

**PRIMARY MATHEMATICS SYLLABUS**

**CLASS 2**

**MINISTRY OF EDUCATION AND HUMAN RESOURCE DEVELOPMENT**

**BARBADOS**

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Ms. Elsie Burton	St. Matthias Primary
Mr. Errol Bynoe	Christ Church Boys'
Mrs. Hortence Carrington	Sharon Primary
Mr. Ian Chandler	St. Matthew Primary
Ms. Mary Chase	Cuthbert Moore Primary
Mr. Wayne Drakes	Vauxhall Primary
Ms. Mary Farley	Pine Primary
Ms. Juan Forte	St. Ambrose Primary
Mr. Andrew Haynes	St. Ambrose Primary
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Ms. Estelle Nelson	Hillaby-Turner's Hall Primary

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Mr. Neville Small  
Mrs. Sandra Small-Thompson  
Mrs. Shirley Thomas  
Mr. Marlon Wilson  
Mrs. Gladwin Greaves  
Ms. Julia Taitt  
  
Mr. Carlisle Ramsay  
  
Ms Benita Byer

Pine Primary  
Christ Church Boys'  
Westbury Primary  
St. Joseph Primary  
St. Elizabeth Primary  
St Alban's Primary  
Peripatetic Teacher- Mathematics  
Ministry of Education  
Education Officer- Testing and Measurement  
Ministry of Education  
Education Officer- Mathematics (Ag)  
Ministry of Education

## RATIONALE

There is a need for all primary school pupils in Barbados today to experience a shift in emphasis in the teaching/learning process in mathematics from that which was practised twenty or even five years ago. The rapid advances in computer technology, the easy accessibility of inexpensive calculators, the implementation of the project, EduTech 2000 and the ever-increasing rate of change in all aspects of society require that pupils develop new skills and attitudes to meet these demands.

It is no longer sufficient that pupils develop proficiency in computation and in applying that computation to their day-to-day problems. By the time these pupils reach adolescence and adulthood in the twenty-first century, they will be faced with new problems and challenges. It is crucial, therefore, that these pupils be a part of an environment which allows them to **think, reason, and solve problems** using as much of the available technology as possible. Pupils of different ages think, reason and solve problems at different levels, but all pupils are capable of rational thought, reasoning and solving problems.

This Primary Mathematics Syllabus supports the new initiatives of the Ministry of Education, which stress that:

- the child-centred approaches be used in conjunction with the traditional teacher-centred approaches
- problem-solving should be the focus of mathematics instruction
- reasoning about mathematics should be used to help pupils make sense of mathematics, rather than just memorizing rules and procedures
- mathematics is an ideal subject for the development of critical-, creative- and decision-making skills of the pupils from at a very early age
- manipulatives are powerful tools that can help pupils link the concrete experiences to pictorial representations and finally to abstract symbols to build mathematical understanding
- mathematics should be connected to other subject areas and to the pupils' everyday experiences to make it meaningful
- information technology, namely, calculators and computers, be used as tools to help pupils explore and develop concepts and solve problems

- instruction using the multi-media approach, visual, auditory and tactile/kinesthetic should be used to reach all pupils
- assessment should be multi-faceted and evaluate what pupils can do and understand

Through the piloting and implementation of this syllabus and the feedback and consultation from teachers and other educators, modifications will be made to ensure that this document is user-friendly to all teachers of mathematics in primary schools in Barbados.

## **OBJECTIVES FOR THE PRIMARY MATHEMATICS SYLLABUS**

The general objectives for the primary mathematics syllabus are to help pupils:

- ❑ acquire a range of mathematical techniques and skills
- ❑ develop an awareness of the importance of accuracy in computation
- ❑ develop an awareness of mathematics in their environment
- ❑ cultivate the ability to apply mathematical knowledge to the solutions of problems in their daily lives
- ❑ cultivate the ability to think logically, creatively and critically
- ❑ use technology to explore mathematical situations.

## FORMAT OF THE SYLLABUS

In addition to the syllabuses for Classes 1-4, this document contains the following sections: Scope and Sequence, Attainment Targets and Suggested Activities and Assessment Procedures. Highlighted in the syllabus are the integration of technology into instruction and the development of critical, creative and decision-making skills. Both areas were already in use but are now being highlighted because of the need to have all pupils computer literate and to be critical and creative in their thoughts and actions.

The nature of mathematics instruction requires that concepts are introduced in the earlier stages and developed in the later stages. The *Scope and Sequence* therefore, indicates the classes in which a topic is to be introduced and developed. The □ indicates in which class the topic/skill/concept should be introduced and the √ indicates that the concept has to be developed and maintained in these classes.

The *Attainment Targets* are presented as a list of objectives and indicate what each pupil should be able to achieve at the end of the school year. It is understood that because of varying abilities and aptitudes, some pupils might be able to achieve a higher standard than that which is set and some may not be able to complete all the objectives for the particular age group. The targets for a particular class represent the objectives that should be achieved at that level, in addition to those of the lower classes.

The *Suggested Activities* included in the syllabus will ensure that pupils use and apply mathematics to promote mathematical reasoning, make decisions and analyse data. In addition, the proposed tasks meet both the individual needs of the pupils as well as provide activities for group work, thereby facilitating collaboration between pupils, teachers and parents, while consolidating instruction and developing the necessary skills.

*Assessment* is a fundamental part of the teaching and learning process. It should measure not only what the pupils know and can produce, but should provide more authentic information about the learner. Further, continuous assessment is essential in monitoring the progress of pupils and teachers are therefore encouraged to use mathematics profiles to record each child's progress. To this end a variety of assessment methods should be utilised including achievement tests, portfolio assessment, journals and discussions.

The *Integration of Technology* is integral to mathematics instruction and can be beneficial in areas such as computation, geometry, data handling and problem solving. The use of technology is particularly effective in reducing the fear and anxiety associated with learning mathematics, since it allows the pupils to focus less speed and memorization and more on the processes necessary to obtain the solutions.

Teachers are encouraged to use strategies and methodologies to develop *Critical Thinking and Problem Solving Skills*. The mathematics classroom should provide the opportunity for pupils to formulate problems from everyday situations, use concrete materials, reason logically and use a variety of problems solving strategies.

## CLASS 2

### PRIMARY MATHEMATICS SYLLABUS SCOPE AND SEQUENCE FOR CLASS 2

- Begin teaching the concept/skill  
 Maintain and develop concept/skill

	CLASSES			
	1	2	3	4
<b>1.0 PROBLEM SOLVING STRATEGIES AND SKILLS</b>				
1.0.1 Problem solving as it relates to everyday situations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1.0.2 Problem solving steps	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1.0.3 Problem solving strategies	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1.0.4 Estimation strategies	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1.0.5 Interpretation of data and diagrams	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>2.0 NUMBER CONCEPTS</b>				
2.0.1 Mental computations and estimation techniques	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.0.2 Read and write numbers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.0.3 Comparison of numbers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.0.4 Addition of whole numbers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.0.5 Subtraction of whole numbers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.0.6 Multiplication of whole numbers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.0.7 Division of whole numbers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.0.8 Solution of basic problems using the four basic operations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.0.9 Odd/Even numbers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## CLASS 2

- Begin teaching the concept/skill
- Maintain and develop concept/skill

	CLASSES			
	1	2	3	4
<b>2.1 PROPERTIES OF NUMBERS</b>				
2.1.1 Use the commutative rule to solve problems with additions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.2 Use the commutative rule to solve problems with multiplication	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.3 Use the associative rule to solve problems with addition	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.4 Use the associative rule to solve problems with multiplication	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.5 Apply the identity property of zero (0) under addition and subtraction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.6 Apply the identity property of one (1) under multiplication and division	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.7 Apply the property of zero (0) under multiplication	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.8 Apply the rules for the order of operations to solve problems	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>3.0 FRACTIONS AND DECIMALS</b>				
3.0.1 Define a fraction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.2 Identify and compare fractional parts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.3 Illustrate given fractions of a whole	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.4 Determine the fractional part of a set of objects	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.5 Use symbols to represent fractions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.6 Read and write fractions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.7 Compare and order fractions with the same denominators		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.8 Add fractions with same denominators	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.9 Subtract fractions with same denominators	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.10 Determine and recognise equivalent fractions		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.11 Express fractions in their lowest terms		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## CLASS 2

- Begin teaching the concept/skill  
 Maintain and develop concept/skill

	CLASSES			
	1	2	3	4
<b>Pupils should be able to:</b>				
3.0.12 Compare and order fractions with different denominators		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.13 Add fractions with different denominators		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.14 Subtract fractions with different denominators		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.15 Understand the concept of a mixed number and improper fraction			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.16 Express a mixed number as improper fraction and vice versa			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.17 Add fractions to whole numbers			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.18 Subtract fractions from whole numbers			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.19 Add fractions with mixed numbers			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.20 Subtract fractions with mixed numbers			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.21 Multiply a fraction by a whole number			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.22 Multiply a fraction by a fraction			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.23 Divide a whole number by a fraction			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.24 Divide a fraction by a fraction			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.25 Read and write decimal fractions up to thousandths			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.26 Write the place value of digits in decimal fraction			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.27 Write the value digits in decimal fractions			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.28 Compare and order decimal fractions			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.29 Add decimal fractions up to thousandths			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.30 Subtract decimal fractions up to thousandths			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.31 Multiply a decimal fraction by a whole number			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.32 Multiply a decimal fraction by a decimal fraction			<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.0.33 Divide a decimal fraction by a whole number and vice versa				<input type="checkbox"/>
3.0.34 Divide a decimal fraction by a decimal fraction				<input type="checkbox"/>
3.0.35 Express a fraction as a decimal fraction				<input type="checkbox"/>

## CLASS 2

<b>4.0 MEASUREMENT</b>				
4.0.1 Use non-standard units to measure quantities	<input type="checkbox"/>	√	√	√
4.0.2 Use standard units to measure quantities	<input type="checkbox"/>	√	√	√
4.0.3 Convert between the units of measure	<input type="checkbox"/>	√	√	√
<b>5.1 LINEAR</b>				
5.1.1 Use non-standard and standard units to determine the length of objects	<input type="checkbox"/>	√	√	√
5.1.2 Use the ruler to determine the length of objects	<input type="checkbox"/>	√	√	√
5.1.3 Choose the appropriate unit to determine the length of an object	<input type="checkbox"/>	√	√	√
5.1.4 Determine the perimeter of a given shape	<input type="checkbox"/>	√	√	√
5.1.5 Use scales to determine distances			<input type="checkbox"/>	√
<b>6.2 AREA</b>				
6.2.1 Determine the area of regular and irregular shapes by counting squares		<input type="checkbox"/>	√	√
6.2.2 Determine the area of the square, rectangle and triangle by formulae		<input type="checkbox"/>	√	√
6.2.3 Determine the surface area of a cube or cuboid			<input type="checkbox"/>	√
<b>6.3 MASS</b>				
6.3.1 Compare the mass of various objects		<input type="checkbox"/>	√	√
6.3.2 Measure mass using the appropriate standard unit		<input type="checkbox"/>	√	√
6.3.3 Convert from a larger to a smaller unit and vice versa		<input type="checkbox"/>	√	√
<b>6.4 CAPACITY</b>				
6.4.1 Compare the capacity of various containers using non-standard units		<input type="checkbox"/>	√	√
6.4.2 Measure capacity using the appropriate unit		<input type="checkbox"/>	√	√
6.4.3 Convert from a larger unit to a smaller unit and vice versa		<input type="checkbox"/>	√	√
<b>6.5 TIME</b>				
6.5.1 Differentiate between times of the day	<input type="checkbox"/>	√	√	√
6.5.2 Name the days of the week/ months of the year in sequence	<input type="checkbox"/>	√	√	√
6.5.3 Identify the appropriate instrument for measuring periods of time	<input type="checkbox"/>	√	√	√
6.5.4 Tell time by the hour, half hour and quarter hour	<input type="checkbox"/>	√	√	√
6.5.5 Tell time in minutes past and minutes to the hour(in 5-minute intervals)		<input type="checkbox"/>	√	√
6.5.6 State the relationship between sub-units of time (second, minute, hour)		<input type="checkbox"/>	√	√

## CLASS 2

6.5.7	Convert from one unit of time to another			<input type="checkbox"/>	√
6.5.8	Add and subtract units of time			<input type="checkbox"/>	√
6.5.9	Determine the time between events			<input type="checkbox"/>	√
6.5.10	Manage time effectively				
<b>6.6</b>	<b>MONEY</b>				
6.6.1	Identify the local coins and bills	<input type="checkbox"/>	√	√	√
6.6.2	Represent currency as coins, bills and a combination of coins and bills	<input type="checkbox"/>	√	√	√
6.6.3	Use coins and bills in money transactions without change	<input type="checkbox"/>	√	√	√
6.6.4	Use coins and bills in money transactions with change	<input type="checkbox"/>	√	√	√
6.6.5	Solve problems involving buying and selling		<input type="checkbox"/>	√	√
6.6.6	Convert foreign currency to local currency and vice versa			<input type="checkbox"/>	√
6.6.7	Develop an appreciation for saving money				
<b>7.0</b>	<b>GEOMETRY</b>				
7.0.1	Identify 2- Dimensional shapes	<input type="checkbox"/>	√	√	√
7.0.2	Draw 2 Dimensional shapes – square, rectangle, triangle, circle	<input type="checkbox"/>	√	√	√
7.0.3	Classify 2- Dimensional shapes according to their attributes	<input type="checkbox"/>	√	√	√
7.0.4	Classify triangles – equilateral, right-angled, isosceles, scalene			<input type="checkbox"/>	√
7.0.5	Classify quadrilaterals – square, rectangle, parallelogram				<input type="checkbox"/>
7.0.6	Identify 3-Dimensional shapes	√	√	√	√
7.0.7	classify 3- Dimensional shapes according to their attributes	<input type="checkbox"/>		√	√
7.0.8	Identify lines, line segments, points and rays	<input type="checkbox"/>	√	√	√
7.0.9	Identify and draw lines – horizontal, vertical, parallel, perpendicular and intersecting		<input type="checkbox"/>	√	√
7.0.10	Identify lines of symmetry		<input type="checkbox"/>	√	√
7.0.11	Name and draw angles			<input type="checkbox"/>	√
7.0.12	Measures angles				<input type="checkbox"/>
7.0.13	Identify and name the parts of a circle – center, diameter, circumference, chord			<input type="checkbox"/>	√
7.0.14	State the relationship between the radius and the diameter			<input type="checkbox"/>	√

## CLASS 2

- Begin teaching the concept/skill**  
 **Maintain and develop concept/skill**

<b>8.0 VENN DIAGRAMS</b>				
8.0.1	Sort numbers and objects into sets	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8.0.2	Describe a set	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8.0.3	Identify the elements in a set	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8.0.4	State the number of elements in a set	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8.0.5	Identify equal sets	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8.0.6	Identify subsets of a given set		<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.0.7	Identify the intersection of two sets		<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.0.8	Identify the union of two set		<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.0.9	Use Venn diagrams to illustrate sets		<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.0.10	Use Venn diagrams to list the elements in a set		<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>9.0 DATA HANDLING</b>				
9.0.1	Collect data on an area of interest	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9.0.2	Record data collected	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9.0.3.1	Illustrate data Tables/ Tally charts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9.0.3.2	Illustrate data using Pictographs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9.0.3.3	Illustrate data using Bargraphs/ Line Graphs / Co-ordinate graphs		<input type="checkbox"/>	<input checked="" type="checkbox"/>
9.0.3.4	Illustrate data using pie chart		<input type="checkbox"/>	<input checked="" type="checkbox"/>
9.0.4	Interpret information given in diagrams	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9.0.5	Determine the mode for a set of data	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9.0.6	Determine the mean (average) for a set of data		<input type="checkbox"/>	<input checked="" type="checkbox"/>
9.0.7	Use probability terms appropriately ( possible, certain, more likely, unlikely)		<input type="checkbox"/>	<input checked="" type="checkbox"/>
9.0.8	Determine the simple probability of outcomes		<input type="checkbox"/>	<input checked="" type="checkbox"/>
9.0.9	Use probability to make predictions		<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CLASS 2**  
**MATHEMATICS**  
**ATTAINMENT TARGETS**

**CLASS 2**

*Pupils should be able to:*

1. apply a variety of problem solving strategies to solve problems;
  - *Look for a pattern*
  - *Write a number sentence or equation*
  - *Restate the problem with simpler numbers*
  - *Relate the problem to a similar problem*
2. develop the practice of seeking a variety of solutions to problems;
3. read and write numbers up to 9 999;
4. compare and order numbers up to 9 999;
5. determine the place value of a digit in numbers up to 9 999;
6. add and subtract whole numbers up to 9 999;
7. multiply and divide whole numbers up to 9 999 by one-digit numbers;
8. identify and use prime numbers;
9. identify and use composite numbers;
10. identify and use factors and prime factors;

## CLASS 2

### *Pupils should be able to:*

11. determine the Highest Common Factor (HCF);
12. identify and use multiples;
13. determine the Lowest Common Multiple (LCM);
14. compare and order fractions with the same denominators;
15. determine and recognise equivalent fractions;
16. express fraction in their lowest terms;
17. compare and order fractions with different denominators;
18. add fractions with different denominators;
19. subtract fractions with different denominators;
20. determine the area of regular and irregular shapes by counting squares;
21. determine the area of the square, rectangle and triangle by formulae;
22. compare the mass of various objects;
23. measure mass using the appropriate standard unit;
24. convert from a larger to a smaller unit and vice versa;
25. compare the capacity of various containers using non-standard units;
26. measure capacity using the appropriate unit;
27. convert from a larger unit to a smaller unit and vice versa;
28. tell time in minutes past and minutes to the hour (in 5-minute intervals);

## CLASS 2

### *Pupils should be able to:*

29. state the relationship between sub-units of time (second, minute, hour);
30. solve problems involving buying and selling;
31. identify and draw lines – horizontal, vertical, parallel, perpendicular and intersecting;
32. identify lines of symmetry;
33. identify subsets of a given set.

## CLASS 2

TOPIC	OBJECTIVES	SUGGESTED ACTIVITIES	ASSESSMENT	RESOURCES
<b>PROBLEM SOLVING</b>	<p><i>Pupils should be able to:</i> Practise different ways of managing interpersonal relationships and solving problems.</p> <p>Create problems from everyday situations.</p> <p>Identify the steps in problem solving.</p> <p>Apply problem solving strategies to solve problems in all topics of the syllabus.</p> <p>Interpret diagrams to draw logical conclusions.</p>	<p>Use the following to solve problems in the various topics: Look for a pattern</p> <p>Write a number sentence or equation</p> <p>Restate the problem with simpler numbers</p> <p>Relate the problem to a similar problem</p>	<p>Discussion</p> <p>Quizzes</p>	<p>Calculator</p>
	<b>NUMBER CONCEPTS</b>	<p>Read and write numbers written in words or symbols from 0 – 9999.</p>	<p>Complete the following:</p> <p>675 = _____ hundred + 7tens + _____ ones</p>	<p>Written tests</p> <p>Quizzes</p>
<p>Write numbers up to 9999 in expanded form.</p>		<p>533= 5 hundred + 2 tens + _____ ones</p>		<p>Hundred chart</p>
<p>Write numbers up to 9999 given the expanded notation.</p>				

## CLASS 2

TOPIC	OBJECTIVES	SUGGESTED ACTIVITIES	ASSESSMENT	RESOURCES
<b>Addition</b>	Compare and order numbers up to 9999.			
	Read and write ordinals beyond 31 <sup>st</sup> .			
	Read and write Roman Numerals up to 50.	In the lunch line Casey was behind Sonia. Larry was in front of Sonia and behind Anthony. Casey was between Sonia and Brent. Who was last in line? Who was first, second and last?	Illustrations Discussion	Beads Sorting trays Number lines Coins
	Classify numbers as odd or even.			
<b>Subtraction</b>	State the value and/or place value of any digit in a four-digit number.			
	Add four-digit numbers with and without regrouping.	Arrange 12 counters in two equal rows. Repeat for 7, 10, 14 and 31 counters.	Demonstration Written tests	Straw for bundling
<b>Multiplication</b>	Subtract a one-, two-, three-, and four-digit number from a four-digit number with and without regrouping.	Using all the digits 3, 4, and 5, write two even numbers and four odd numbers.		
	Build up and use multiplication tables 6, 7, 8, 9 and 10.	Show steps in decomposition using money. Eg. Sam has one 10-cent piece and a 5-cent piece. How will he give his sister 9 cents.		
	Multiply numbers up to 9999 by 6, 7, 8, 9 and 10.			
	Multiply numbers up to 9999 by multiples of 10 eg. 40, 60.	$\begin{array}{r} 15 \\ - 9 \\ \hline \end{array}$ becomes $\begin{array}{r} 015 \\ - 9 \\ \hline \end{array}$		

## CLASS 2

TOPIC	OBJECTIVES	SUGGESTED ACTIVITIES	ASSESSMENT	RESOURCES
<b>Division</b>	<p>Use multiplication as repeated addition.</p> <p>Demonstrate multiplication as an inverse of division and vice versa.</p> <p>Divide numbers up to 9999 by one-digit numbers without and with regrouping; and without and with remainder.</p> <p>Use division as repeated subtraction.</p> <p>Use the signs <math>&gt;</math>, <math>=</math>, <math>&lt;</math> to compare sets of numbers up to 9999.</p>	<p>Work out the solution for the following:</p> <p>There are 185 people to cross a river. The boat can only take a total of 5 people at a time. How many trips must be made?</p> <p>If the boat could take 9 people how many trips would have to be made?</p> <p>How many times can 3 be taken from 162?</p>	<p>Simulation</p> <p>Demonstration</p>	<p>Worksheets</p> <p>Calculator</p> <p>Counters</p>
<b>Factors and multiples</b>	<p>Distinguish between factors and multiples.</p> <p>Determine the factors of whole numbers.</p> <p>Calculate the Highest Common Factor (HCF).</p> <p>Identify prime numbers</p> <p>Identify Composite numbers.</p> <p>Determine the multiples of numbers.</p>	<p>Arrange a quantity of beads as a rectangle. Use 4,5, 6, 9 and 16 beads. What do you notice?</p> <pre> **      ***      ***      **** **      ***      ***      ****                 ***      **** ***** </pre>	<p>Demonstration</p>	<p>Counters</p> <p>Beads</p>

## CLASS 2

TOPIC	OBJECTIVES	SUGGESTED ACTIVITIES	ASSESSMENT	RESOURCES
<p><b>Estimation</b></p>	<p>Calculate the Lowest Common Multiple (LCM).</p> <p>Round off whole numbers to the nearest ten, hundred, thousand.</p> <p>Use estimation techniques to solve problems.</p>	<p>Round off each number to the nearest ten and estimate the answer. Determine the correct answer using a calculator.</p> <p>31 x 63 58 x 21 97 x 43</p> <p>31 x 63 <i>becomes</i> 30 x 60 = 1800 Calculator answer: 1953</p>	<p>Worksheets</p>	<p>Calculator</p>
<p><b>FRACTIONS</b></p>	<p>Find fractional parts of a set of objects.</p> <p>Add and subtract fractions with like denominators.</p> <p>Add and subtract fractions with unlike denominators.</p> <p>Compare and order fractions.</p> <p>Determine the equivalent fractions for a given fraction.</p> <p>Express fractions in their lowest terms.</p> <p>Add common fractions to whole numbers.</p>	<p>Determine fraction of various items: (a) half the pupils in the class (b) one-third set of beads (c) one-quarter of the desks</p> <p>Set out thirty beads. How many beads are would make up one-fifth of this set? (6) How many beads would make up half of this set? (15) Remove 21 (6+15) beads from the set. What fraction was removed?</p> <p><math>\frac{21}{30}</math> or <math>\frac{7}{10}</math></p> <p>One-fifth + one half = seven-tenths</p> <p>Use a ruler without a zero to measure the length of objects.</p>	<p>Stimulation</p> <p>Worksheet</p> <p>Simulation</p> <p>Illustration</p>	<p>Fraction chart</p> <p>Beads</p>

## CLASS 2

TOPIC	OBJECTIVES	SUGGESTED ACTIVITIES	ASSESSMENT	RESOURCES
<b>MEASUREMENT</b>				
<b>Linear</b>	<p>Estimate the lengths of objects in centimeters and metres.</p> <p>Compare lengths of objects measured in cm and metres.</p> <p>Choose the appropriate unit to measure the length of a given object.</p> <p>Measure the perimeter of a given shape using standard units.</p>	<p>Ask pupils to estimate the length of the following:</p> <p>Classroom Eraser Exercise book Playing field Chalkboard</p> <p>Measure the above items accurately, using the appropriate instrument.</p>	<p>Written exercises</p> <p>Demonstration</p> <p>Observation</p>	<p>Ruler</p> <p>Metre rule</p> <p>Measuring tape</p> <p>Card</p> <p>String</p> <p>Two dimensional shapes</p> <p>Squared paper</p>
<b>Area</b>	<p>Determine the approximate area of regular and irregular shapes by counting squares.</p> <p>Determine the area of regular shapes. (square, rectangle, triangle)</p>	<p>Draw an outline of a leaf on squared paper. Determine the area in square units. Repeat for leaves of different plants and compare the results.</p>		
<b>Mass</b>	<p>Compare the masses of various objects using standard and non-standard units.</p>	<p>Use the balance beam to compare the masses of a number of objects.</p>	<p>Demonstration</p> <p>Observation</p>	<p>Balance beam</p> <p>Scales</p>

## CLASS 2

TOPIC	OBJECTIVES	SUGGESTED ACTIVITIES	ASSESSMENT	RESOURCES
<b>Capacity</b>	Determine mass of a given object in grams or kilograms. Convert from grams to kilograms and vice versa.	<p>Use small pebbles as units to measure quantities. How many pebbles does it take to balance a book? How many pebbles does it take to balance a shoe?</p> <p>A small can holds 500ml of water. Determine how many full cans are needed to fill an aquarium. What is the capacity of the aquarium?</p>	Written exercises	Weights  Calculator
	Compare the capacity of various containers using standard and non-standard units.			
<b>Time</b>	Measure and record the capacity of various containers in litres and millilitres.	<p>Today is Tuesday, 12 June. What was the date last Wednesday? What will be the date next Wednesday?</p> <p>A show scheduled to start at 8:00 p.m., started 20 minutes late. The singers performed for a total of two hours and there was a 15-minute intermission. What time did the show finish?</p>	Written exercises	Measuring cylinders
	Determine dates given at weekly intervals.			
	State and record the time in hours and minutes, using five-minute intervals.		Role playing	Breakers
	Tell the time later/earlier than a given time in minutes, hours and half-hour.		Discussion	Clocks
	Calculate the length of time that would have elapsed between given times e.g. between 6:00 a.m. and 7:00 a.m.			Watches

## CLASS 2

TOPIC	OBJECTIVES	SUGGESTED ACTIVITIES	ASSESSMENT	RESOURCES
<b>Money</b>	<p>Recognise all local coins and notes up to \$100.</p> <p>Combine coins and notes of values equivalent to \$100.</p> <p>Calculate the amount of money spent when purchasing a number of items.</p>	<p>Give Debra, Shane and Omar \$1.24 each, so that no two persons have the exact same coins. What combinations of coins can they get?</p>		<p>Bills</p> <p>Coins</p>
<b>GEOMETRY</b>	<p>Determine the change to be received from a given sum of money used to purchase items.</p> <p>Identify two and three dimensional shapes in the environs.</p> <p>Construct three dimensional shapes.</p> <p>Identify the two dimensional shapes that form the faces of three dimensional shapes</p> <p>List the properties of two dimensional shapes.</p> <p>Identify and draw lines that are: horizontal, vertical, parallel, perpendicular and intersecting.</p>	<p>Find the cost of 3 bags of flour at \$4.37 each. How much change will I receive if I give the cashier \$20.00.</p> <p>Draw nets of three dimensional shapes. Fold the nets to make the shapes.</p> <p>Create a picture that contains different shapes and lines. For example a house, boat or car.</p>	<p>Illustrations</p> <p>Modeling</p> <p>Illustrations</p>	<p>Card</p> <p>Nets of three dimensional shapes</p> <p>Rulers</p> <p>Card</p> <p>Two dimensional shapes</p> <p>Set squares</p>

## CLASS 2

TOPIC	OBJECTIVES	SUGGESTED ACTIVITIES	ASSESSMENT	RESOURCES
<b>SET THEORY</b>	Identify and construct lines of symmetry for various shapes.			
	Define a set.			
	Describe a set and identify the elements in a given set.	Collect the following information from the pupils in the class:	Observation	
	Identify sets that are equal?	Whose favourite subject is mathematics?	Oral presentation	
	Identify sets that contain the same number of elements.	Who likes ice cream?	Charts/Diagrams	
<b>DATA HANDLING</b>	Identify the subsets of a given set.	Who likes to read?		
	Construct tally charts for given data.	Identify the pupils who like to read and like mathematics.		
	Construct pictographs and/bar graphs for given data.	Observe the types of vehicles passing the school on different days over two week period.	Charts/Illustrations	Squared paper
	Read pictographs and bar graphs to collect data for a given activity.	Create tables, which show: the types of vehicle, the types of cars and the colours of the cars.	Discussion	Rulers
	Find the mode for a set of data.	Draw a pictograph to show the information.	Observation	Drawing tools
		Use the graph to determine: the most popular vehicle	Oral presentation	

## CLASS 2

TOPIC	OBJECTIVES	SUGGESTED ACTIVITIES	ASSESSMENT	RESOURCES
	Interpret information given in data and diagrams to draw conclusions.	the most popular car the favourite colour car		

## CLASS 2

### APPENDIX

#### SUGGESTED TEXTS

##### PUPILS

Caribbean Primary Mathematics Levels 1-6 - Ginn  
Nelson Primary Maths for Caribbean Schools 1-4 - Errol Furlonge  
Steps To Common Entrance Mathematics 1 -3 Walter Phillips  
Steps To Common Entrance Mathematics Text book Walter Phillips  
Steps To Common Entrance Mathematics Workbook Walter Phillips

##### TEACHERS

Davis, Robert B., Maher, Carolyn A and Noddings, N. Constructivist views on the teaching and learning of mathematics. Reston, VA: National Council of Teachers of Mathematics.

Grouws, Douglas A. (1992). Handbook of research on mathematics teaching and learning. New York: Macmillan.

Musser, Gary L. (1994) Mathematics for elementary teachers: a contemporary approach. (3<sup>rd</sup> ed.) New York: Macmillan.

Paling, D. (1982) Teaching mathematics in primary schools. Oxford University Press.

Payne, Joseph N (1990) Mathematics for the young child. Reston, VA: Nation Council of Teachers of Mathematics.

Salvin, Robert. (1997) Educational Psychology: Theory and Practice. Boston: Allyn & Bacon.

Wolfolk, Anita. (1995) Educational Psychology. Boston: Allyn & Bacon.

## CLASS 2

### JOURNALS

Mathematics Teacher. Reston, VA: National Council of Teachers of Mathematics.

Teaching Children Mathematics. Reston, VA: National Council of Teachers of Mathematics. (*formerly Arithmetic Teacher*)