

# MATHEMATICS PROGRESSION: Primary to Grade 3

NUMBER PROGRESSION: WHOLE NUMBERS				
TOPIC	MATHEMATICS PRIMARY	MATHEMATICS 1	MATHEMATICS 2	MATHEMATICS 3
<b>SAYING NUMBER SEQUENCES AND SKIP COUNTING</b>	<p><b>N01:</b> Students will be expected to say the number sequence by</p> <ul style="list-style-type: none"> <li>● 1s, from 1 to 20</li> <li>● by 1s, starting anywhere from 1 to 10 and from 10 to 1</li> </ul>	<p><b>N01:</b> Students will be expected to say the number sequence</p> <ul style="list-style-type: none"> <li>● by 1s, forward and backward between any two given numbers, 0 to 100</li> <li>● 2s to 20, forward starting at 0</li> <li>● 5s to 100, forward starting at 0, using a hundred chart or a number line</li> <li>● 10s to 100, forward starting at 0, using a hundred chart or a number line</li> </ul>	<p><b>N01:</b> Students will be expected to say the number sequence by</p> <ul style="list-style-type: none"> <li>● 1s, forward and backward, starting from any point to 200</li> <li>● 2s, forward and backward, starting from any point to 100</li> <li>● 5s and 10s, forward and backward, using starting points that are multiples of 5 and 10 respectively to 100</li> <li>● 10s, starting from any point, to 100</li> </ul>	<p><b>N01:</b> Students will be expected to say the number sequence forward and backward by</p> <ul style="list-style-type: none"> <li>● 1s through transitions to 1000</li> <li>● 2s, 5s, 10s, or 100s, using any starting point to 1000</li> <li>● 3s, using starting points that are multiples of 3 up to 100</li> <li>● 4s, using starting points that are multiples of 4 up to 100</li> <li>● 25s, using starting points that are multiples of 25 up to 200</li> </ul>
<b>MEANINGFUL COUNTING</b>	<p><b>N06:</b> Students will be expected to demonstrate an understanding of counting to 10.</p>	<p><b>N03:</b> Students will be expected to demonstrate an understanding of counting to 20 by</p> <ul style="list-style-type: none"> <li>● indicating that the last number said identifies “how many”</li> <li>● showing that any set has only one count</li> <li>● using the counting-on strategy</li> </ul> <p><b>N07:</b> Students will be expected to demonstrate an understanding of conservation of number for up to 20 objects.</p>	<p><b>N04:</b> Students will be expected to represent and partition numbers to 100.</p> <p>N04.01 represent a given number using concrete materials, such as ten-frames and base-ten materials            N04.02 represent a given number using coins (pennies, nickels, dimes, and quarters)            N04.03 represent a given number using tallies            N04.04 represent a given number pictorially (both print and digital)            N04.05 find examples of a given number in the environment            N04.06 represent a given number using expressions (e.g., <math>24 + 6</math>, <math>15 + 15</math>, <math>40 - 10</math>)            N04.07 read a number (0–100) given in symbolic or word form            N04.08 record in words a given number (0–20)            N04.09 record, symbolically, any number (0–100).</p>	<p><b>N01:</b> Students will be expected to say the number sequence forward and backward by</p> <ul style="list-style-type: none"> <li>● 1s through transitions to 1000</li> <li>● 2s, 5s, 10s, or 100s, using any starting point to 1000</li> <li>● 3s, using starting points that are multiples of 3 up to 100</li> <li>● 4s, using starting points that are multiples of 4 up to 100</li> <li>● 25s, using starting points that are multiples of 25 up to 200</li> </ul>
<b>ESTIMATE QUANTITY</b>	n/a	<p><b>N06:</b> Students will be expected to estimate quantities to 20 by using referents.</p>	<p><b>N06:</b> Students will be expected to estimate quantities to 100 by using referents.</p>	<p><b>N04:</b> Students will be expected to estimate quantities less than 1000 using referents.</p>

			<p>N06.01 estimate a given quantity by comparing it to a referent (known quantity)</p> <p>N06.02 estimate the number of groups of ten in a given quantity using 10 as a referent</p> <p>N06.03 select between two possible estimates for a given quantity and explain the choice</p>	<p>N04.01 estimate the number of groups of ten in a given quantity using 10 as a referent (known quantity)</p> <p>N04.02 estimate the number of groups of a hundred in a given quantity using 100 as a referent</p> <p>N04.03 estimate a given quantity by comparing it to a referent</p> <p>N04.04 select an estimate for a given quantity by choosing among three possible choices</p> <p>N04.05 select and justify a referent for determining an estimate for a given quantity</p>
<b>ORDINALS</b>	n/a	n/a	n/a	<p>PR01: Students will be expected to demonstrate an understanding of increasing patterns by describing, extending, comparing, and creating numerical (numbers to 1000) patterns and non-numerical patterns using manipulatives, diagrams, sounds, and actions.</p>
<b>SUBITIZING</b>	<p>N02: Students will be expected to recognize, at a glance, and name the quantity represented by familiar arrangements of one to five objects or dots.</p>	<p>N02: Students will be expected to recognize, at a glance, and name the quantity represented by familiar arrangements of 1 to 10 objects or dots.</p>	n/a	n/a
<b>REPRESENTING AND PARTITIONING WHOLE NUMBERS</b>	<p>N04: Students will be expected to represent and describe numbers 2 to 10 in two parts, concretely and pictorially.</p> <p>N03: Students will be expected to relate a numeral, 1 to 10, to its respective quantity.</p>	<p>N04: Students will be expected to represent and partition numbers to 20.</p> <p>N07: Students will be expected to demonstrate an understanding of conservation of number for up to 20 objects.</p>	<p>N04: Students will be expected to represent and partition numbers to 100.</p> <p>N04.01 represent a given number using concrete materials, such as ten-frames and base-ten materials</p> <p>N04.02 represent a given number using coins (pennies, nickels, dimes, and quarters)</p> <p>N04.03 represent a given number using tallies</p> <p>N04.04 represent a given number pictorially (both print and digital)</p> <p>N04.05 find examples of a given number in the environment</p> <p>N04.06 represent a given number using expressions (e.g., <math>24 + 6</math>, <math>15 + 15</math>, <math>40 - 10</math>)</p>	<p>N02: Students will be expected to represent and partition numbers to 1000.</p>

			N04.07 read a number (0–100) given in symbolic or word form N04.08 record in words a given number (0–20) N04.09 record, symbolically, any number (0–100).	
<b>COMPARING AND ORDERING WHOLE NUMBERS</b>	N05: Students will be expected to compare quantities, 1 to 10, using one-to-one correspondence.	N05: Students will be expected to compare sets containing up to 20 objects to solve problems using referents and one-to-one correspondence  N08: Students will be expected to identify the number, up to 20, that is one more, two more, one less, and two less than a given number.	N05: Students will be expected to compare and order numbers up to 100.  N05.01 compare and order a given set of numbers in ascending or descending order and verify the result using a hundred chart, number line, ten-frames, or by making references to place value N05.02 identify errors in a given ordered sequence N05.03 identify missing numbers in a given hundred chart N05.04 identify errors in a given hundred chart	N03: Students will be expected to compare and order numbers up to 1000.  N03.01 place a given set of numbers in ascending or descending order and verify the result using a number chart or other models N03.02 create as many different three-digit numerals as possible, given three different digits. place the numbers in ascending or descending order N03.04 identify missing numbers in parts of a given number chart and on a number line N03.05 identify errors in a given number chart and on a number line N03.06 place numbers on a number line containing benchmark numbers for the purpose of comparison N03.07 compare numbers based on a variety of methods, and record the comparison using words and symbols (=, >, and <)
<b>PLACE VALUE: WHOLE NUMBERS</b>	n/a	n/a	N07: Students will be expected to illustrate, concretely and pictorially, the meaning of place value for numerals to 100.	N05: Students will be expected to illustrate, concretely and pictorially, the meaning of place value for numerals to 1000.
<b>NUMBER PROGRESSION: FRACTIONS</b>				
<b>TOPIC</b>	<b>MATHEMATICS PRIMARY</b>	<b>MATHEMATICS 1</b>	<b>MATHEMATICS 2</b>	<b>MATHEMATICS 3</b>
<b>REPRESENTING FRACTIONS</b>	n/a	n/a	n/a	N13: Students will be expected to demonstrate an understanding of fractions by -explaining that a fraction represents a part of a whole

				-describing situations in which fractions are used -comparing fractions of the same whole with like denominators
<b>COMPARING AND ORDERING FRACTIONS</b>	n/a	n/a	n/a	N13: Students will be expected to demonstrate an understanding of fractions by -explaining that a fraction represents a part of a whole -describing situations in which fractions are used -comparing fractions of the same whole with like denominators
<b>NUMBER PROGRESSION: OPERATIONS ADDING AND SUBTRACTING</b>				
<b>TOPIC</b>	<b>MATHEMATICS PRIMARY</b>	<b>MATHEMATICS 1</b>	<b>MATHEMATICS 2</b>	<b>MATHEMATICS 3</b>
<b>ADDITION AND SUBTRACTION : BASIC FACTS</b>	n/a	n/a	N10: Students will be expected to apply mental mathematics strategies to quickly recall basic addition facts to 18 and determine related subtraction facts.  N10.01 explain the mental mathematics strategy that could be used to determine basic addition facts. -Doubles Facts -Plus One Facts -One-Apart (Near Doubles) Facts -Plus Two Facts -Plus Zero Facts -Make-10 Facts -Two-Apart Facts -Plus Three Facts N10.02 use and describe a personal strategy for determining a sum to 18 N10.03 quickly recall basic addition facts to 18 in a variety of contexts N10.04 explain the think-addition strategy used to determine a basic subtraction fact N10.05 use and describe a personal strategy for determining the subtraction facts	N10: Students will be expected to apply mental mathematics strategies and number properties to develop quick recall of basic addition facts to 18 and related basic subtraction facts.

			N08: Students will be expected to demonstrate and explain the effect of adding zero to or subtracting zero from any number.	
<b>ADDITION AND SUBTRACTION : MENTAL MATHEMATICS AND ESTIMATION</b>	n/a	<p>N08: Students will be expected to identify the number, up to 20, that is one more, two more, one less, and two less than a given number.</p> <p>N10: Students will be expected to use and describe strategies to determine sums and differences using manipulatives and visual aids. Strategies include</p> <ul style="list-style-type: none"> <li>● counting on or counting back</li> <li>● one more or one less</li> <li>● making ten</li> <li>● doubles</li> </ul> <p>N10.01 Use and describe your personal strategy to determine the sum .</p> <p>N10.02 use and describe a personal strategy to determine a difference</p>	<p>N08: Students will be expected to demonstrate and explain the effect of adding zero to or subtracting zero from any number.</p> <p>N10: Students will be expected to apply mental mathematics strategies to quickly recall basic addition facts to 18 and determine related subtraction facts.</p> <p>N10.01 explain the mental mathematics strategy that could be used to determine basic addition facts.</p> <ul style="list-style-type: none"> <li>-Doubles Facts</li> <li>-Plus One Facts</li> <li>-One-Apart (Near Doubles) Facts</li> <li>-Plus Two Facts</li> <li>-Plus Zero Facts</li> <li>-Make-10 Facts</li> <li>-Two-Apart Facts</li> <li>-Plus Three Facts</li> </ul> <p>N10.02 use and describe a personal strategy for determining a sum to 18</p> <p>N10.03 quickly recall basic addition facts to 18 in a variety of contexts</p> <p>N10.04 explain the think-addition strategy used to determine a basic subtraction fact</p> <p>N10.05 use and describe a personal strategy for determining the subtraction facts</p>	<p>N06: Students will be expected to describe and apply mental mathematics strategies for adding two two-digit numerals.</p> <p>N06.01 explain mental mathematics strategies that could be used to determine a sum.</p> <ul style="list-style-type: none"> <li>-Ten and some more</li> <li>-Tens and some more</li> <li>-Quick addition</li> <li>-Addition facts to 10 applied to multiples of 10</li> <li>-Addition on the hundred chart</li> <li>-Adding on</li> <li>-Make ten</li> <li>-Compensation</li> <li>-Compatible numbers</li> </ul> <p>N06.02 use and describe a personal strategy for determining a sum</p> <p>N06.03 determine a sum of two two-digit numerals efficiently, using mental mathematics strategies</p> <p>N07: Students will be expected to describe and apply mental mathematics strategies for subtracting two two-digit numerals.</p> <p>N07.01 explain mental mathematics strategies that could be used to determine a difference.</p> <ul style="list-style-type: none"> <li>-Facts with minuends of 10 or less applied to multiples of 10</li> <li>-Quick subtraction</li> <li>-Subtraction on the hundred chart</li> <li>-Compensation</li> <li>-Back through ten</li> </ul>

				<p>N07.02 use and describe a personal strategy for determining a difference</p> <p>N07.03 determine a difference of two two-digit numerals efficiently, using mental mathematics strategies</p> <p>N08: Students will be expected to apply estimation strategies to predict sums and differences of one-, two-, and three-digit numerals in a problem-solving context.</p> <p>N08.01 explain estimation strategies that could be used to determine an approximate sum or difference</p> <p>N08.02 use and describe a strategy for determining an estimate</p> <p>N08.03 estimate the solution for a given story problem involving the sum or difference of up to two three-digit numerals</p> <p>N10: Students will be expected to apply mental mathematics strategies and number properties to develop quick recall of basic addition facts to 18 and related basic subtraction facts.</p>
<p><b>ADDITION AND SUBTRACTION : CALCULATIONS</b></p>	n/a	<p>N09: Students will be expected to demonstrate an understanding of the addition of two one-digit numbers and the corresponding subtraction, concretely, pictorially, and symbolically, in join, separate, and part-part-whole situations.</p> <p>N10: Students will be expected to use and describe strategies to determine sums and differences using manipulatives and visual aids. Strategies include</p>	<p>N08: Students will be expected to demonstrate and explain the effect of adding zero to or subtracting zero from any number.</p> <p>N09: Students will be expected to demonstrate an understanding of addition (limited to one- and two-digit numerals) with answers to 100 and the corresponding subtraction by</p> <p>-using personal strategies for adding and subtracting with and without the support of manipulatives</p>	<p>N09: Students will be expected to demonstrate an understanding of addition and subtraction of numbers (limited to one-, two-, and three-digit numerals) with answers to 1000 by</p> <p>-using personal strategies for adding and subtracting with and without the support of manipulatives</p> <p>-creating and solving problems in context that involve addition and</p>

		<ul style="list-style-type: none"> <li>● counting on or counting back</li> <li>● one more or one less</li> <li>● making ten</li> <li>● Doubles</li> </ul> <p>N10.01 Use and describe your personal strategy to determine the sum .</p> <p>N10.02 use and describe a personal strategy to determine a difference</p>	<p>-creating and solving problems that involve addition and subtraction</p> <p>-explaining and demonstrating that the order in which numbers are added does not affect the sum</p> <p>-explaining and demonstrating that the order in which numbers are subtracted matters when finding a difference</p> <p>N09.01 solve a given story problem of any type by modelling it with materials or a diagram (both print and digital), and write a number sentence that represents the thinking in the solution</p> <p>N09.02 solve a given story problem of any type by writing a number expression and combining the numbers to complete the number sentences</p> <p>N09.03 match a number sentence to a given story problem</p> <p>N09.04 create an addition or a subtraction number sentence and a story problem for a given solution</p> <p>N09.05 model addition and subtraction using concrete materials or visual representations, and record the process symbolically</p> <p>N09.06 add a given set of numbers in two different ways and explain why the sum is the same</p> <p>N09.07 recognize and create equivalent addition and subtraction number sentences</p>	<p>subtraction of numbers concretely, pictorially, and symbolically</p> <p>N09.01 model the addition of two or more given numbers using concrete or visual representations and record the process symbolically</p> <p>N09.02 model the subtraction of two given numbers using concrete or visual representations and record the process symbolically</p> <p>N09.03 create an addition or subtraction story problem for a given solution</p> <p>N09.04 determine the sum of two given numbers using a personal strategy (e.g., for <math>326 + 48</math>, record <math>300 + 60 + 14</math>)</p> <p>N09.05 determine the difference of two given numbers using a personal strategy (e.g., for <math>127 - 38</math>, record <math>127 - 20 - 10 - 8</math>)</p> <p>N09.06 solve a given problem involving the sum or difference of two given numbers.</p>
<b>NUMBER PROGRESSION: OPERATIONS MULTIPLICATION AND DIVISION</b>				
<b>TOPIC</b>	<b>MATHEMATICS PRIMARY</b>	<b>MATHEMATICS 1</b>	<b>MATHEMATICS 2</b>	<b>MATHEMATICS 3</b>
<b>MULTIPLICATION AND DIVISION</b>	n/a	n/a	n/a	N11: Students will be expected to demonstrate an understanding of multiplication to $5 \times 5$ by -representing and explaining multiplication using equal grouping and arrays

				<p>-creating and solving problems in context that involves multiplication modelling</p> <p>-multiplication using concrete and visual representations and recording the process symbolically</p> <p>-relating multiplication to repeated addition</p> <p>-relating multiplication to division</p> <p>N12: Students will be expected to demonstrate an understanding of division by</p> <p>-representing and explaining division using equal sharing and equal grouping</p> <p>-creating and solving problems in context that involve equal sharing and equal grouping</p> <p>-modelling equal sharing and equal grouping using concrete and visual representations, and recording the process symbolically</p> <p>-relating division to repeated subtraction</p> <p>-relating division to multiplication (Limited to division related to multiplication facts up to <math>5 \times 5</math>.)</p> <p>N12.01 identify events from experience that can be described as equal sharing.</p> <p>N12.02 identify events from experience that can be described as equal grouping</p> <p>N12.03 illustrate, with counters or a diagram (both print and digital), a given story problem involving equal sharing, presented orally or through shared reading, and solve the problem</p> <p>N12.04 illustrate, with counters or a diagram (both print and digital), a given story problem involving equal grouping, presented orally or</p>
--	--	--	--	---



				<p>through shared reading, and solve the problem</p> <p>N12.05 listen to a story problem, represent the numbers using manipulatives or a diagram (both print and digital) and record the problem with a number sentence and/or expression</p> <p>N12.06 create and illustrate with counters, a story problem for a given number sentence and/or expression</p> <p>N12.07 represent a given division sentence and/or expression as repeated subtraction</p> <p>N12.08 represent a given repeated subtraction as a division sentence</p> <p>N12.09 relate division to multiplication by using arrays and writing related number sentences.</p> <p>N12.10 solve a given problem involving division.</p>
--	--	--	--	--

**PATTERNS AND RELATIONS PROGRESSION**

<b>TOPIC</b>	<b>MATHEMATICS PRIMARY</b>	<b>MATHEMATICS 1</b>	<b>MATHEMATICS 2</b>	<b>MATHEMATICS 3</b>
<b>REPEATING PATTERNS</b>	<p>PR01: Students will be expected to demonstrate an understanding of repeating patterns (two or three elements) by identifying, reproducing, extending, and creating patterns using manipulatives, sounds, and actions.</p>	<p>PR01: Students will be expected to demonstrate an understanding of repeating patterns (two to four elements) by identifying, describing, reproducing, extending, and creating patterns using manipulatives, diagrams, sounds, and actions.</p> <p>PR01.01 describe a given repeating pattern containing two to four elements in its core</p> <p>PR01.02 identify errors in a given repeating pattern</p> <p>PR01.03 identify the missing element(s) in a given repeating pattern</p> <p>PR01.04 create and describe a repeating pattern using a variety of manipulatives, musical instruments, and actions</p> <p>PR01.05 reproduce and extend a given repeating pattern using</p>	<p>PR01: Students will be expected to demonstrate an understanding of repeating patterns (three to five elements) by describing, extending, comparing, and creating patterns using manipulatives, diagrams, sounds, and actions.</p> <p>PR01.01 identify the core of a given repeating pattern</p> <p>PR01.02 describe and extend a given double attribute pattern</p> <p>PR01.03 create (both print and digital) a repeating non-numerical pattern and explain the rule</p> <p>PR01.04 predict an element of a given repeating pattern using a variety of strategies and extend the pattern up to the tenth element to verify the prediction</p> <p>PR01.05 translate a repeating pattern from one mode to another</p>	n/a

		manipulatives, diagrams (both print and digital), sounds, and actions PR01.06 identify and describe a repeating pattern in the environment (e.g., classroom, outdoors) using everyday language	PR01.06 compare two given repeating patterns and describe how they are alike/different	
<b>INCREASING PATTERNS</b>	n/a	n/a	<b>PR02:</b> Students will be expected to demonstrate an understanding of increasing patterns by describing, extending, and creating numerical patterns (numbers to 100) and non-numerical patterns using manipulatives, diagrams, sounds, and actions.	PR01: Students will be expected to demonstrate an understanding of increasing patterns by describing, extending, comparing, and creating numerical (numbers to 1000) patterns and non-numerical patterns using manipulatives, diagrams, sounds, and actions.
<b>DECREASING PATTERNS</b>	n/a	n/a	n/a	PR02: Students will be expected to demonstrate an understanding of decreasing patterns by describing, extending, comparing, and creating numerical (numbers to 1000) patterns and non-numerical patterns using manipulatives, diagrams, sounds, and actions.
<b>EQUALITY</b>	N05: Students will be expected to compare quantities, 1 to 10, using one-to-one correspondence.	PR03: Students will be expected to describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20).  PR04: Students will be expected to record equalities using the equal symbol.  N05: Students will be expected to compare sets containing up to 20 objects to solve problems using referents and one-to-one correspondence.	PR03: Students will be expected to demonstrate and explain the meaning of equality and inequality by using manipulatives and diagrams (0 to 100). PR03.01 determine whether two given quantities of the same object (same shape and mass) are equal by using a balance scale PR03.02 construct and draw two unequal sets using the same object (same shape and mass) and explain the reasoning  PR04: Students will be expected to record equalities and inequalities symbolically, using the equal symbol or not equal symbol.	PR03: Students will be expected to solve one-step addition and subtraction equations involving symbols representing an unknown number.
<b>VARIABLES</b>	n/a	n/a	n/a	PR03: Students will be expected to solve one-step addition and subtraction equations involving symbols representing an unknown number.

MEASUREMENT PROGRESSION				
TOPIC	MATHEMATICS PRIMARY	MATHEMATICS 1	MATHEMATICS 2	MATHEMATICS 3
<b>LENGTH</b>	<p>M01: Students will be expected to use direct comparison to compare two objects based on a single attribute, such as length, mass, volume, and capacity.</p>	<p><b>M01</b> Students will be expected to demonstrate an understanding of measurement as a process of comparing by:</p> <ul style="list-style-type: none"> <li>-identifying attributes that can be compared</li> <li>-ordering objects</li> <li>-making statements of comparison</li> <li>-filling, covering, or matching</li> </ul> <p>M01.01: Identify common attributes, such as length and mass that could be used to compare a given set of two objects.  M01.02: Compare and order two given objects and identify the attributes used to compare.  M01.03: Predict which object in a set is longest/shortest, determine by matching and explain the reasoning.  M01.04: Predict which object in a set is heaviest/lightest, determine by comparing and explain the reasoning.</p>	<p>M02: Students will be expected to relate the size of a unit of measure to the number of units (limited to non-standard units) used to measure length and mass.</p> <p>M03: Students will be expected to compare and order objects by length, height, and mass using non-standard units and make statements of comparison.  Indicators:  M03.01 estimate, measure, and record the length, height, or mass of a given object using non-standard units  M03.02 compare and order the measure of two or more objects in ascending or descending order and explain the method of ordering</p> <p>M04: Students will be expected to measure length to the nearest non-standard unit by using multiple copies of a unit.  M04.01 explain why overlapping or leaving gaps does not result in accurate measures  M04.02 count the number of non-standard units required to measure the length of a given object using multiple copies of a unit  M04.03 estimate and measure a given object using multiple copies of a non-standard unit and explain the results.</p>	<p>M03: Students will be expected to demonstrate an understanding of measuring length (cm, m) by</p> <ul style="list-style-type: none"> <li>-selecting and justifying referents for the units centimetre or metre (cm, m)</li> <li>-modelling and describing the relationship between the units centimetre or metre (cm, m)</li> <li>-estimating length using referents</li> <li>-measuring and recording length, width, and height</li> </ul> <p>M05: Students will be expected to demonstrate an understanding of perimeter of regular, irregular, and composite shapes by</p> <ul style="list-style-type: none"> <li>-estimating perimeter using referents for centimetre or metre (cm, m)</li> <li>-measuring and recording perimeter (cm, m)</li> <li>-create different shapes for a given perimeter (cm, m) to demonstrate that many shapes are possible for a perimeter</li> <li>M05.01 measure and record the perimeter of a given regular shape and explain the strategy used</li> <li>M05.02 measure and record the perimeter of a given irregular or composite shape, and explain the strategy used</li> <li>M05.03 construct a shape for a given perimeter (cm, m)</li> <li>M05.04 construct or draw more than one shape for the same given perimeter</li> <li>M05.05 estimate the perimeter of a given shape (cm, m) using personal referents</li> </ul>

<b>MASS</b>	M01: Students will be expected to use direct comparison to compare two objects based on a single attribute, such as length, mass, volume, and capacity.	<p><b>M01</b> Students will be expected to demonstrate an understanding of measurement as a process of comparing by:</p> <ul style="list-style-type: none"> <li>-identifying attributes that can be compared</li> <li>-ordering objects</li> <li>-making statements of comparison</li> <li>-filling, covering, or matching</li> </ul> <p>M01.01: Identify common attributes, such as length and mass that could be used to compare a given set of two objects.  M01.02: Compare and order two given objects and identify the attributes used to compare.  M01.03: Predict which object in a set is longest/shortest, determine by matching and explain the reasoning.  M01.04: Predict which object in a set is heaviest/lightest, determine by comparing and explain the reasoning.</p>	<p>M02: Students will be expected to relate the size of a unit of measure to the number of units (limited to non-standard units) used to measure length and mass.</p> <p>M03: Students will be expected to compare and order objects by length, height and mass using non-standard units and make statements of comparison.</p> <p>M03.01 estimate, measure, and record the length, height, or mass of a given object using non-standard units  M03.02 compare and order the measure of two or more objects in ascending or descending order and explain the method of ordering</p>	<p>M04: Students will be expected to demonstrate an understanding of measuring mass (g, kg) by</p> <ul style="list-style-type: none"> <li>-selecting and justifying referents for the units gram and kilogram (g, kg)</li> <li>-modelling and describing the relationship between the units gram and kilogram (g, kg)</li> <li>-estimating mass using referents</li> <li>-measuring and recording mass</li> </ul> <p>M04.01 provide a personal referent for one gram, and explain the choice  M04.02 provide a personal referent for one kilogram, and explain the choice  M04.03 match a given standard unit to a given referent  M04.04 explain the relationship between 1000 grams and 1 kilogram using a model  M04.05 estimate the mass of a given object using personal referents  M04.06 measure, using a balance scale, and record the mass of given everyday objects using the units gram (g) and kilogram (kg)  M04.07 provide examples of 3-D objects that have a mass of approximately 1 g, 100 g, and 1 kg  M04.08 determine the mass of two given similar objects with different masses and explain the results  M04.09 determine the mass of an object, change its shape, re-measure its mass, and explain the results</p>
<b>VOLUME</b>	M01: Students will be expected to use direct comparison to compare two objects based on a single attribute, such as length, mass, volume, and capacity.	<p><b>M01</b> Students will be expected to demonstrate an understanding of measurement as a process of comparing by:</p> <ul style="list-style-type: none"> <li>-identifying attributes that can be compared</li> <li>-ordering objects</li> </ul>	n/a	n/a

		<p>-making statements of comparison -filling, covering, or matching</p> <p>M01.01: Identify common attributes, such as length and mass that could be used to compare a given set of two objects. M01.02: Compare and order two given objects and identify the attributes used to compare. M01.03: Predict which object in a set is longest/shortest, determine by matching and explain the reasoning. M01.04: Predict which object in a set is heaviest/lightest, determine by comparing and explain the reasoning.</p>		
<b>CAPACITY</b>	<p><b>M01:</b> Students will be expected to use direct comparison to compare two objects based on a single attribute, such as length, mass, volume, and capacity.</p>	<p><b>M01</b> Students will be expected to demonstrate an understanding of measurement as a process of comparing by:</p> <ul style="list-style-type: none"> <li>-identifying attributes that can be compared</li> <li>-ordering objects</li> <li>-making statements of comparison</li> <li>-filling, covering, or matching</li> </ul> <p>M01.01: Identify common attributes, such as length and mass that could be used to compare a given set of two objects. M01.02: Compare and order two given objects and identify the attributes used to compare. M01.03: Predict which object in a set is longest/shortest, determine by matching and explain the reasoning. M01.04: Predict which object in a set is heaviest/lightest, determine</p>	n/a	n/a

		by comparing and explain the reasoning.		
<b>PERIMETER</b>	n/a	n/a	<p>M03: Students will be expected to compare and order objects by length, height, and mass using non-standard units and make statements of comparison.</p> <p>M03.01 estimate, measure, and record the length, height, or mass of a given object using non-standard units</p> <p>M03.02 compare and order the measure of two or more objects in ascending or descending order and explain the method of ordering</p>	<p>M05: Students will be expected to demonstrate an understanding of perimeter of regular, irregular, and composite shapes by</p> <ul style="list-style-type: none"> <li>-estimating perimeter using referents for centimetre or metre (cm, m)</li> <li>-measuring and recording perimeter (cm, m)</li> <li>-create different shapes for a given perimeter (cm, m) to demonstrate that many shapes are possible for a perimeter</li> </ul> <p>M05.01 measure and record the perimeter of a given regular shape and explain the strategy used</p> <p>M05.02 measure and record the perimeter of a given irregular or composite shape, and explain the strategy used</p> <p>M05.03 construct a shape for a given perimeter (cm, m)</p> <p>M05.04 construct or draw more than one shape for the same given perimeter</p> <p>M05.05 estimate the perimeter of a given shape (cm, m) using personal referents</p>
<b>AREA</b>	n/a	<p><b>M01</b> Students will be expected to demonstrate an understanding of measurement as a process of comparing by:</p> <ul style="list-style-type: none"> <li>-identifying attributes that can be compared</li> <li>-ordering objects</li> <li>-making statements of comparison</li> <li>-filling, covering, or matching</li> </ul> <p>M01.01: Identify common attributes, such as length and mass that could be used to compare a given set of two objects.</p>	n/a	n/a

		<p>M01.02: Compare and order two given objects and identify the attributes used to compare.</p> <p>M01.03: Predict which object in a set is longest/shortest, determine by matching and explain the reasoning.</p> <p>M01.04: Predict which object in a set is heaviest/lightest, determine by comparing and explain the reasoning.</p>		
<b>TIME</b>	n/a	n/a	<p>M01: Students will be expected to demonstrate an understanding of the calendar and the relationships among days, weeks, months, and years.</p>	<p>M01: Students will be expected to relate the passage of time to common activities using standard units (minutes, hours, days, weeks, months, years).</p> <p>M01.02 identify activities that can or cannot be accomplished in minutes, hours, days, weeks, months, and years</p> <p>M01.03 provide personal referents for minutes and hours</p> <p>M01.04 select and use a standard unit of measure, such as minutes, hours, days, weeks, and months, to measure the passage of time, and explain the choice</p> <p>M02: Students will be expected to relate the number of seconds to a minute, the numbers of minutes to an hour, the numbers of hours to a day, and the number of days to a month in a problem-solving context.</p> <p>M02.02 solve a given problem involving the number of seconds in a minute, the number of minutes in an hour, the number of hours in a day, or the number of days in a given month</p> <p>M02.03 create a calendar that includes days of the week, dates, and personal events</p>

GEOMETRY PROGRESSION				
TOPIC	MATHEMATICS PRIMARY	MATHEMATICS 1	MATHEMATICS 2	MATHEMATICS 3
<b>3-D OBJECTS</b>	<p>G01: Students will be expected to sort 3-D objects using a single attribute.</p> <p>G02: Students will be expected to build and describe 3-D objects.</p>	<p>G01: Students will be expected to sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule.</p> <p>G02: Students will be expected to replicate composite 2-D shapes and 3-D objects.</p> <p>G03: Students will be expected to identify 2-D shapes in 3-D objects.</p>	<p>G01: Students will be expected to sort 2-D shapes and 3-D objects using two attributes and explain the sorting rule.</p> <p>G02: Students will be expected to recognize, name, describe, compare, and build 3-D objects, including cubes and other prisms, spheres, cones, cylinders, and pyramids.</p> <p>G02.01 sort a given set of 3-D objects and explain the sorting rule  G02.02 identify common attributes of cubes and other prisms, spheres, cones, cylinders, and pyramids from given sets of the same 3-D objects  G02.03 identify and describe given 3-D objects with different dimensions  G02.04 identify and describe given 3-D objects with different positions  G02.05 create and describe a representation of a given 3-D object using materials such as modelling clay  G02.06 identify and name examples of cubes and other prisms, spheres, cones, cylinders, and pyramids found in the environment</p> <p>G04: Students will be expected to identify 2-D shapes as part of 3-D objects in the environment.</p>	<p>G01: Students will be expected to describe 3-D objects according to the shape of the faces.</p> <p>G01.01 identify the faces, edges, and vertices of given 3-D objects, including spheres, cones, cylinders, pyramids, and cubes and other prisms  G01.02 identify the shape of the faces of a given 3-D object  G01.04 sort a given set of 3-D objects</p>
<b>2-D SHAPES</b>	n/a	<p>G03: Students will be expected to identify 2-D shapes in 3-D objects.</p> <p>G02: Students will be expected to replicate composite 2-D shapes and 3-D objects.</p>	<p>G03: Students will be expected to recognize, name, describe, compare and build 2-D shapes, including triangles, squares, rectangles, and circles.</p> <p>G03.01 sort a given set of 2-D shapes and explain the sorting rule  G03.02 identify common attributes of triangles, squares, rectangles,</p>	<p>G01: Students will be expected to describe 3-D objects according to the shape of the faces.</p> <p>G01.01 identify the faces, edges, and vertices of given 3-D objects, including spheres, cones, cylinders, pyramids, and cubes and other prisms</p>



			<p>and circles from given sets of the same type of 2-D shapes</p> <p>G03.03 identify given 2-D shapes with different dimensions</p> <p>G03.04 identify given 2-D shapes with different positions</p> <p>G03.05 identify and name examples of triangles, squares, rectangles, and circles found in the environment</p> <p>G03.06 create a model to represent a given 2-D shape</p> <p>G03.07 create a pictorial representation of a given 2-D shape</p> <p>G04: Students will be expected to identify 2-D shapes as part of 3-D objects in the environment.</p>	<p>G01.02 identify the shape of the faces of a given 3-D object</p> <p>G01.04 sort a given set of 3-D objects</p>
<b>STATISTICS AND PROBABILITY PROGRESSION</b>				
<b>TOPIC</b>	<b>MATHEMATICS PRIMARY</b>	<b>MATHEMATICS 1</b>	<b>MATHEMATICS 2</b>	<b>MATHEMATICS 3</b>
<b>DATA MANAGEMENT</b>	n/a	n/a	<p>SP01: Students will be expected to gather and record data about self and others to answer questions.</p> <p>SP02: Students will be expected to construct and interpret concrete graphs and pictographs to solve problems.</p>	<p>SP01: Students will be expected to collect first-hand data and organize it using tally marks, line plots, charts, and lists to answer questions.</p> <p>SP02: Students will be expected to construct, label, and interpret bar graphs to solve problems.</p>