

**Leaps and Bounds Toward Math Understanding
Secondary Cycle 1 Curriculum Correlation**

Curriculum Expectations Secondary Cycle 1	INTERVENTION Resources and Expectations from Previous Cycle	
<i>Progression of Learning Essential Knowledge Expectations Secondary 1 (Grade 7) and Secondary 2 (Grade 8)</i>	<i>Correlation Leaps and Bounds and knowledge expectations</i>	<i>Progression of Learning Essential Knowledge Expectations Elementary Cycle 3 (Elementary 5 and Elementary 6)</i>
Arithmetic: Understanding Real Numbers		
	<p>Leaps and Bounds 7/8: Representing Whole Numbers <i>Pathway 1: Using Decimals for Large Whole Numbers</i> <i>Pathway 2: Representing Millions and Billions</i> <i>Pathway 3: Representing Six-Digit Numbers</i></p>	<p>Natural Numbers less than 1 000 000:</p> <ul style="list-style-type: none"> • Reads and writes any natural number • Represents natural numbers in different ways • Composes and decomposes a natural number in a variety of ways and identifies equivalent expressions • Approximates a natural number • Compares natural numbers or arranges natural numbers in increasing or decreasing order • Classifies natural numbers in various ways, based on their properties (e.g. even numbers, composite numbers)
<p>Fractions</p> <ul style="list-style-type: none"> • Identifies the different meaning of fractions: part of a whole, division, ratio, operator, measurement 	<p>Leaps and Bounds 7/8: Comparing Fractions <i>Pathway 1: Fractions and Mixed Numbers</i> <i>Pathway 2: Proper Fractions</i> <i>Pathway 3: Equivalent Fractions</i></p> <p>Leaps and Bounds 5/6: Representing Fractions <i>Pathway 1: Improper Fractions: Parts of Sets</i> <i>Pathway 2: Improper fractions: Parts of Wholes</i> <i>Pathway 3: Proper fractions: Parts of Sets</i> <i>Pathway 4: Proper fractions: Parts of Wholes</i></p> <p>Leaps and Bounds 5/6: Comparing Fractions <i>Pathway 1: Fractions More and Less Than 1</i> <i>Pathway 2: Equivalent Fractions</i> <i>Pathway 3: Comparing Same Numerator</i> <i>Pathway 4: Comparing Same Denominator</i> <i>Pathway 5: Comparing Fractions to ½ and 1</i></p>	<p>Fractions</p> <ul style="list-style-type: none"> • Represents a fraction in a variety of ways (using objects or drawings) • Verifies whether two fractions are equivalent • Orders fractions with the same denominator or where one denominator is a multiple of the other(s) or with the same numerator • Locates fractions on a number line

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	<p>Leaps and Bounds 7/8: Representing and Comparing Decimals <i>Pathway 1: Decimals with Many Places</i> <i>Pathway 2: Comparing Decimals</i> <i>Pathway 3: Representing Decimal Thousandths</i> <i>Pathway 4: Multiplying and Dividing by 10s</i></p> <p>Leaps and Bounds 5/6: Representing Decimals <i>Pathway 1: Representing Thousandths</i> <i>Pathway 2: Representing Hundredths</i> <i>Pathway 3: Representing Tenths</i></p> <p>Leaps and Bounds 5/6: Comparing Decimals <i>Pathway 1: Comparing Mixed Decimals</i> <i>Pathway 2: Comparing Thousandths</i> <i>Pathway 3: Comparing Tenths and Hundredths</i></p>	<p>Decimals up to thousandths</p> <ul style="list-style-type: none"> • Represents decimals in a variety of ways (using objects or drawings) and identifies equivalent representations • Reads and writes numbers written in decimal notation • Approximates a number written in decimal notation • Composes and decomposes a number written in decimal notation and recognizes equivalent expressions • Compares numbers written in decimal notation or arranges them in increasing or decreasing order
	<p>Leaps and Bounds 7/8: Integers <i>Pathway 3: Representing and Comparing Integers</i></p>	<p>Integers</p> <ul style="list-style-type: none"> • Represents integers in a variety of ways (using objects or drawings) • Reads and writes integers • Compares integers or arranges integers in increasing or decreasing order
		<ul style="list-style-type: none"> • Expresses numbers in a variety of ways (fractional, decimal, percentage notation)
Represents, reads and writes numbers written in fractional or decimal notation	<i>See above</i>	
Approximates, in various contexts, the numbers under study		
<p>Represents and writes:</p> <ul style="list-style-type: none"> • squares and square roots • numbers in exponential notation (integral exponents) 		<p>Represents and writes:</p> <ul style="list-style-type: none"> • the power of a natural number
<p>Compares and arranges in order:</p> <ul style="list-style-type: none"> • numbers expressed in different ways (fractional, decimal, exponential [integral exponent], percentage, square root) 		<p>Compares and arranges in order:</p> <ul style="list-style-type: none"> • numbers written in fractional or decimal notation

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Arithmetic: Understanding Operations Involving Real Numbers		
	<p>Leaps and Bounds 7/8: Whole Number Operations <i>Pathway 1: Order of Operations</i> <i>Pathway 2: Dividing Whole Numbers</i> <i>Pathway 3: Multiplying Whole Numbers</i></p> <p>Leaps and Bounds 5/6: Adding and Subtracting <i>Pathway 1: Different Numbers of Digits</i> <i>Pathway 2: Same Number of Digits</i> <i>Pathway 3: Using Mental Math to Subtract</i> <i>Pathway 4: Using Mental Math to Add</i></p>	<p>Natural Numbers less than 1 000 000</p> <ul style="list-style-type: none"> • Determines the operation(s) to perform in a given situation • Uses objects, diagrams or equations to represent a situation and, conversely, describes a situation represented by objects, diagrams or equations (<u>use of different meanings of the four operations</u>) • Establishes equality relations between numerical expressions (e.g. $3 + 2 = 6 - 1$) • Determines numerical equivalencies using relationships between operations (the four operations), the commutative property and the associative property of addition and multiplication, the distributive property of multiplication over addition and subtraction • Translates a situation using a sequence of operations in accordance with the order of operations
<p>Fractions:</p> <ul style="list-style-type: none"> • Uses an operation to represent a situation (use of different meanings of operations) 	<p>Leaps and Bounds 7/8: Fraction Operations <i>Pathway 1: Repeated Addition of Fractions</i> <i>Pathway 2: Adding and Subtracting Mixed Numbers</i> <i>Pathway 3: Subtracting Fractions</i> <i>Pathway 4: Adding Fractions</i></p>	<p>Fractions:</p> <ul style="list-style-type: none"> • Uses objects, diagrams or equations to represent a situation and conversely, describes a situation represented by objects, diagrams or equations (uses the different meanings of addition, subtraction and multiplication by a natural number)
<p>Decimals:</p>	<p>Leaps and Bounds 7/8: Decimal Operations <i>Pathway 1: Dividing Whole Numbers by Decimals</i> <i>Pathway 2: Diving Decimals by Whole Numbers</i> <i>Pathway 3: Multiplying with Decimals</i> <i>Pathway 4: Adding and Subtracting with Decimals</i></p> <p>Leaps and Bounds 7/8: Relating Situations to Operations <i>Pathway 1: Recognizing Division Situations</i> <i>Pathway 2: Recognizing Multiplication Situations</i> <i>Pathway 3: Recognizing Subtraction Situations</i></p>	<p>Decimals:</p> <ul style="list-style-type: none"> • Uses objects, diagrams or equations to represent a situation and, conversely, describes a situation represented by objects, diagrams or equations (use of different meanings of the four operations) • Determines numerical equivalencies using relationships between operations (inverse operations), the commutative and the associative properties of addition and multiplication, the distributive property of multiplication over addition and subtraction • Translates a situation into a series of operations in accordance

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		with the order of operations
		<ul style="list-style-type: none"> Chooses an appropriate way of writing numbers for a given context
Looks for equivalent expressions: decomposing (additive, multiplicative, etc.), equivalent fractions, simplifying and reducing, factoring, etc.		
Translates (mathematizes) a situation using a sequence of operations (no more than two levels of parentheses)		
Anticipates the results of operations		
Interprets the results of operations in light of the context		

Arithmetic: Meaning of Operations Involving Numbers		
<p>Natural Numbers less than 1 000 000:</p>	<p>Leaps and Bounds 5/6: Dividing Whole Numbers <i>Pathway 1:</i> Dividing Three-Digit Numbers <i>Pathway 2:</i> Dividing Two-Digit Numbers <i>Pathway 3:</i> Division Fact Strategies</p> <p>Leaps and Bounds 5/6: Multiplying Whole Numbers <i>Pathway 1:</i> Multiplying Two-Digit Numbers <i>Pathway 2:</i> Multiplying by One-Digit Numbers <i>Pathway 3:</i> Multiplication Fact Strategies</p> <p>Leaps and Bounds 5/6: Adding and Subtracting <i>Pathway 1:</i> Different Number of Digits <i>Pathway 2:</i> Same Number of Digits <i>Pathway 3:</i> Using Mental Math to Subtract <i>Pathway 4:</i> Using Mental Math to Add</p>	<p>Natural Numbers less than 1 000 000:</p> <ul style="list-style-type: none"> approximates the result of an operation mentally computes operations (using personal processes) determines in writing: <ul style="list-style-type: none"> the sum of two natural numbers of up to 4 digits the difference between two natural numbers of up to 4 digits whose result is greater than 0 the product of a three-digit number by a two-digit number the quotient of a four-digit number and a two-digit number and expresses the remainder of a division as a decimal that does not go beyond the second decimal place the result of a sequence of operations in accordance with the order of operations

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<p>Fractions (using objects or diagrams)</p>	<p>Leaps and Bounds 5/6: Comparing Fractions <i>Pathway 1: Fractions More and Less Than 1</i> <i>Pathway 2: Equivalent Fractions</i> <i>Pathway 3: Comparing Same Numerator</i> <i>Pathway 4: Comparing Same Denominator</i> <i>Pathway 5: Comparing Fractions to $\frac{1}{2}$ and 1</i></p> <p>Leaps and Bounds 7/8: Fraction Operations <i>Pathway 1: Repeated Addition of Fractions</i> <i>Pathway 2: Adding and Subtracting Mixed Numbers</i> <i>Pathway 3: Subtracting Fractions</i> <i>Pathway 4: Adding Fractions</i></p>	<p>Fractions (using objects or diagrams)</p> <ul style="list-style-type: none"> • Generates a set of equivalent fractions • Reduces a fraction to its simplest form (lowest terms) • Adds and subtracts fractions when the denominator of one of the fractions is a multiple of the other fraction(s) • Multiplies a natural number by a fraction
<p>Decimal numbers up to thousandths:</p>	<p>Leaps and Bounds 7/8: Decimal Operations <i>Pathway 1: Dividing Whole Numbers by Decimals</i> <i>Pathway 2: Dividing Decimals by Whole Numbers</i> <i>Pathway 3: Multiplying with Decimals</i> <i>Pathway 4: Adding and Subtracting Decimals</i></p> <p>Leaps and Bounds 5/6: Decimal Computation <i>Pathway 1: Multiply and Divide by 10 or 100</i></p>	<p>Decimal numbers up to thousandths:</p> <ul style="list-style-type: none"> • Approximates the result of an operation • Mentally computes <ul style="list-style-type: none"> ○ operations (addition, subtraction, multiplication, division by a natural number) ○ multiplications by 10, 100, 1000 • Computes in writing <ul style="list-style-type: none"> ○ additions and subtractions of numbers whose result does not go beyond the second decimal place ○ multiplication of numbers whose product does not go beyond the second decimal place ○ division of a decimal by a natural number less than 11
<p>Properties of divisibility Uses, in different contexts, the properties divisibility: 2, 3, 4, 5, 10</p>	<p>Leaps and Bounds 7/8: Multiplicative Relationships <i>Pathway 1: Divisibility Rules</i></p>	<p>Properties of divisibility</p> <ul style="list-style-type: none"> • Determines the divisibility of a number by 2, 3, 4, 5, 6, 8, 9, 10
<p>Approximates the result of an operation or sequence of operations</p>		
<p>Mentally computes the four operations, especially with numbers written in decimal notation, using equivalent ways of writing numbers and the properties of operations</p>		

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Computes, in writing, the four operations with numbers that are easy to work with (including large numbers), using equivalent ways of writing numbers and the properties of operations: <ul style="list-style-type: none"> • numbers written in decimal notation, using rules of signs • positive numbers written in fractional notation, with or without the use of objects or diagrams 		
Computes, in writing, sequences of operations (numbers written in decimal notation) in accordance with the order of operations, using equivalent ways of writing numbers and the properties of operations (with no more than two levels of parentheses)		
Computes, using a calculator, operations and sequences of operations in accordance with order of operations	Leaps and Bounds 7/8: Whole Number Operations <i>Pathway 1: Order of Operations</i>	
		<ul style="list-style-type: none"> • Switches, as needed, from one way of writing numbers to another, from fractional to percentage notation, from decimal to fractional notation, from decimal to percentage notation, and vice versa
Switches, as needed from one way of writing numbers to another (positive numbers only)		
	Leaps and Bounds 7/8: Multiplicative Relationships <i>Pathway 1: Divisibility Rules</i>	<ul style="list-style-type: none"> • Calculates the power of a number
	<i>Pathway 2: Prime Numbers and Perfect Squares</i> <i>Pathway 3: Factors and Multiples</i>	<ul style="list-style-type: none"> • Decomposes a number into prime factors

Arithmetic: Understanding and Analyzing Proportional Situations		
Calculates <ul style="list-style-type: none"> • a certain percentage of a number • the value corresponding to 100 per cent 	Leaps and Bounds 7/8: Rates, Percents and Ratios <i>Pathway 1: Using Rates</i> <i>Pathway 2: Using Percents</i> <i>Pathway 3: Using Ratios</i>	
Recognizes ratios and rates		
Interprets ratios and rates		
Describes the effect of changing a term in a ratio or rate		
Compares: <ul style="list-style-type: none"> • ratios and rates qualitatively (equivalent rates and ratios, unit rate) 		

<ul style="list-style-type: none"> ratios and rates quantitatively (equivalent rates and ratios, unit rate) 		
Translates a situation using a ratio or rate	Leaps and Bounds 7/8: Rates, Percents and Ratios <i>Pathway 1: Using Rates</i> <i>Pathway 3: Using Ratios</i>	
Recognizes a proportional situation using the context, a table of values or a graph		
Represents or interprets a proportional situation using a graph, a table of values or a proportion		
Solves proportional situations (direct or inverse variation) by using different strategies (e.g. unit-rate method, factor of change, proportionality ratio, additive procedures, constant product [inverse variation])		

Algebra: Understanding and manipulating algebraic expressions		
A. Algebraic Expressions		
Describes the role of the components of algebraic expressions <ul style="list-style-type: none"> unknown variable, constant coefficient, degree, term constant term, like terms 	Leaps and Bounds 7/8: Algebra <i>Pathway 1: Solving Problems Using Equations</i> <i>Pathway 2: Solving Simple Equations</i> <i>Pathway 3: Using Variables</i>	Describes the role of the components of algebraic expressions <ul style="list-style-type: none"> missing term
Constructs an algebraic expression using a register (type) of representation		
Interprets an algebraic expression in light of the context	Leaps and Bounds 5/6: Equality <i>Pathway 1: Using Algebra</i>	
Recognizes or constructs equivalent algebraic expressions	<i>Pathway 2: Solving Equations</i>	
Recognizes or constructs equalities and equations		
B. Manipulating Algebraic Expressions		
Calculates the numeric value of an algebraic expression	Leaps and Bounds 7/8: Algebra <i>Pathway 1: Solving Problems Using Equations</i> <i>Pathway 2: Solving Simple Equations</i> <i>Pathway 3: Using Variables</i>	
Performs the following operations on algebraic expressions, with or without objects or diagrams: <ul style="list-style-type: none"> addition/subtraction 		

<ul style="list-style-type: none"> • multiplication/division by a constant • multiplication by first-degree monomials 		
Factors out the common factor in numerical expressions (distributive property of multiplication over addition or subtraction)		

C. Analyzing Situations Using Equations or Inequalities		
Recognizes whether a situation can be translated by an equation	Leaps and Bounds 7/8: Algebra <i>Pathway 1: Solving Problems Using Equations</i> <i>Pathway 2: Solving Simple Equations</i> <i>Pathway 3: Using Variables</i>	
Recognizes or constructs relations or formulas		
Manipulates relations or formulas (e.g. isolating an element)		
Represents a situation using a first-degree equation with one unknown		
Represents an equation using another register (type) of representation, if necessary		<ul style="list-style-type: none"> • Determines the missing term in an equation (relationships between operations) $a \times b = \square$, $a \times \square = c$, $\square \times b = c$, $a \div b = \square$, $a \div \square = c$, $\square \div b = c$
Transforms arithmetic equalities and equations to maintain equivalence (properties and rules of transforming equalities) and justifies the steps followed, if necessary		
Uses different methods to solve first-degree equations with one unknown of the form $ax + b = cx + d$: trial and error, drawings, arithmetic methods (inverse or equivalent operations), algebraic methods (balancing equations or hidden terms)	Leaps and Bounds 7/8: Algebra <i>Pathway 1: Solving Problems Using Equations</i> <i>Pathway 2: Solving Simple Equations</i>	
Validates a solution, with or without technological tools, by substitution		
Interprets solutions or makes decisions, if necessary, depending on the context		

Algebra: Understanding Dependency Relationships		
Analyzes situations using different registers (types) of representation	Leaps and Bounds 7/8: Patterns <i>Pathway 1: Linear Relations</i> <i>Pathway 2: Representing Patterns</i> <i>Pathway 3: Exploring Simple Patterns</i>	
Represents a situation generally using a graph		

Probability		
A. Processing Data from Random Experiments		
Conducts or simulates random experiments involving one or more steps (with or without replacement, with or without order)	Leaps and Bounds 7/8: Probability* <i>Pathway 1: Probability: Independent Events</i> <i>Pathway 2: Theoretical Probability</i> <i>Pathway 3: Experimental Probability</i>	<ul style="list-style-type: none"> • Simulates random experiments with or without the use of technology • Experiments with activities involving chance, using various objects (e.g. spinners, rectangular prisms, glasses, marbles, thumb tacks, 6-, 8-, 12-sided dice) • In activities involving chance: <ul style="list-style-type: none"> ○ recognizes variability in possible outcomes (uncertainty) ○ recognizes equiprobability (e.g. quantity of objects, symmetry of an object [cube]) ○ becomes aware of the independence of events in an experiment (e.g. rolling dice, tossing a coin, drawing lots) • Uses tables or diagrams to collect and display the outcomes of an experiment • Compares the outcomes of a random experiment with known theoretical probabilities • Distinguishes between a prediction and an outcome • Enumerates possible outcomes of a random experiment using a table or a tree diagram • Uses fractions, decimals or percentages to quantify a probability • Recognizes that probability is always between 0 and 1 • Predicts qualitatively an outcome or several events using a probability line, among other things: <ul style="list-style-type: none"> ○ certain, possible and impossible outcomes ○ more likely, just as likely, less likely events
Enumerates possible outcomes of a random experiment using a networks, tables, diagrams, Venn diagrams	Leaps and Bounds 5/6: Probability* <i>Pathway 1: Probability: Using Numbers</i> <i>Pathway 2: Probability: Using Words</i>	
Recognizes certain, probable, impossible, simple, complimentary, compatible, incompatible, dependant and independent events	<i>*Does not include vocabulary such as: simple, complimentary, compatible, incompatible and dependant</i>	
Defines the sample space of a random experiment		

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B. Analyzing Probability Situations		
Distinguishes between theoretical and experimental probability	Leaps and Bounds 7/8: Probability <i>Pathway 1: Probability: Independent Events</i> <i>Pathway 2: Theoretical Probability</i> <i>Pathway 3: Experimental Probability</i> Leaps and Bounds 5/6: Probability <i>Pathway 1: Probability: Using Numbers</i> <i>Pathway 2: Probability: Using Words</i>	<ul style="list-style-type: none"> Represents an event using different registers (types of representation) Compares qualitatively the theoretical or experimental probability of an event
Calculates the probability of an event		
Interprets probabilities and makes decisions		
Statistics		
A. One-variable Distributions		
Chooses a sampling method: simple random, systematic		<ul style="list-style-type: none"> Formulates questions for a survey (based on age-appropriate topics, students' language level, etc.) Collects, describes and organizes data (classifies or categorizes) using tables Interprets data using a table, a bar graph, a pictograph, a broken-line graph and a circle graph
Chooses a representative sample	Leaps and Bounds 7/8: Displaying Data <i>Pathway 1: Using Circle Graphs and Line Graphs</i> <i>Pathway 2: Bias and Sampling</i>	
Recognizes possible sources of bias		
Distinguishes different types of statistical variables: qualitative, discrete or continuous quantitative		
Organizes and presents data using a table presenting variables or frequencies, or using a circular graph		<ul style="list-style-type: none"> Organizes and presents data using a table, a bar graph, a pictograph and a broken line graph
Compares one-variable distributions		
Describes the concept of arithmetic mean (levelling or balancing point) Calculates and interprets arithmetic mean using positive or negative numbers written in decimal or fractional notation	Leaps and Bounds 7/8: Summarizing Data* <i>Pathway 3: Calculating the Mean</i> Leaps and Bounds 5/6: Summarizing Data* <i>Pathway 1: Using the Mean</i> <i>*Calculations do not involve negative numbers, decimals or numbers in fractional notation</i>	<ul style="list-style-type: none"> Understands and calculates the arithmetic mean

Determines and interprets <ul style="list-style-type: none"> measures of dispersion: range measures of position: minimum and maximum 		
Chooses the appropriate statistical measures for a given situation		

Geometry: Spatial Sense and Analyzing Situations involving Geometric Figures		
A. Plane Figures		
Recognizes and names regular convex polygons		<ul style="list-style-type: none"> Describes and classifies triangles Describes circles: central angle, diameter, radius, circumference
Decomposes plane figures into circles (sectors), triangles or quadrilaterals		
Describes circles and sectors		
Recognizes and draws main segments and lines <ul style="list-style-type: none"> diagonal, altitude, median, perpendicular bisector, bisector, apothem, radius, diameter, chord 		
Identifies the properties of plane figures using geometric transformations and constructions		
Justifies statements using definitions or properties of plane figures		
B. Solids		
Determines the possible nets of a solid	Leaps and Bounds 5/6: 3-D Shapes <i>Pathway 1: Modelling with nets</i> <i>Pathway 2: Modelling with Skeletons</i>	<ul style="list-style-type: none"> Describes solids <ul style="list-style-type: none"> vertex, edge, base, face
Names the solid corresponding to a net		<ul style="list-style-type: none"> Matches the net of a convex polyhedron to the corresponding convex polyhedron Tests Euler's relation on convex polyhedron
Describes solids <ul style="list-style-type: none"> altitude, apothem, lateral face 		
Recognizes solids than can be split into: <ul style="list-style-type: none"> right prisms, right cylinders, right pyramids 		

C. Geometric Constructions and Transformations in the Euclidian Plane		
Identifies properties and invariants resulting from geometric constructions and transformations		
Identifies congruence (translation, rotation and reflection) between two figures	<p>Leaps and Bounds 7/8: 2-D Shapes <i>Pathway 2: Congruent Shapes</i></p> <p>Leaps and Bounds 7/8: Transformations <i>Pathway 1: Using Transformations in Design</i> <i>Pathway 2: Performing Dilatations</i> <i>Pathway 3: Combining Transformations</i> <i>Pathway 4: Performing Single Translations</i></p> <p>Leaps and Bounds 5/6: Transformations <i>Pathway 1: Single Rotations</i> <i>Pathway 2: Multiple Reflections</i> <i>Pathway 3: Multiple Translations</i> <i>Pathway 4: Single Reflections and Translations</i></p>	<ul style="list-style-type: none"> Observes and produces frieze patterns and tessellations using reflections and translations
Constructs the image of a figure under a translation, rotation and reflection		
Recognizes a dilatation with a positive scale factor		
Constructs the image of a figure under a dilatation with a positive scale factor		
D. Congruent, Similar or Equivalent Figures		
Recognizes congruent or similar figures	<p>Leaps and Bounds 7/8: 2-D Shapes <i>Pathway 1: Similar Shapes</i> <i>Pathway 2: Congruent Shapes</i></p>	<ul style="list-style-type: none"> Identifies congruent figures in Frieze patterns and tessellations
Recognizes the geometric transformation(s) linking a figure to its image		
Determines the properties and invariants of congruent or similar figures		
Justifies statements using definitions or properties of congruent, similar or equivalent figures, depending on the cycle and year		

Geometry: Analyzing Situations involving Measurement		
A. Mass		
	Leaps and Bounds 5/6: Mass <i>Pathway 1: Mass Kilograms and Grams</i> <i>Pathway 2: Mass Using One Standard Unit</i> Leaps and Bounds 3/4: Mass <i>Pathway 1: Mass Using Grams</i> <i>Pathway 2: Mass Using Kilograms</i> <i>Pathway 3: Mass Using Non-Standard Units</i>	<ul style="list-style-type: none"> Estimates and measures mass using unconventional units Estimates and measures mass using conventional units (g, kg) Establishes relationships between units of measure (e.g. 1 kg = 1000 g, ½ kg = 500 g)
B. Time		
Distinguishes between duration and position in time (including the concept of negative time where t = 0 is arbitrarily chosen)		<ul style="list-style-type: none"> Establishes relationships between units of measure (1 hr = 60 min, 1 min = 60 sec)
C. Angles		
	Leaps and Bounds 7/8: Angles <i>Pathway 1: Drawing Angles</i> <i>Pathway 2: Measuring Angles</i>	<ul style="list-style-type: none"> Estimates and determines (using a protractor) the degree measurement of angles
Describes the characteristics of different types of angles: complementary, supplementary, adjacent, vertically opposite, alternate interior, alternate exterior and corresponding		
Determines the measure of angles using the properties of the following angles: complementary, supplementary, vertically opposite, alternate interior, alternate exterior and corresponding		
Finds unknown measurements using the properties of figures and relations: <ul style="list-style-type: none"> measures of angles in a triangle degree measures of central angles and arcs 		
Justifies statements using definitions or properties associated with angles and their measures		

D. Length		
Establishes relationships between: <ul style="list-style-type: none"> measures of length of the international system (SI: km, hm, dam, m, dm, cm, mm) 	Leaps and Bounds 7/8: Metric Units <i>Pathway 1: Renaming Units</i> <i>Pathway 2: Selecting a Unit</i>	<ul style="list-style-type: none"> Estimates and measures the dimensions of an object using conventional units: millimetre, centimetre, decimetre, metre and kilometre Establishes relationships between: <ul style="list-style-type: none"> units of length: millimetre, centimetre, decimetre, metre and kilometre
Constructs relations that can be used to calculate the perimeter or circumference of figures	Leaps and Bounds 7/8: Area and Perimeter <i>Pathway 2: Circumference of Circles</i> <i>Pathway 5: Area and Perimeter of Rectangles</i>	
Finds the following unknown measurements, using properties of figures and relations: a segment in a plane figure, circumference, radius, diameter, length of an arc, a segment resulting from an isometry or a similarity transformation		
Justifies statements concerning measures of length		
E. Area		
Establishes relationships between SI units of area (SI: km ² , hm ² , dam ² , m ² , dm ² , cm ² , mm ²)		<ul style="list-style-type: none"> Estimates and measures surface area using conventional units (m², dm², cm²)
Constructs relations that can be used to calculate the area of plane figures: quadrilateral, triangle, circle (sectors) including the lateral and total area of right prisms, right cylinders and right pyramids	Leaps and Bounds 7/8: Area and Perimeter <i>Pathway 1: Area of Circles</i> <i>Pathway 3: Area of Composite Shapes</i> <i>Pathway 4: Area of Parallelograms and Triangles</i> <i>Pathway 5: Area and Perimeter of Rectangles</i>	
Finds unknown measurement, using properties of figures and relations: <ul style="list-style-type: none"> area of circles and sectors area of figures that can be split into circles (sectors), triangles or quadrilaterals lateral or total area of solids that can be split into right prisms, right cylinders or right pyramids area of figures resulting from an isometry 	Leaps and Bounds 7/8: Volume and Surface Area <i>Pathway 2: Surface Area of Prisms</i>	
	Leaps and Bounds 5/6: Area <i>Pathway 1: Area of a Rectangle</i> <i>Pathway 2: Using Standard Units of Area</i>	
Justifies statements concerning measures of area		

Analytic Geometry		
A. Locating		
Locates objects / numbers on an axis, based on the types of numbers studied (positive and negative numbers in fractional or decimal notation)	Leaps and Bounds 7/8: Location* <i>Pathway 1: Plotting Points in 4 Quadrants</i>	Locates objects / numbers on an axis, based on the types of numbers studied (positive and negative natural numbers)
Locates points in a Cartesian plane (x-, y-coordinates of a point), based on the types of numbers studied (positive and negative numbers in fractional or decimal notation)	<i>Pathway 2: Plotting Points on a Grid</i> <i>* does not include numbers in fractional or decimal notation</i>	Locates points in a Cartesian plane (x-, y-coordinates of a point), based on the types of numbers studied (positive and negative natural numbers)