



# 2019-2020 K-4 Mathematics Continuum: Term One

*We only think when we are confronted with a problem. (Keith Devlin)*

The mathematical processes that support effective learning in mathematics are as follows:

**Problem Solving   Reasoning and Proving   Reflecting   Selecting Tools and Computational Strategies   Connecting   Representing   Communicating**

The mathematical processes can be seen as the processes through which students acquire and apply mathematical knowledge and skills. These processes are interconnected. Problem Solving and communicating have strong links to all the other processes.

Dates	Strands & Topics	KINDERGARTEN	GRADE ONE	GRADE TWO	GRADE 3	GRADE 4
Sept. 4-Oct. 4	<b>NUMBER SENSE AND NUMERATION</b> Quantity Relationships	<ul style="list-style-type: none"> <li>use, read &amp; represent whole numbers - 10</li> <li>counting               <ul style="list-style-type: none"> <li>quantity is greater counting forward &amp; less counting backwards</li> </ul> </li> <li>comparing sets: more, fewer &amp; the same and number relationships</li> <li>ordinal numbers</li> </ul>	<ul style="list-style-type: none"> <li>read, represent, compare &amp; order whole numbers to 50</li> <li>read &amp; print in words to 10</li> <li>compose &amp; decompose numbers up to 20</li> <li>conservation of numbers</li> <li>relate numbers to anchors of 5 and 10</li> <li>ordinal numbers</li> </ul>	<ul style="list-style-type: none"> <li>read, represent, compare &amp; order whole numbers to 100</li> <li>read &amp; print in words to 20</li> <li>compose &amp; decompose two-digit whole numbers</li> <li>determine &amp; justify the ten that is nearest to a given two- digit number</li> </ul>	<ul style="list-style-type: none"> <li>read, represent, compare &amp; order whole numbers to 1000</li> <li>read &amp; print in words to 100</li> <li>place value: hundred, tens, ones</li> <li>relationship between 1, 10, 100 &amp; 1000</li> <li>round two-digit numbers to the nearest ten</li> <li>money to \$10</li> <li>solve problems that arise from real life situations and that relate to magnitude of whole numbers into 1000</li> </ul>	<ul style="list-style-type: none"> <li>read, represent compare and order whole numbers to 10 000</li> <li>read &amp; print in words to 1000</li> <li>place value: from 1 to 10 000</li> <li>round four-digit numbers to the nearest ten, hundred, thousand</li> <li>read and represent money amounts to \$100</li> <li>solve problems that arise from real life situations and that relate to magnitude of whole numbers into 10000</li> <li><b>ONAP – Questions 1, 2, 3, 4, 5, 10 – Performance Task 1</b></li> </ul>
	<b>NUMBER SENSE &amp; NUMERATION</b> Counting	<ul style="list-style-type: none"> <li>one-to-one correspondence</li> <li>matching groups of objects</li> <li>stable order: 1 is followed by 2, 2 is followed by 3</li> <li>order of irrelevance</li> </ul>	<ul style="list-style-type: none"> <li>one-to-one correspondence</li> <li>count forward by 1's, 2's, 5's &amp; 10's to 100</li> <li>count backward by 1's, 2's &amp; 5's from 20</li> <li>counting and skip counting with coins</li> </ul>	<ul style="list-style-type: none"> <li>count forward by 1's, 2's, 5's, 10's &amp; 25's to 200 starting from multiples of 1,2,3 &amp; 10</li> <li>count backward by 1 from 50 &amp; 10's from 100</li> <li>locate whole numbers on a hundreds chart/number line</li> <li>counting money amounts to 100¢</li> </ul>	<ul style="list-style-type: none"> <li>count forward by 1's, 2's, 5's, 10's &amp; 100's to 1000</li> <li>count backward by 2's, 5's &amp; 10's from 100</li> <li>counting money amounts to \$10.00</li> <li>counting by 5s for time</li> <li>counting and skip counting with coins</li> </ul>	<ul style="list-style-type: none"> <li>count forward by tenths from any <b>decimal</b> number expressed to one decimal place, using concrete materials and number lines</li> <li><b>ONAP – Questions 11, 12</b></li> </ul>
	<b>NUMBER SENSE &amp; NUMERATION</b> Operational Sense	<ul style="list-style-type: none"> <li>investigate &amp; develop strategies for composing &amp; decomposing quantities to 10</li> </ul>	<ul style="list-style-type: none"> <li>addition &amp; subtraction               <ul style="list-style-type: none"> <li>single-digit whole numbers &amp; mental math strategies</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>addition &amp; subtraction               <ul style="list-style-type: none"> <li>whole numbers to 18 &amp; mental math strategies</li> <li>describe relationships between quantities</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>addition &amp; subtraction               <ul style="list-style-type: none"> <li>2-digit numbers &amp; mental math strategies</li> <li>3-digit numbers &amp; student-generated algorithms</li> <li>estimation</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>addition and subtraction               <ul style="list-style-type: none"> <li>2 digit numbers (mental math strategies)</li> <li>4 digit numbers (student generated and standard algorithms)</li> <li>Estimation and reasonableness of answer</li> </ul> </li> <li><b>ONAP – Questions 13, 14, 15</b></li> </ul>
Oct. 7-25	<b>GEOMETRY &amp; SPATIAL SENSE</b> Geometric Properties	<ul style="list-style-type: none"> <li>2-D shapes               <ul style="list-style-type: none"> <li>explore, sort &amp; compare traditional and non-traditional shapes</li> <li>identify &amp; describe</li> <li>compose &amp; decompose pictures, designs &amp; patterns</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>2-D shapes               <ul style="list-style-type: none"> <li>identify, describe &amp; sort common 2-D shapes locate &amp; describe shapes in the environment that have symmetry</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>2-D shapes               <ul style="list-style-type: none"> <li>distinguish between attributes of an object using geometric properties &amp; non-geometric properties</li> <li>identify, describe &amp; sort polygons</li> <li>locate line of symmetry</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>2-D shapes               <ul style="list-style-type: none"> <li>compare &amp; sort polygons</li> <li>relationship between different types of quadrilaterals</li> <li>congruent shapes</li> <li>identify, compare and describe angles as bigger than, smaller than, or about the same as other angles</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>2-D shapes               <ul style="list-style-type: none"> <li>identify, compare and sort different types of quadrilaterals</li> <li>identify benchmark angles using a reference tool and compare other angles to these benchmarks</li> <li>relate the names of the benchmark angles to their measures in degrees</li> </ul> </li> <li><b>ONAP – Questions 1, 2, 3 – Performance Task 1</b></li> </ul>
Oct. 28- Nov. 8	<b>PATTERNING &amp; ALGEBRA</b> Patterns & Relationships	<ul style="list-style-type: none"> <li>repeating patterns               <ul style="list-style-type: none"> <li>with materials: attribute blocks, pattern blocks, hundreds chart, toys, buttons etc,...</li> <li>through actions: clapping, jumping, tapping, etc,...</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>repeating patterns               <ul style="list-style-type: none"> <li>numeric patterns: hundreds chart</li> <li>identify and extend through investigation, numeric repeating patterns</li> <li>identify pattern rule (NSN Connection)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>repeating patterns               <ul style="list-style-type: none"> <li>real-life contexts</li> <li>repeating an operation</li> </ul> </li> <li>growing and shrinking patterns               <ul style="list-style-type: none"> <li>repeated addition &amp; subtractio (NSN Connection)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>growing and shrinking patterns               <ul style="list-style-type: none"> <li>number line, calendar &amp; hundreds chart</li> <li>addition and subtraction (NSN Connection)</li> <li>demonstrate understanding that a pattern results from a repeated action or operation, a transformation or making another change to an attribute</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>growing and shrinking patterns               <ul style="list-style-type: none"> <li>extend, describe, and create repeating, growing and shrinking number patterns</li> <li>connect each term with its term numbers</li> <li>addition and subtraction or multiplication given a pattern rule</li> </ul> </li> <li><b>ONAP – Questions 1, 2, 3 – Performance Task 2</b></li> </ul>
Nov. 11-Nov. 29	<b>DATA MANAGEMENT &amp; PROBABILITY</b> Collection & Organization of Data	<ul style="list-style-type: none"> <li>sort &amp; classify objects and describe attributes</li> <li>collect objects and data and make concrete graphs</li> </ul>	<ul style="list-style-type: none"> <li>organize, classify &amp; sort objects into categories using one attribute</li> <li>collect &amp; organize primary data and display with one-to- one correspondence: concrete graphs &amp; pictograph</li> </ul>	<ul style="list-style-type: none"> <li>organize, classify &amp; sort objects into categories using two attributes</li> <li>collect, organize, and display primary data that is categorical or discrete</li> <li>gather data to answer a question</li> </ul>	<ul style="list-style-type: none"> <li>conduct simple surveys</li> <li>collect, organize and display discrete primary data</li> <li>charts, tables and graphs: pictograph, vertical &amp; horizontal graphs</li> <li>describe the shape of data</li> <li>sort &amp; classify objects using two or more attributes</li> </ul>	<ul style="list-style-type: none"> <li>collect data from surveys and experiments</li> <li>collect and organize discrete primary data</li> <li>display collected data in charts, and graphs including stem and leaf and double bar graph</li> <li>sort and classify objects using two or more attributes</li> <li><b>ONAP – Questions 1, 2, 3 – Performance Task 1</b></li> </ul>
	<b>DATA MANAGEMENT &amp; PROBABILITY</b> Data Relationships	<ul style="list-style-type: none"> <li>compare objects and describe attributes</li> <li>respond to and question data &amp; graphs</li> </ul>	<ul style="list-style-type: none"> <li>read &amp; compare primary data</li> <li>pose and answer questions about collected data</li> </ul>	<ul style="list-style-type: none"> <li>read, describe &amp; demonstrate understanding of primary data</li> <li>pose &amp; answer questions about collected data</li> <li>distinguish between data values and frequency of events</li> </ul>	<ul style="list-style-type: none"> <li>read, compare, interpret &amp; draw conclusions of primary data</li> <li>mode</li> </ul>	<ul style="list-style-type: none"> <li>read, compare, interpret &amp; draw conclusions of primary and secondary data</li> <li>median</li> <li>describe shape of data</li> <li>comparing related sets of data</li> <li><b>ONAP – Questions 4, 5, 6</b></li> </ul>
Dec. 2-20 Ongoing through Number Talks	<b>NUMBER SENSE &amp; NUMERATION</b> Operational Sense		<ul style="list-style-type: none"> <li>addition &amp; subtraction               <ul style="list-style-type: none"> <li>whole number problems to 20 using concrete materials</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>addition &amp; subtraction               <ul style="list-style-type: none"> <li>2-digit numbers with &amp; without regrouping: student generated &amp; standard algorithms</li> </ul> </li> <li>multiplication               <ul style="list-style-type: none"> <li>represent multiplication as the combining of equal groups</li> </ul> </li> <li>division               <ul style="list-style-type: none"> <li>represent &amp; explain that division as the sharing of a quantity equally</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>multiplication               <ul style="list-style-type: none"> <li>to 7x7 using mental math strategies</li> <li>identify and describe number patterns involving multiplication represented on a number line, calendar &amp; hundreds chart (Patterning and Algebra Connection)</li> </ul> </li> <li>division               <ul style="list-style-type: none"> <li>to 49 ÷ 7 using mental math strategies</li> </ul> </li> <li>ongoing mental math strategies</li> <li>relate multiplication of 1-digit numbers &amp; division by 1- digit divisors to real life situations</li> </ul>	<ul style="list-style-type: none"> <li>multiplication               <ul style="list-style-type: none"> <li>to 9x9 using mental math strategies</li> <li>whole numbers by 10, 100, 1000</li> <li>2 digit by 1 digit whole numbers</li> </ul> </li> <li>division               <ul style="list-style-type: none"> <li>to 81 ÷ 9 using mental math strategies</li> <li>whole numbers by 10, 100,</li> <li>2 digits by 1-digit whole number</li> </ul> </li> <li><b>ONAP – Questions 17, 18 – Performance Task 2</b></li> </ul>
Jan. 6-Jan. 31	<b>MEASUREMENT</b> Attributes, Units & Measurement Sense	<ul style="list-style-type: none"> <li>awareness of non-standard &amp; standard measuring devices</li> </ul>	<ul style="list-style-type: none"> <li>length, height &amp; distance               <ul style="list-style-type: none"> <li>show understanding of the use of non-standard units of the same size for measuring</li> <li>construct tools using a variety of strategies</li> <li>non-standard measurements □ area</li> <li>estimate, measure &amp; describe using non-standard units</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>length, height &amp; distance               <ul style="list-style-type: none"> <li>benchmarks : personal referents for cm &amp; m</li> <li>estimate and measure using non-standard and standard units</li> <li>record and represent measurements in a variety of ways</li> <li>select and justify standard unit of measurement</li> </ul> </li> <li>estimate, measure and record the perimeter &amp; area of objects using non-standard units</li> </ul>	<ul style="list-style-type: none"> <li>length, height &amp; distance               <ul style="list-style-type: none"> <li>cm, m, km</li> <li>estimate, measure and record using standard units</li> <li>compare and order objects in problem solving contexts</li> </ul> </li> <li>draw items using a ruler giving specific lengths in cm</li> <li>perimeter and area of 2-D shapes using standard units               <ul style="list-style-type: none"> <li>estimate, measure and record using standard units</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>length, height &amp; distance               <ul style="list-style-type: none"> <li>mm, cm, m, km</li> <li>estimate, measure and record using standard units</li> </ul> </li> <li>draw items using a ruler giving specific lengths in mm, cm</li> <li>perimeter and area of polygons using standard units               <ul style="list-style-type: none"> <li>estimate, measure and record using standard units</li> </ul> </li> <li><b>ONAP – Questions 1, 2, 6, 7</b></li> </ul>
	<b>MEASUREMENT</b> Measurement Relationships	<ul style="list-style-type: none"> <li>compare &amp; order two or more objects according to appropriate measure               <ul style="list-style-type: none"> <li>length &amp; area</li> </ul> </li> <li>use measurement terms               <ul style="list-style-type: none"> <li>longer/shorter&amp; thicker/thinner</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>length, height, width, area               <ul style="list-style-type: none"> <li>compare two or 3 objects using measureable attributes relationship between size of unit and number of units</li> </ul> </li> <li>length-compare non-standard measurements with the metre benchmark</li> </ul>	<ul style="list-style-type: none"> <li>area (estimate, measure and record)               <ul style="list-style-type: none"> <li>describe relationship between the size of a unit of area and the number of non-standard units needed to cover the surface</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>length               <ul style="list-style-type: none"> <li>compare: cm, m, km &amp; justify appropriateness</li> </ul> </li> <li>perimeter and area               <ul style="list-style-type: none"> <li>compare area using congruent shapes</li> <li>relationship between the size of a unit &amp; the number needed to cover the area</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>length, height &amp; distance               <ul style="list-style-type: none"> <li>Relationship between: mm, cm, dm, m , km</li> </ul> </li> <li>perimeter and area               <ul style="list-style-type: none"> <li>Relationship to length of sides</li> <li>Distinguish between perimeter and area</li> </ul> </li> <li><b>ONAP – Questions 11, 12, 13, 14 - Performance Task 2</b></li> </ul>



## 2019-2020 K-4 Mathematics Continuum: Term Two

Dates	Strands & Topics	KINDERGARTEN	GRADE ONE	GRADE TWO	GRADE 3	GRADE 4
Feb. 3-7	<b>GEOMETRY &amp; SPATIAL SENSE</b> Location & Movement	<ul style="list-style-type: none"> <li><input type="checkbox"/> basic spatial relationships and movements: above/below, near/far, in/out...</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> describe relative location of objects               <ul style="list-style-type: none"> <li>▪ positional language</li> <li>▪ concrete maps</li> </ul> </li> <li><input type="checkbox"/> create symmetrical designs &amp; pictures</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> describe relative location &amp; movement of objects on a map</li> <li><input type="checkbox"/> draw simple maps</li> <li><input type="checkbox"/> create &amp; describe symmetrical designs</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> describe movement using a grid map</li> <li><input type="checkbox"/> flips → reflections, slides → translations, turns → rotations</li> <li><input type="checkbox"/> vertical, horizontal &amp; diagonal lines of symmetry</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> identify and describe the location of an object using a grid system</li> <li><input type="checkbox"/> identify, perform and describe reflections</li> <li><input type="checkbox"/> create an analyse symmetrical designs</li> </ul> <p><b>ONAP – Questions 11, 12, 13</b></p>
Feb. 10-Feb. 28	<b>PATTERNING &amp; ALGEBRA</b> Patterns & Relationships	<ul style="list-style-type: none"> <li><input type="checkbox"/> repeating patterns               <ul style="list-style-type: none"> <li>▪ identify &amp; describe repeating patterns informally in everyday contexts</li> <li>▪ oral expressions: goes before, goes after..</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> repeating patterns               <ul style="list-style-type: none"> <li>▪ identify, describe &amp; extend geometric patterns</li> <li>▪ one attribute</li> <li>▪ represent a repeating pattern: pictures, actions, colours, sounds, numbers, letters</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> repeating patterns               <ul style="list-style-type: none"> <li>▪ repeated change to an attribute</li> </ul> </li> <li><input type="checkbox"/> growing and shrinking patterns               <ul style="list-style-type: none"> <li>▪ two attributes</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> repeating patterns               <ul style="list-style-type: none"> <li>▪ identify, extend and create a pattern with two attributes</li> </ul> </li> <li><input type="checkbox"/> growing and shrinking patterns               <ul style="list-style-type: none"> <li>▪ numbers (i.e. multiplication)</li> <li>▪ geometric patterns using number sequences</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> repeating patterns               <ul style="list-style-type: none"> <li>▪ numeric and geometric</li> <li>▪ extend and create repeating patterns resulting from reflections</li> <li>▪ make predictions related to repeating patterns and numeric patterns</li> </ul> </li> <li><input type="checkbox"/> growing and shrinking patterns               <ul style="list-style-type: none"> <li>▪ term and term number, multiplication</li> </ul> </li> </ul> <p><b>ONAP – Questions 4, 5, 6</b></p>
	<b>PATTERNING &amp; ALGEBRA</b> Expressions & Equality	<ul style="list-style-type: none"> <li><input type="checkbox"/> create sets: greater than, less than, or equal to given to a set of objects</li> <li><input type="checkbox"/> balance model and whole numbers to 10</li> <li><input type="checkbox"/> explicit teaching of equal sign</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> equality by partitioning whole numbers to 18</li> <li><input type="checkbox"/> represent two number expressions that are equal</li> <li><input type="checkbox"/> determine missing numbers in equations</li> <li><input type="checkbox"/> commutative property of addition &amp; the properties of zero in addition &amp; subtraction</li> <li><input type="checkbox"/> explicit teaching of equal sign</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> addition &amp; subtraction               <ul style="list-style-type: none"> <li>▪ inverse relationships between addition and subtraction (associative property)</li> </ul> </li> <li><input type="checkbox"/> missing numbers in equations               <ul style="list-style-type: none"> <li>▪ addition &amp; subtraction 25-4=15+___</li> </ul> </li> <li><input type="checkbox"/> commutative property of addition &amp; the properties of zero in addition &amp; subtraction</li> <li><input type="checkbox"/> explicit teaching of equal sign</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> multiplication &amp; division               <ul style="list-style-type: none"> <li>▪ inverse relationships</li> <li>▪ commutative and distributive properties of multiplication</li> </ul> </li> <li><input type="checkbox"/> missing numbers in equations (multiplication)</li> </ul> <p><b>ONAP – Questions 7, 8, 9, 10 – Performance 1</b></p>	
Mar. 2-27 Ongoing through Number Talks	<b>NUMBER SENSE &amp; NUMERATION</b> Quantity Relationships	<ul style="list-style-type: none"> <li><input type="checkbox"/> money               <ul style="list-style-type: none"> <li>▪ explore different Canadian coins</li> </ul> </li> <li><input type="checkbox"/> recognize some quantities without counting               <ul style="list-style-type: none"> <li>▪ composing/decomposing numbers &amp; subitizing</li> <li>▪ estimation</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> money               <ul style="list-style-type: none"> <li>▪ identify, describe &amp; state value of coins</li> <li>▪ represent money amounts to 20 cents</li> </ul> </li> <li><input type="checkbox"/> fractions               <ul style="list-style-type: none"> <li>▪ divide whole objects into parts equal-sized parts of the whole: halves, fourths, or quarters</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> money               <ul style="list-style-type: none"> <li>▪ represent, compare &amp; order money amounts to 100 cents</li> <li>▪ estimate, count &amp; represent the value of a collection of coins to a max. of \$1.00</li> </ul> </li> <li><input type="checkbox"/> fractions               <ul style="list-style-type: none"> <li>▪ relationship between fractional parts of a whole and the size of the fractional parts</li> <li>▪ compare &amp; regroup fractional amounts</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> fractions               <ul style="list-style-type: none"> <li>▪ divide whole objects &amp; sets into equal groups</li> <li>▪ identify fractional names <u>without using numbers</u> in fractional notation</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> represent, order &amp; compare fractions               <ul style="list-style-type: none"> <li>▪ concrete materials, words, fractional notation</li> <li>▪ Counting forward by halves, thirds, fourths and tenths beyond one whole</li> </ul> </li> <li><input type="checkbox"/> relationships between fractions and decimals</li> <li><input type="checkbox"/> decimal numbers               <ul style="list-style-type: none"> <li>▪ Represent, compare and order decimal numbers to tenths</li> <li>▪ Count forward by tenths</li> <li>▪ Add and subtract decimal numbers to tenths</li> <li>▪ Add and subtract money amounts \$100</li> </ul> </li> </ul> <p><b>ONAP – Questions 7, 8, 9</b></p>
March 30-April 10	<b>DATA MANAGEMENT &amp; PROBABILITY</b> Probability	<ul style="list-style-type: none"> <li><input type="checkbox"/> informal discussions to describe probability</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> likelihood of everyday event: impossible, unlikely, less likely, more likely, certain</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> likelihood of an event: impossible, unlikely etc,...</li> <li><input type="checkbox"/> simple probability experiments or games               <ul style="list-style-type: none"> <li>▪ frequency of an outcome</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> simple probability experiments or games               <ul style="list-style-type: none"> <li>▪ frequency of an outcome &amp; fairness</li> <li>▪ perform the experiment, compare results with predictions using mathematical language</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> simple probability experiments               <ul style="list-style-type: none"> <li>▪ frequency of an outcome</li> <li>▪ how repetitions affect conclusions drawn</li> </ul> </li> </ul> <p><b>ONAP – Questions 7, 8 – Performance Task 2</b></p>
Apr. 13-24	<b>NUMBER SENSE &amp; NUMERATION</b> Operational Sense	<ul style="list-style-type: none"> <li><input type="checkbox"/> addition &amp; subtraction in everyday activities with manipulatives</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> addition &amp; subtraction               <ul style="list-style-type: none"> <li>▪ whole number problems to 20 concretely</li> <li>▪ money amounts to 10 c</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> addition &amp; subtraction               <ul style="list-style-type: none"> <li>▪ money amounts to 100 cents</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> addition &amp; subtraction               <ul style="list-style-type: none"> <li>▪ money to \$10 – including making change</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> relationship involving simple whole-number Multiplication</li> </ul> <p><b>ONAP – Questions 17, 18</b></p>
April 27-May 22	<b>GEOMETRY &amp; SPATIAL SENSE</b> Geometric Properties	<ul style="list-style-type: none"> <li><input type="checkbox"/> 3-D figures               <ul style="list-style-type: none"> <li>▪ explore, sort &amp; compare traditional and non-traditional figures</li> <li>▪ identify &amp; describe</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> 3-D figures               <ul style="list-style-type: none"> <li>▪ trace &amp; identify 2-D shapes in 3-D figures</li> <li>▪ identify, describe, sort &amp; classify common 3-D figures</li> <li>▪ similarities/differences: everyday objects &amp; 3-D figures</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> 3-D figures               <ul style="list-style-type: none"> <li>▪ identify, describe &amp; sort 3-D figures by geometric properties</li> <li>▪ create models &amp; skeletons of prisms &amp; pyramids</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> 3-D figures               <ul style="list-style-type: none"> <li>▪ describe &amp; name prisms &amp; pyramids by the shape of their base</li> </ul> </li> <li><input type="checkbox"/> 3-D figures               <ul style="list-style-type: none"> <li>▪ compare &amp; sort prisms and pyramids</li> <li>▪ construct rectangular prisms</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> 3-D figures               <ul style="list-style-type: none"> <li>▪ prisms and pyramids</li> </ul> </li> </ul> <p><b>ONAP – Questions 4, 5</b></p>
	<b>GEOMETRY &amp; SPATIAL SENSE</b> Geometric Relationships	<ul style="list-style-type: none"> <li><input type="checkbox"/> 3-D figures               <ul style="list-style-type: none"> <li>▪ build 3-D figures &amp; recognize structures</li> </ul> </li> <li><input type="checkbox"/> investigate relationship between 2-D shapes and 3-D figures</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> 2-D shapes               <ul style="list-style-type: none"> <li>▪ compose patterns, pictures &amp; designs</li> <li>▪ cover outline puzzles with 2D shapes (ie: tangrams)</li> </ul> </li> <li><input type="checkbox"/> 3-D figures               <ul style="list-style-type: none"> <li>▪ build 3-D figures &amp; describe 2-D shapes within</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> 2-D Shapes               <ul style="list-style-type: none"> <li>▪ compose &amp; describe pictures combining 2-D shapes</li> <li>▪ cover an outline puzzle with 2D shapes in more than one way</li> </ul> </li> <li><input type="checkbox"/> 3-D figures               <ul style="list-style-type: none"> <li>▪ build structures using 3-D figures &amp; describe 2-D shapes &amp; 3-D figures in it</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> 2-D Shapes               <ul style="list-style-type: none"> <li>▪ solve problems with &lt; or &gt; amount of shapes</li> <li>▪ identify, describe the 2D shapes that can be found in 3D figures</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> 3-D figures               <ul style="list-style-type: none"> <li>▪ nets of rectangular &amp; triangular prisms</li> <li>▪ skeletons</li> <li>▪ construct 3-D figs. with congruent shapes</li> </ul> </li> </ul> <p><b>ONAP – Questions 6, 7, 8, 9, 10 – Performance 2</b></p>
May 25-June 25	<b>MEASUREMENT</b> Attributes, Units & Measurement Sense	<ul style="list-style-type: none"> <li><input type="checkbox"/> temperature               <ul style="list-style-type: none"> <li>▪ compare &amp; order two or more objects according to appropriate measure: hot/cold</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> time               <ul style="list-style-type: none"> <li>▪ estimate, measure and describe passage of time through non-standard units</li> <li>▪ read digital &amp; analogue clocks and identify benchmark times (breakfast, lunch, dinner...)</li> <li>▪ months of the year &amp; read calendar</li> </ul> </li> <li><input type="checkbox"/> temperature : relate temps seasonal experiences</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> time               <ul style="list-style-type: none"> <li>▪ tell &amp; write time to the nearest quarter-hour on digital &amp; analogue clocks</li> <li>▪ construct tools for measuring time intervals in non-standard units</li> </ul> </li> <li><input type="checkbox"/> temperature               <ul style="list-style-type: none"> <li>▪ use standard thermometer to determine changes in temp</li> <li>▪ describe how changes in temp affect daily life</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> time               <ul style="list-style-type: none"> <li>▪ read and represent time to the nearest 5 minutes</li> <li>▪ represent in 12-hour notation</li> <li>▪ read and write time two different ways</li> </ul> </li> <li><input type="checkbox"/> temperature               <ul style="list-style-type: none"> <li>▪ estimate &amp; read positive temperature to nearest degree Celsius</li> <li>▪ benchmark temperatures</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> time               <ul style="list-style-type: none"> <li>▪ nearest minute</li> <li>▪ elapsed time expressed in 5-minute intervals, hours, days, weeks, months or years</li> </ul> </li> </ul> <p><b>ONAP – Questions 3</b></p>
	<b>MEASUREMENT</b> Measurement Relationships		<ul style="list-style-type: none"> <li>▪ compare two or 3 objects using measureable attributes</li> <li>▪ compare and order objects by their linear measurements using the same non-standard unit</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> time               <ul style="list-style-type: none"> <li>▪ relationship between days &amp; weeks, and months &amp; years</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> time               <ul style="list-style-type: none"> <li>▪ relationship between min. &amp; hours, hours &amp; days, days &amp; weeks &amp; weeks &amp; years</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> time               <ul style="list-style-type: none"> <li>▪ relationship between year &amp; decade, decade and century</li> </ul> </li> </ul> <p><b>ONAP – Questions 16 – Performance Task 2</b></p>
	<b>MEASUREMENT</b> Attributes, Units & Measurement	<ul style="list-style-type: none"> <li><input type="checkbox"/> awareness of non-standard &amp; standard measuring devices</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> estimate, measure and describe               <ul style="list-style-type: none"> <li>▪ capacity &amp; mass using non-standard units</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> estimate, measure and record               <ul style="list-style-type: none"> <li>▪ capacity &amp; mass using non-standard units</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> estimate, measure and record               <ul style="list-style-type: none"> <li>▪ mass: kg or parts of a kilogram</li> <li>▪ capacity: L or parts of a litre</li> </ul> </li> <li><input type="checkbox"/> benchmark kg and L</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> estimate, measure and record               <ul style="list-style-type: none"> <li>▪ mass: g, kg</li> <li>▪ capacity: ml, L</li> <li>▪ volume: non-standard</li> </ul> </li> </ul> <p><b>ONAP – Questions 8, 9, 10 – Performance 1</b></p>
	<b>MEASUREMENT</b> Measurement Relationships	<ul style="list-style-type: none"> <li><input type="checkbox"/> compare &amp; order two or more objects according to appropriate measure               <ul style="list-style-type: none"> <li>▪ mass &amp; capacity</li> </ul> </li> <li><input type="checkbox"/> use measurement terms small/medium/large</li> <li><input type="checkbox"/> awareness of non-standard &amp; standard meas. tools</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> mass &amp; capacity               <ul style="list-style-type: none"> <li>▪ compare two or 3 objects using measureable attributes</li> <li>▪ relationship between size of unit and number of units</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> mass &amp; capacity               <ul style="list-style-type: none"> <li>▪ compare and order a collection of objects using non-standard units</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> mass &amp; capacity               <ul style="list-style-type: none"> <li>▪ compare &amp; order objects by mass (kilograms) or capacity (litre)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> relationship: volume and capacity</li> <li><input type="checkbox"/> mass: mg, g, kg (relationship of g to kg)               <ul style="list-style-type: none"> <li>▪ compare and order measured objects</li> </ul> </li> <li><input type="checkbox"/> capacity: ml, L (relationship of ml to L)               <ul style="list-style-type: none"> <li>▪ compare and order measured objects</li> </ul> </li> </ul> <p><b>ONAP – Questions 15</b></p>