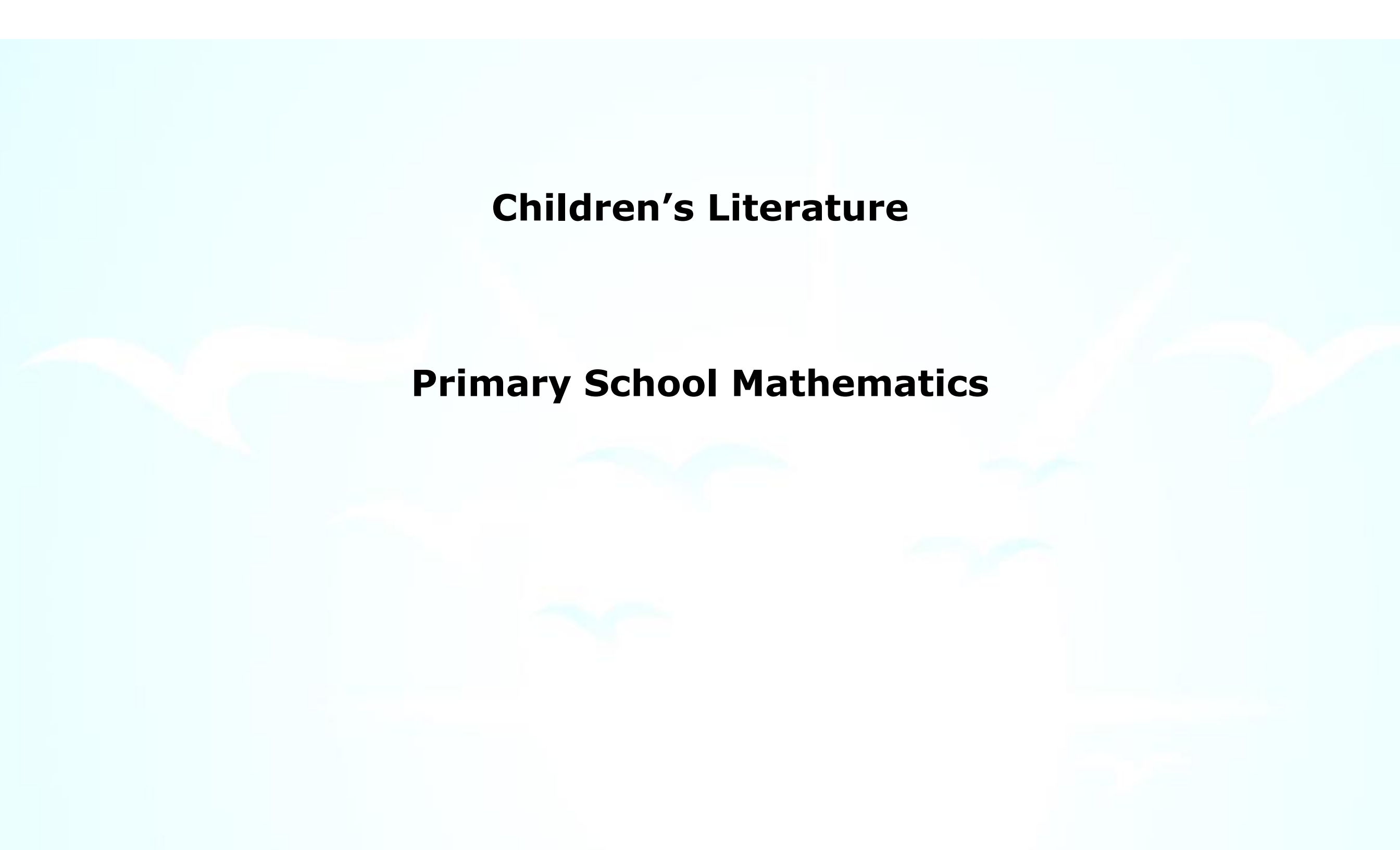
Student name: _____ Date: _____

1. The student writes journal responses in complete sentences. _____
2. The student writes three or more sentences to answer questions. _____
3. The student responds to questions by self-questioning, retelling, predicting, _____
4. The student’s experiences and opinions are clear. _____
5. The student works with a peer to share journal responses and to develop a combined response when requested. _____

Scale:

Excellent 4	Very Good 3	Fair 2	Poor 1
The student completes the task with no major errors.	The student completes the task with only a few major errors and some minor errors.	The student fails to complete the task with some major errors and many minor errors.	The student fails to complete the task.
The student demonstrates a full understanding of the concepts.	The student demonstrates a strong understanding of the concepts.	The student has difficulty understanding the concepts.	The student does not understand the concepts.

Include anecdotal notes in the space below:
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Children's Literature

Primary School Mathematics

CHILDREN'S LITERATURE FOR MATHEMATICS

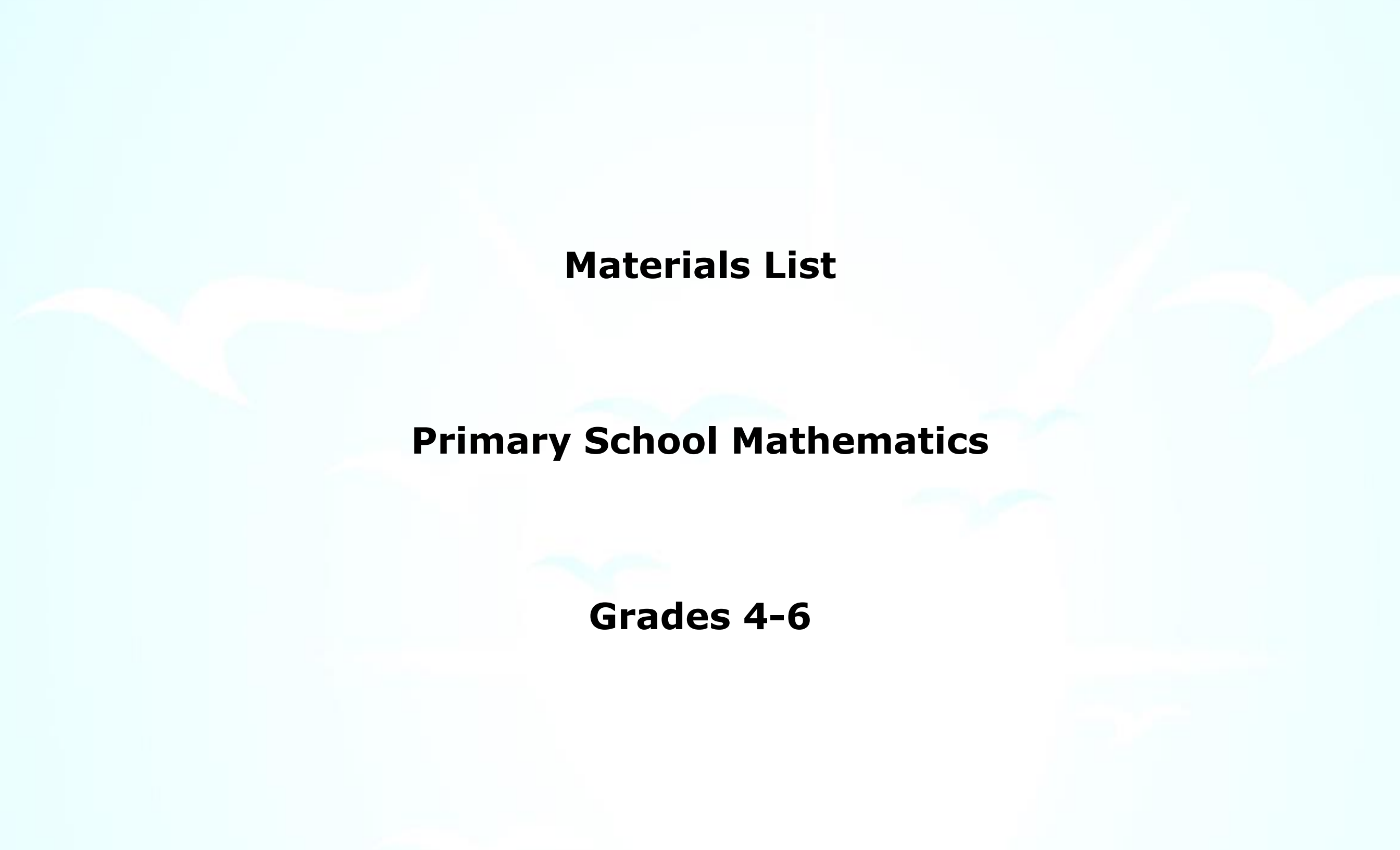
TITLE	AUTHOR	ISBN NUMBER
Two of Everything	Lilly Toy Hong	0-8075-8157-7
The Crayon Counting Book	Pam Munoz Ryan and Jerry Palotta	8-88106-953-1
The M& Ms Counting Book	Barbara Barbieri McGarth	0-88106-853-5
Seven Little Hippos	Mike Thaler	0-671-89907-4
Five Little Ducks	Pamela Papacone	1-55858-473-0
Nine O'clock Lullaby	Marilyn Singer	0-06-443319-6
The Go-Around Dollar	Barbara Johnston Adams	0-02-700031-1
The Very Hungry Caterpillar	Eric Carle	0-399-20853-4
Ten Black Dots	Donald Carews	0-688-13574-9
What Comes in 2's, 3's and 4's?	Suzanne Aker	0-671-79247-4
The King's Chessboard	David Birch	0-14-054880-7
Sea Squares	Joy Hulme	1-56282-520-8
Frog Counts To Ten	John Lieber	1-56294-698-6
Clocks and More Cocks	Pat Hutchins	0-689-71769-5
Monster Money Book	Lareen Leedy	0-8234-0922-8
2 x 2= Boo	Lareen Leedy	0-8234-1190-7
The Greedy Triangle	Marilyn Burns	0-590-48991-7
Grandfather Tang's Story	Ann Tompert	0-517-57487-X
A Quarter From The Tooth Fairy	Caren Holtzman	0-590-26598-9
Bat Jamboree	Kathi Appelt	0-688-13883-7
Anno's Counting Book	Mitsumasa Anno	0-06-443123-1
Counting on Frank	Roger Clement	0-8368-0358-2
Seven Blind Mice	Ed Young	0-590-46971-1
Counting by Kangaroos	Joy N. Hulme	0-7167-6602-7
Sea Sums	Joy N. Hulme	0-7868-0170-0
Mother Goose Math	Emily Boland	0-670-87569-4
So Many Circles, So Many Squares	Tana Hoban	0-688-15165-5 TR
Spaghetti and Meatballs for All	Marilyn Burns	0-590-94459-2

CHILDREN'S LITERATURE FOR MATHEMATICS

TITLE	AUTHOR	ISBN NUMBER
In The Next Three Seconds	Rowland Morgan	0-525-67551-5
The Shape of Things	Dayle Ann Dobbs	1-56402-698-1
Anno's Counting House	Mitsumasa Anno	0-399-20896-8
Math Counts Length	Henry Pluckrose	0-516-45453-6
Five Little Monkeys Jumping On a Bed	Eileen Christlow	0-395-55701-1
Five Little Monkeys Sitting in a Tree	Eileen Christlow	0-395-66413-6
A Remainder of One	Elinor J. Pinczes	0-395-69455-8
Notorious Numbers	Paul Giganti, Jr.	1-56785-006-5
10 For Dinner	JoEllen Bogart	0-590-73173-4
Each Orange Had 8 Slices	Paul Giganti, Jr.	0-688-13116-6
How Big Is a Foot	Rolf Myller	0-440-40495-9
Math Counts Weight	Henry Pluckrose	0-516-45460-9
Math Counts Pattern	Henry Pluckrose	0-516-45455-2
Math Counts Sorting	Henry Pluckrose	0-516-45458-7
Even Steven and Odd Todd	Kathryn Cristaldi	0-590-22715-7
Harriet's Halloween Candy	Nancy Carlson	0-87614-850-X
The Button Box	Margarette S. Reid	0-14-055495-5
From One to One Hundred	Teri Sloat	0-14-055643-5
A Grain of Rice	Helena Claire Pittman	0-553-15986-0
How The Second Grade Got \$8,205.50 to Visit the Statue Of Liberty	Nathen Zimelman	0-8075-3431-5
Neighborhood Soup	JoAnne Nelson	0-8136-4266-3
Ten Sly Piranhas	Victoria Chess	0-8037-1200-6
Sadako and the Thousand Paper Cranes	Eleanor Coerr	0-440-47465-5
The Paper Crane	Molly Bang	0-688-07333-6
Anno's Mysterious Multiplying Jar	Masaichiro & Mitsumasa Anno	0-399-20951-4
More Than One	Miriam Schlein	0-688-14103-XLE
One Hundred Hungry Ants	Elinor Pinczes	0-395-63116-5
A Giraffe And A Half	Shel Silverstein	0-06-025655-9

CHILDREN'S LITERATURE FOR MATHEMATICS

TITLE	AUTHOR	ISBN NUMBER
17 Kings and 42 Elephants	Margaret Mahy	0-8037-0458-5
How Much Is A Million?	David M. Schwartz	0-590-43614-7
If You Made A Million	David M. Schwartz	0-688-07017-5
Somebody and the Three Blairs	Marilyn Tolhurst	0-531-05876-6
Sadako	Eleanor Coerr, Ed Young	0-399-21771-1
The King's Commissioners	Aileen Freedman	0-590-48987-9
Half and Half	JoAnne Nelson	0-8136-4311-2
The Great Graph Contest	Loreen Leedy	0-8234-2029-9
How Do You Know What Time it is?	Robert E. Wells	0-8075-7940-8
Fraction Fun	David A. Adler	0-8234-1259-8
Anno's Mysterious Multiplying Jar	Masaichiro and Mitsumasa Anno	0-6981-1753-0
Remainder of One	Elinor J.Pinczes	1-6182-5077-8
Pigs Will Be Pigs: Fun with Math and Money	Amy Axelrod	0-6898-1219-1
Sir Cumference and the Great Knight of Angleland: A Math Adventure	Cindy Neuschwander	1-5709-1166-5
Fraction Action	Loreen Leedy	9-7808-2341-109-2
The Math Chef	Joan D'Amico and Karen EichDrummond	0-4711-3813-4
The Amazing Impossible Erie Canal	Cheryl Harness	9-7806-8982-584-2
Piece = Part = Portion: Fractions = Decimals = Percents	Scott Gifford	1-58246-102-3
Sir Cumference and the Sword in the Cone: A Math Adventure	Cindy Neuschwandwander	5-709-1601-2
Fair is Fair	Jennifer Dussling	13: 9-7806-1379-279-0
Measuring Penny	Loreen Leedy	0-6702-4133-4
Grandfather Tang's Story: A Tale Told with Tangrams	Ann Tompert	0-5178-8558-1
The Grape of Math	Greg Tang	0-4392-1042-9
Keep Your Distance!	Gail Herman	9-7806-1339-333-1
One is a Snail: Ten is a Crab	April Pulley Sayre	9-7807-6362-631-0
Go Fractions!	Judith Bauer Stamper	9-780-4484-3113-0
Hottest, Coldest, Highest, Deepest	Steve Jenkins	0-6184-9488-X



Materials List

Primary School Mathematics

Grades 4-6

PRIMARY SCHOOL MATHEMATICS
MATERIALS LIST
GRADE 4

The following is a list of materials that should be **available** to every grade 4 Classroom in the Bahamas. Ultimately, we should strive to have each grade 4 **equipped** with these items.

QUANTITY	MATERIALS	QUANTITY	MATERIALS
15	Classroom set fraction calculators		An assortment of math-related games
* 15	Geoboards with rubber bands		Hundreds chart
*500	Counters	*	Number line
*	Addition, subtraction, multiplication and division flash cards		Multiplication chart
15	Sets of number cubes	3	Balance scales
15 each type	Spinners-varied types	1	Bathroom scale
15	Metre sticks	1000	Centicubes
1000	Linking cubes	500	Scissors
15	Sets Cuisenaire rods	1	1-Inch cubes
1	Overhead set of Cuisenaire rods	*15	Sets of pentominoes
*15	Sets of fraction circles and overhead pieces	1	Overhead set of pentominoes

PRIMARY SCHOOL MATHEMATICS
MATERIALS LIST
GRADE 4

The following **consumables** should be available in every grade 4 classroom:

QUANTITY	MATERIALS	QUANTITY	MATERIALS
*	Old magazine, catalogues and newspapers		Pipe cleaners
	Index cards		Rope
	Graph paper	*	String
*	Egg cartons	*	Thread
*	Boxes of all sizes	*	Straws
	Coloured pencils	*	Toothpick
*	Beads	*	Rice
*	Buttons	*	Macaroni
*	Wax paper		Blank cassette tapes
	Tracing paper		Paper clips

- These items can be obtained inexpensively, made, or collected.

PRIMARY SCHOOL MATHEMATICS MATERIALS LIST GRADE 5

The following is a list of materials that should be **available** to every grade 5 Classroom in the Bahamas. Ultimately, we should strive to have each grade 4 **equipped** with these items.

QUANTITY	MATERIALS	QUANTITY	MATERIALS
	Individual student compass and protractor	*	Individual student sets of counters
	Hundreds chart	15	Sets of Cuisenaire rods
	Celsius thermometers		A collection of Math-related games and puzzles
*5 sets	Multiplication flash cards		Classroom set of fraction calculators
5	Decks of cards	4	Buckets of 2-sided colour counters (200 per bucket)
*15	Sets of fraction circles	1000	Centicubes
1	Classroom Hands-On Equations Kit	15	Sets of pattern blocks (about 5 tubs)
15	Sets of number cubes and dice		Digital display clock
*	Display number line	15	Miras
*15	Geoboards	15 each type	Spinners
1	Overhead geoboards	*15	Sets of tangrams
	Place value chart	*	Addition and subtraction flash cards
15	Measuring tapes/rules	500	1-Inch cubes
	Display calendar		An assortment of Math games

PRIMARY SCHOOL MATHEMATICS
MATERIALS LIST
GRADE 5

The following **consumables** should be available in every grade 5 classroom:

QUANTITY	MATERIALS	QUANTITY	MATERIALS
*	Old magazine, catalogues and newspapers		Pipe cleaners
	Index cards		Rope
	Graph paper	*	String
*	Egg cartons	*	Thread
*	Boxes of all sizes	*	Straws
	Coloured pencils	*	Toothpick
*	Beads	*	Rice
*	Buttons	*	Macaroni
*	Wax paper		Blank cassette tapes
	Tracing paper		Paper clips

- These items can be obtained inexpensively, made or collected.

PRIMARY SCHOOL MATHEMATICS
MATERIALS LIST
GRADE 6

The following is a list of materials that should be **available** to every grade 6 classroom in the Bahamas. Ultimately, we should strive to have each grade 6 **equipped** with these items.

QUANTITY	MATERIALS	QUANTITY	MATERIALS
4	Buckets of 2-colour counters (200 per bucket)	*	Sets of multiplication flash cards
*	Multiplication/Division flash cards		An assortment of math games and puzzles
15	Decks of cards	15	Classroom set of fraction calculators
15 of each	Sets of dice/Number cubes	15	Sets of Cuisenaire rods
15 each type	Spinners- various types	10	Metric sticks
*15	Sets of fraction circles	15	Metric rules/tape measures
*	Display number line	*	Student sets of counters
*5	Tubs of pattern blocks	500	1-Inch cubes
*15	Tangrams	*	Addition and subtraction flash cards
1	Classroom Hands-On Equations kit		Multiplication chart

PRIMARY SCHOOL MATHEMATICS MATERIALS LIST GRADE 6

The following **consumables** should be available in every grade 6 classroom:

QUANTITY	MATERIALS	QUANTITY	MATERIALS
*	Old newspapers, magazines and catalogues	*	Toothpicks
	Graph cards		Paper clips
*	Empty boxes	*	Egg cartons

* These items can be made collected or obtained inexpensively.

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