



Mathematics Scope & Sequence Grade 4-8

Each strand and topic are sequenced to allow for fundamental skills and concepts to be introduced and built upon throughout the year to deepen understanding and make connections between mathematical concepts. Specific Expectations are noted, as well as any cross-strand connections. (You can create your own path on mathup.ca to match the following scope and sequence.) Specific Expectations are noted, as well as any cross-strand connections. Please refer to the curriculum *teacher supports* for further details.

There should be an ongoing focus on the following expectations:

A1: Social and Emotional Learning

- apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the curriculum

C4: Mathematical Modeling

- apply the process of mathematical modelling to represent, analyse, make predictions and provide insight into real-life situations

B2.1 Properties and Relationships

- Use the properties of operations, and the relationships between addition, subtraction, multiplication and division, to solve problems involving whole numbers, including those requiring more than one operations, and check calculations

B2.2: Math Facts

- Gr. 4: recall and demonstrate multiplication facts for 1×1 to 10×10 , and related division facts
- Gr. 5: recall and demonstrate multiplication facts from 0×0 to 12×12 , and related division facts
- Gr. 6: understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9, and 10
- Gr. 7: understand and recall commonly used percents, fractions, and decimal equivalents
- Gr. 8: understand and recall commonly used square numbers and their square roots

B2.3 Mental Math

- Gr. 4: use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used
- Gr. 5: use mental math strategies to multiply whole numbers by 0.1 and 0.01 and estimate sums and differences of decimal numbers up to hundredths, and explain the strategies used
- Gr. 6: use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 15%, 25%, and 50%, and explain the strategies used
- Gr. 7: use mental math strategies to increase and decrease a whole number by 1%, 5%, 10%, 25%, 50%, and 100%, and explain the strategies used
- Gr. 8: use mental math strategies to multiply and divide whole numbers and decimal numbers up to thousandths by powers of ten, and explain the strategies used
- [Number Talks by Shari Parish should be used 3 times a week to reinforce math facts and fluency](#)

*If you see a grey box, you can make note of areas to return to if students are struggling. If you do not have a split grade you can simply move on to the next topic.



NCDSB Gr. 4-8 Mathematics Scope and Sequence 2022-2023

Learning Goals, Success Criteria & Descriptive Feedback **Direct Instruction** **Problem-Solving Tasks** **Mathematical High Impact Practices include:**
Tools & Representation **Math Conversations** **Small-Group Instruction** **Deliberate Practice** **Flexible Groupings**

Effective math instruction begins when educators have high expectations of students and believe that all students have the potential to learn and do math. It uses culturally relevant practices and differentiated learning experiences to meet individual students' learning needs. It focuses on the development of conceptual understanding and procedural fluency, skill development, communication, and problem-solving skills. And it involves educators choosing from and using a variety of high-impact instructional practices (Hattie, 2009; National Council of Teachers of Mathematics, 2014).

Dates	Strands	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
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Term 1 - PROGRESS REPORT (August 30 - November 4)

About 20 days Social-Emotional Learning Skills First 20 Days A1 (SCDSB) <i>*Embed throughout</i>	PURPOSE: <ul style="list-style-type: none"> ★ Foster well-being ★ Support math learning to high levels for all learners ★ Develop SEL skills and the mathematical processes ★ Contribute to equitable opportunities and outcomes 	EXPECTATIONS: Identify and manage emotions Recognize sources of stress and cope with challenges Maintain positive motivation and perseverance Build relationships and communicate effectively Develop self-awareness and sense of identity Think critically and creatively	https://cubeforteachers.com/post/1gnNr3v66hMaVABpOBMigBhbFINm5dqy
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About 14 days	NSN B1 NSN B1, B2 Algebra C4	REPRESENTING WHOLE NUMBERS <input type="checkbox"/> Read and represent whole numbers up to and including 1000 using units of thousands, hundreds, or tens <input type="checkbox"/> Represent numbers using words <input type="checkbox"/> Describe various ways these numbers are used everyday	REPRESENTING WHOLE NUMBERS <input type="checkbox"/> Read and represent whole numbers to 100 000 <input type="checkbox"/> Represent numbers using words <input type="checkbox"/> Make connections to the way these numbers are used everyday	REPRESENTING WHOLE NUMBERS <input type="checkbox"/> Read and represent whole numbers up to and including 1 000 000 <input type="checkbox"/> Use standard and expanded forms, and write number in words <input type="checkbox"/> Make connections to the way these numbers are used everyday	POWERS & ROOTS <input type="checkbox"/> Represent and compare whole numbers up to and including one billion (power of 10) <input type="checkbox"/> Identify and represent perfect squares and determine their roots <input type="checkbox"/> Evaluate and express repeated multiplication of whole numbers using exponential notation (B2)	WHOLE NUMBER & DECIMAL OPERATIONS <input type="checkbox"/> Estimate and calculate square roots <input type="checkbox"/> Multiply and divide by Powers of 10 <input type="checkbox"/> Evaluate numerical expressions <input type="checkbox"/> Solve problems involving whole numbers and decimal numbers up to thousandths by powers of 10 <input type="checkbox"/> Understand and recall commonly used square numbers and their roots
		ESTIMATING & COMPARING WHOLE NUMBERS <input type="checkbox"/> Compare and order whole numbers up to and including 10 000 <input type="checkbox"/> Round whole numbers to the nearest 10, 100 or 1000 <input type="checkbox"/> Use mathematical modelling	ESTIMATING & COMPARING WHOLE NUMBERS <input type="checkbox"/> Compare and order whole numbers up to and including 100 000 <input type="checkbox"/> Estimate large numbers <input type="checkbox"/> Use Benchmarks to compare numbers <input type="checkbox"/> Read, represent, compose and decompose numbers to 100 000	ESTIMATING & COMPARING WHOLE NUMBERS <input type="checkbox"/> Read and represent whole numbers up to and including 1 000 000 <input type="checkbox"/> Use place value to estimate number size <input type="checkbox"/> Compare numbers using benchmarks <input type="checkbox"/> order sets of numbers and explain the orderings	RATIONAL NUMBERS <input type="checkbox"/> Read, represent, compare and order rational numbers, including positive and negative fractions and decimal numbers to thousandths	RATIONAL & IRRATIONAL NUMBERS <input type="checkbox"/> Describe, compare, and order rational and irrational numbers <input type="checkbox"/> Use patterns (C1) and the relationships between fractions and division to write repeating decimals as fractions
About 6 days	NSN			INTEGERS <input type="checkbox"/> Read and represent integers (use horizontal and vertical number lines) and identify real life connections <input type="checkbox"/> Compare and order integers	ADDING & SUBTRACTING INTEGERS <input type="checkbox"/> Use objects, diagrams, and equations to represent, describe, and solve situations <input type="checkbox"/> Represent positive and negative integers by adding zeros Link to Patterns (C1.4: patterns among integers)	INTEGER OPERATIONS <input type="checkbox"/> Add and subtract integers <input type="checkbox"/> Multiply and divide integers <input type="checkbox"/> Solve problems using the order of operations
About 6 days	Spatial Sense E2	SHAPES & ANGLES <input type="checkbox"/> Identify angles and classify them as right, straight, acute or obtuse <input type="checkbox"/> Identify geometric properties of rectangles, including the number of right angles, parallel and perpendicular sides, and lines of symmetry	ANGLES <input type="checkbox"/> Compare angles <input type="checkbox"/> Determine their relative size using non-standard units and benchmark angles <input type="checkbox"/> Explain how protractors work <input type="checkbox"/> Measure and construct angles up to 180° with a protractor	ANGLES <input type="checkbox"/> Use a protractor to measure and construct angles up to 360° <input type="checkbox"/> Use angle relationships to figure out the measures of unknown angles	DILATIONS & SIMILARITY (E1) <input type="checkbox"/> Perform dilations and describe the similarity between the image and the original shape Link to Coding (C3): <input type="checkbox"/> Write and execute code, including code that involves events influenced by a defined count and /or sub-program and other control structures <input type="checkbox"/> Read and alter code	SIMILARITY (E1) <input type="checkbox"/> Use scale drawings to calculate actual lengths and areas <input type="checkbox"/> Reproduce scale drawings at different ratios
About 5 days	Spatial Sense E1	TIME <input type="checkbox"/> Compare, estimate and determine elapsed time <input type="checkbox"/> Solve problems involving elapsed time by applying the relationship between different units of time (second, minute, hour, day, week...etc)	CONSTRUCTING & REPRESENTING SHAPES & OBJECTS <input type="checkbox"/> Construct different types of triangles when given side or angle measurements <input type="checkbox"/> Identify and construct congruent triangles, rectangles, and parallelograms <input type="checkbox"/> Draw top, front, and side views of objects, and match drawings with objects		GEOMETRIC REPRESENTATIONS <input type="checkbox"/> Draw top, front, and side views, as well as perspective views, of objects (3D structures) and physical spaces <input type="checkbox"/> Use appropriate scales	ANGLE RELATIONSHIPS (E2) <input type="checkbox"/> Describe relationships among angles created when parallel lines are crossed by a transversal <input type="checkbox"/> Determine that the sum of the angle measures in a triangle is 180°
About 9 days	NSN B2 Algebra C1, C4	ADDING & SUBTRACTING WHOLE NUMBERS <input type="checkbox"/> Compose and decompose whole numbers up to and including 10 000 <input type="checkbox"/> Estimate <input type="checkbox"/> Add and subtract 4-digit numbers and recognize the relationship between adding and subtracting <input type="checkbox"/> Solve and create addition and subtraction	ADDING & SUBTRACTING WHOLE NUMBERS <input type="checkbox"/> Solve addition and subtraction problems of whole numbers that add up to no more than 100 000 <input type="checkbox"/> Use inverse operations to check calculations	CLASSIFYING WHOLE NUMBERS <input type="checkbox"/> Classify numbers as prime or composite <input type="checkbox"/> Use factor trees <input type="checkbox"/> Observe patterns in multiples of numbers and in special types of numbers (C1)	REPRESENTING LARGE NUMBERS <input type="checkbox"/> Represent and compare whole numbers up to and including one billion <input type="checkbox"/> Expanded form using powers of ten <input type="checkbox"/> Use of place value	LARGE & SMALL NUMBERS <input type="checkbox"/> Represent and compare very large and very small numbers through the use of scientific notations <input type="checkbox"/> Mental math strategies to multiply and divide whole numbers and decimal numbers by to thousandths by powers of 10 Link to Measurement (E2) <input type="checkbox"/> Represent metric units: mega, giga, tera, micro, nana, pico
About 7 days	Data D1 Algebra C4	DESCRIBING & SUMMARIZING DATA <input type="checkbox"/> Determine the mean, median and mode(s) <input type="checkbox"/> Describe the relationship of the mean to the set of data Link to D2: <input type="checkbox"/> Make and test predictions about the mean, median, and mode(s)	COLLECTING, ORGANIZING & DESCRIBING DATA <input type="checkbox"/> Explain the importance of various sampling techniques for collecting a sample of data that represents a population <input type="checkbox"/> Collect data to answer questions keeping in mind sampling techniques <input type="checkbox"/> Organize data into relative-frequency tables <input type="checkbox"/> Determine the mean, median and mode(s), for various data sets	COLLECTING, ORGANIZING & DESCRIBING DATA <input type="checkbox"/> Discrete and continuous data <input type="checkbox"/> Collect qualitative data and discrete and continuous quantitative data to answer questions about population <input type="checkbox"/> Organize sets of data using intervals <input type="checkbox"/> Determine the range and use it to compare two or more sets of data	DISPLAYING DATA <input type="checkbox"/> Explain why percentages are used to represent the distribution of a variable for a population or sample in large sets of data <input type="checkbox"/> Graph various sets of data, using proper sources, titles, labels, and scales <input type="checkbox"/> Create and interpret infographics	DISPLAYING DATA <input type="checkbox"/> Select among a variety of graphs, including scatter plots to display data <input type="checkbox"/> Represent data in infographics <input type="checkbox"/> Interpret scatter plots to describe the nature of the relationship between two variables

Dates	Strands	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
TERM 1 - After Progress Reports (November 7 - January 26)						
About 6 days	NSN B1, B2 Algebra C4		RATES, RATIOS, & PERCENTS <ul style="list-style-type: none"> <input type="checkbox"/> Describe their relationships <input type="checkbox"/> Show equivalencies among fractions, decimal numbers up to hundredths and whole number percents <input type="checkbox"/> Represent and create equivalent ratios and rates 	RATES & RATIOS <ul style="list-style-type: none"> <input type="checkbox"/> Describe situations involving ratios <input type="checkbox"/> Solve problems involving rates and ratios <input type="checkbox"/> Use alternative forms of ratio including equivalent ratios and fractions PERCENTS (+ 8 days) <ul style="list-style-type: none"> <input type="checkbox"/> Relate fractions, decimals, and percents <input type="checkbox"/> Estimate benchmark percents of whole numbers <input type="checkbox"/> Calculate percents of whole numbers, including 1%, 5%, 10%, 15%, 25%, and 50%, and explain the strategies used <input type="checkbox"/> Solve problems involving ratios, rates and percents 	RATES & RATIOS <ul style="list-style-type: none"> <input type="checkbox"/> Identify proportional (equivalent) and non-proportional situations: equivalent ratios <input type="checkbox"/> Apply proportional reasoning to solve problems: ratio and rate problems 	
About 10 days	NSN B2 Algebra C1- patterns	SIMPLE MULTIPLICATION & DIVISION <ul style="list-style-type: none"> <input type="checkbox"/> Recall multiplication facts for 1 x 1 to 10 x 10, and related division facts <input type="checkbox"/> Show simple multiplicative relationships involving whole-number rates <input type="checkbox"/> Solve problems that compare two amounts <input type="checkbox"/> Describe situations and solve problems 	MULTIPLYING WHOLE NUMBERS <ul style="list-style-type: none"> <input type="checkbox"/> Recall multiplication facts from 0 x 0 to 12 x 12, and related division facts <input type="checkbox"/> Represent and solve problems involving the multiplication of two-digit whole numbers by two-digit whole numbers <input type="checkbox"/> Use the area model and algorithms <input type="checkbox"/> Check calculations using the inverse operation <input type="checkbox"/> Solve problems requiring more than one operation 	WHOLE NUMBER OPERATIONS <ul style="list-style-type: none"> <input type="checkbox"/> Use properties of operations, the inverse operations and mental math strategies <input type="checkbox"/> Represent and solve problems, using estimation and algorithms <input type="checkbox"/> Use multiplication and division to solve problems with rates <input type="checkbox"/> Apply BDMAS to determine the value of a numeric expression 	DECIMAL OPERATIONS <ul style="list-style-type: none"> <input type="checkbox"/> Round decimal numbers to the nearest tenth, hundredth, or whole number <input type="checkbox"/> Solve problems involving whole and decimal numbers <input type="checkbox"/> Multiply and divide decimal numbers by decimal numbers 	
About 7 days	Spatial Sense E1	LOCATIONS & TRANSFORMATIONS <ul style="list-style-type: none"> <input type="checkbox"/> Plot and read coordinates in the first quadrant of a Cartesian plane <input type="checkbox"/> Describe translations that move a point from one coordinate to another <input type="checkbox"/> Describe and perform translations and reflections on a grid 	LOCATIONS & TRANSFORMATIONS <ul style="list-style-type: none"> <input type="checkbox"/> Plot and read coordinates in the first quadrant of a Cartesian plane using various scales <input type="checkbox"/> Describe the translations that move a point from one coordinate to another <input type="checkbox"/> Describe and perform translations, reflections, and rotations up to 180° on a grid <input type="checkbox"/> Predict transformations 	LOCATIONS & TRANSFORMATIONS <ul style="list-style-type: none"> <input type="checkbox"/> Plot and read coordinates in the first quadrant of a Cartesian plane <input type="checkbox"/> Describe the translations that move a point from one coordinate to another <input type="checkbox"/> Describe and perform translations, reflections, and rotations up to 360° on a grid <input type="checkbox"/> Predict transformations 	TRANSFORMATIONS <ul style="list-style-type: none"> <input type="checkbox"/> Describe and perform translations, reflections, and rotations on a Cartesian plane <input type="checkbox"/> Predict results of transformations <input type="checkbox"/> Identify and compare repeating patterns found in real-life contexts (Patterns: C1) 	TRANSFORMATIONS AND GEOMETRIC RELATIONSHIPS <ul style="list-style-type: none"> <input type="checkbox"/> Identify geometric properties of tessellating shapes <input type="checkbox"/> Identify transformations that occur in tessellations <input type="checkbox"/> Make objects and models using scales, given their top, front, and side views or perspective views <input type="checkbox"/> Describe and perform translations, reflections, rotations, and dilations on a Cartesian plane Link to Coding (C3) <input type="checkbox"/> Write and execute code <input type="checkbox"/> Read and alter existing code and describe how the changes help the efficiency of the code
About 7 days	Algebra C1	PATTERNS <ul style="list-style-type: none"> <input type="checkbox"/> Identify and describe repeating and growing patterns <input type="checkbox"/> Create and translate repeating and growing patterns using tables of values and graphs <input type="checkbox"/> Determine pattern rules and use them to extend patterns and make predictions 	PATTERNS <ul style="list-style-type: none"> <input type="checkbox"/> Identify and describe repeating, growing, and shrinking patterns <input type="checkbox"/> Create and translate growing and shrinking patterns <input type="checkbox"/> Represent patterns using tables of values and graphs <input type="checkbox"/> Determine pattern rules and use them to extend patterns <input type="checkbox"/> Make predictions and identify missing elements in patterns 	PATTERNS <ul style="list-style-type: none"> <input type="checkbox"/> Identify and describe repeating, growing, and shrinking patterns <input type="checkbox"/> Specify which growing patterns are linear <input type="checkbox"/> Create and translate growing and shrinking patterns using tables of values and graphs <input type="checkbox"/> Identify and create pattern rules, including algebraic pattern rules <input type="checkbox"/> Apply pattern rules and use them to extend patterns <input type="checkbox"/> Make and justify predictions of missing elements 	PATTERNS <ul style="list-style-type: none"> <input type="checkbox"/> Identify and compare repeating, growing, and shrinking patterns <input type="checkbox"/> Compare linear growing patterns on the basis of their constant rates and initial values <input type="checkbox"/> Create and translate repeating, growing, and shrinking patterns, involving whole and decimal numbers <input type="checkbox"/> Use algebraic expressions and equations for linear growing patterns <input type="checkbox"/> Determine pattern rules and use them to extend patterns <input type="checkbox"/> Make predictions and identify missing elements in patterns with whole and decimal numbers <input type="checkbox"/> Use algebraic representations to solve for unknown values in linear growing patterns 	USING ALGEBRA <ul style="list-style-type: none"> <input type="checkbox"/> Add and subtract monomials with a degree of 1 <input type="checkbox"/> Add binomials with a degree of 1 that involve integers <input type="checkbox"/> Evaluate algebraic expressions that involve rational numbers <input type="checkbox"/> Solve equations that involve multiple terms, integers, and decimal numbers
About 8 days	NSN B1, B2	REPRESENTING FRACTIONS <ul style="list-style-type: none"> <input type="checkbox"/> Represent fractions from halves to tenths (i.e. on a number line) <input type="checkbox"/> Explain the meaning of the denominator and numerator <input type="checkbox"/> Count to 10 by halves, thirds, fourths, fifths, sixths, eighths, and tenths Link to B2: Multiplying & Dividing: <input type="checkbox"/> Represent the relationship between the repeated addition of a unit fraction and the multiplication of that unit fraction by a whole number 	REPRESENTING, COMPARING & ORDERING FRACTIONS <ul style="list-style-type: none"> <input type="checkbox"/> Represent equivalent fractions from halves to twelfths <input type="checkbox"/> Compare and order fractions from halves to twelfths <input type="checkbox"/> Improper fractions and mixed numbers 	REPRESENTING, COMPARING & ORDERING FRACTIONS <ul style="list-style-type: none"> <input type="checkbox"/> Compare and order proper fractions, improper fractions, and mixed numbers <input type="checkbox"/> Relate numerators and denominators to compare and order <input type="checkbox"/> Write mixed numbers as improper fraction and vice versa 	PERCENT <ul style="list-style-type: none"> <input type="checkbox"/> Convert between fractions and percents <input type="checkbox"/> Solve problems involving whole numbers, decimal numbers, fractions, ratios, rates, and percents <input type="checkbox"/> Understand and recall commonly used percents, fractions, and decimal equivalents <input type="checkbox"/> Use mental math strategies to increase and decrease a whole number by 1%, 5%, 10%, 25%, 50%, and 100% 	PERCENT <ul style="list-style-type: none"> <input type="checkbox"/> Use fractions, decimal numbers, and percents, including percents of more than 100% or less than 1%, interchangeably and flexibly <input type="checkbox"/> Calculate decimal percents and fractions <input type="checkbox"/> Solve problems that involve calculating percents
About 4 days	NSN B1, B2 Algebra C4	COMPARING & ORDERING FRACTIONS <ul style="list-style-type: none"> <input type="checkbox"/> Represent fractions from halves to tenths <input type="checkbox"/> Explain the meaning of the denominator and numerator <input type="checkbox"/> Use drawings and models to represent, compare, and order fractions <input type="checkbox"/> Compare fair-share situations 	FRACTION OPERATIONS <ul style="list-style-type: none"> <input type="checkbox"/> Add and subtract fractions with like denominators <input type="checkbox"/> Multiply and divide one-digit whole numbers by unit fractions 	ADDING & SUBTRACTING FRACTIONS <ul style="list-style-type: none"> <input type="checkbox"/> Add and subtract fractions with like and unlike denominators using models OPERATIONS WITH FRACTIONS & WHOLE NUMBERS (+ 6 days) <ul style="list-style-type: none"> <input type="checkbox"/> Multiply whole numbers by proper fractions <input type="checkbox"/> Divide whole numbers by proper fractions 	FRACTIONS <ul style="list-style-type: none"> <input type="checkbox"/> Use equivalent fractions to simplify fractions <input type="checkbox"/> Generate fractions and decimal numbers between any two quantities <input type="checkbox"/> Add and subtract fractions, including creating equivalent fractions <input type="checkbox"/> Multiply and divide fractions by fractions 	FRACTION OPERATIONS <ul style="list-style-type: none"> <input type="checkbox"/> Multiply and divide fractions by fractions <input type="checkbox"/> Multiply and divide fractions by whole numbers and mixed numbers <input type="checkbox"/> Add and subtract fractions <input type="checkbox"/> Solve problems

Dates	Strands	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
About 7 days	NSN B1 Algebra C1- patterns	REPRESENTING DECIMAL NUMBERS <input type="checkbox"/> Count to 10 by halves, thirds, fourths, fifths, sixths, eights, and tenths, with and without tools <input type="checkbox"/> Read and represent decimals tenths (use place value) <input type="checkbox"/> Describe relationships and show equivalences among fractions and decimal tenths	REPRESENTING DECIMAL NUMBERS <input type="checkbox"/> Read, represent, compare, and order decimal numbers up to hundredths <input type="checkbox"/> Create and describe patterns to illustrate relationships among whole numbers and decimal tenths and hundredths <input type="checkbox"/> Represent money amounts <input type="checkbox"/> Count forwards and backwards by decimals <input type="checkbox"/> Extend place value understanding	REPRESENTING DECIMAL NUMBERS <input type="checkbox"/> Read, represent, compare, and order decimal numbers up to thousandths <input type="checkbox"/> Round decimal numbers to the nearest tenth, hundredth, or whole number <input type="checkbox"/> Determine relationships and show equivalences among fractions and decimal numbers up to thousandths		
TERM 2 (January 30 - June)						
About 6 days	Spatial Sense E2 NSN B2	LENGTH (link to B2 → × and ÷) <input type="checkbox"/> Estimate and measure lengths <input type="checkbox"/> Use metric units <input type="checkbox"/> Apply relationships between lengths, widths, and perimeters of rectangles and regular shapes CAPACITY <input type="checkbox"/> Explain the relationship between litres and millilitres <input type="checkbox"/> Use L and mL as benchmarks to estimate <input type="checkbox"/> Choose appropriate units and tools to measure capacity	LENGTH, MASS & CAPACITY <input type="checkbox"/> Use metric units to estimate and measure length, mass, and capacity <input type="checkbox"/> Solve problems that involve converting larger metric units into smaller ones <input type="checkbox"/> Describe the base ten relationships among metric units	LENGTH, MASS & CAPACITY <input type="checkbox"/> Measure length, mass, and capacity using metric units <input type="checkbox"/> Convert metric units <input type="checkbox"/> Solve problems involving conversions	CIRCLE MEASUREMENT <input type="checkbox"/> Relationships between the radius, diameter, and circumference of a circle <input type="checkbox"/> Explain the formula for finding the circumference <input type="checkbox"/> Solve problems <input type="checkbox"/> Construct circles when given the radius, diameter, or circumference <input type="checkbox"/> Formula for the area of a circle	MEASUREMENT <input type="checkbox"/> Solve problems involving the perimeter, circumference, area, volume, and surface area of composite 2D shapes and 3D objects
About 5 days	NSN B1	ESTIMATING & COMPARING DECIMAL NUMBERS <input type="checkbox"/> Count to 10 by halves, thirds, fourths, fifths, sixths, eights, and tenths, with and without tools <input type="checkbox"/> Read, represent, compare and order decimals tenths (use place value) <input type="checkbox"/> Round decimal numbers to the nearest whole number	ESTIMATING & COMPARING DECIMAL NUMBERS <input type="checkbox"/> Read, represent, compare, and order decimal numbers up to hundredths <input type="checkbox"/> Estimate and round decimal numbers to the nearest tenth	ESTIMATING & COMPARING DECIMAL NUMBERS <input type="checkbox"/> Compare and order decimal numbers and fractions <input type="checkbox"/> Use place value concepts to compare and order decimal numbers up to thousandths		
About 5 days	Number Sense & Numeration B2 Algebra C1 C4: patterns & Mathematical Modelling	ADDING & SUBTRACTING DECIMAL NUMBERS <input type="checkbox"/> Add and subtract decimal tenths using place value <input type="checkbox"/> Describe patterns to illustrate relationships among whole numbers and decimal tenths <input type="checkbox"/> Solve and create problems that involve adding and subtracting decimals		ADDING AND SUBTRACTING DECIMAL NUMBERS <input type="checkbox"/> Represent and solve problems involving the addition and subtraction of decimal tenths, hundredths, and thousandths, using estimation and algorithms <input type="checkbox"/> Justify strategies		
About 8 days	Data D1	DISPLAYING & INTERPRETING DATA <input type="checkbox"/> Describe the difference between qualitative and quantitative data <input type="checkbox"/> Collect data from primary and secondary sources to answer questions that compare two or more sets of data <input type="checkbox"/> Use frequency tables <input type="checkbox"/> Create and interpret stem-and-leaf plots and multiple bar graphs, using titles, labels and appropriate scales <input type="checkbox"/> Analyse different sets of data presented in various ways, by drawing conclusions	DISPLAYING & INTERPRETING DATA <input type="checkbox"/> Select the type of graph best suited to represent various sets of data (i.e. stacked-bar graphs) <input type="checkbox"/> Display data in groups with proper sources, titles, labels, and scales; justify their choice of graphs <input type="checkbox"/> Create an infographic about a set of data, including in relative-frequency tables and stacked-bar graphs <input type="checkbox"/> Analyse different sets of data by answering questions, challenging preconceived notions and drawing conclusions	DISPLAYING & INTERPRETING DATA <input type="checkbox"/> Describe the difference between discrete and continuous data <input type="checkbox"/> Select among a variety of graphs: histograms, broken-line graphs <input type="checkbox"/> Display data in graphs with proper sources, titles, labels, and scales and justify graph choice <input type="checkbox"/> Represent a set of data in an infographic	COLLECTING, USING & DESCRIBING DATA <input type="checkbox"/> Analyse different sets of data presented in various way, including circle graphs and in misleading graphs <input type="checkbox"/> Determine the impact of adding or removing data from a data set on a measure of central tendency, and describe how these changes alter the shape and distribution of the data <input type="checkbox"/> Collect qualitative data and discrete and continuous quantitative data to answer questions <input type="checkbox"/> Organize sets of data and use percentages	COLLECTING & INTERPRETING DATA <input type="checkbox"/> Collect continuous data to answer questions involving two variables <input type="checkbox"/> Organize data sets in a table of values <input type="checkbox"/> Analyse different sets of data presented in scatter plots and misleading graphs <input type="checkbox"/> Draw conclusions about data
About 5 days	NSN B2	USING PLACE VALUE TO MULTIPLY & DIVIDE <input type="checkbox"/> Use mental math strategies to multiply whole numbers by 10, 100 and 1000 <input type="checkbox"/> Divide whole numbers by 10 <input type="checkbox"/> Represent and solve problems involving the multiplication of two- or three-digit whole numbers by 10, 100 and 1000	DIVIDING WHOLE NUMBERS <input type="checkbox"/> Recall multiplication facts from 0 x 0 to 12 x 12, and related division facts <input type="checkbox"/> Represent and solve problems involving the division of 3-digit whole numbers by 2-digit whole numbers using the area model and algorithms <input type="checkbox"/> Express remainders appropriately	MULTIPLYING & DIVIDING DECIMAL NUMBERS <input type="checkbox"/> Multiply and divide decimals by 10, 100, 1000, and 10 000 <input type="checkbox"/> Multiply and divide three-digit whole numbers by decimal tenths <input type="checkbox"/> Represent and solve problems involving the division of decimal numbers up to thousandths by whole numbers up to 10 Link to E1: measuring mass	FACTORS & MULTIPLES <input type="checkbox"/> Use properties and order of operations and inverse operations, to solve problems involving whole numbers <input type="checkbox"/> Determine the greatest common factor for a variety of whole numbers up to 144 <input type="checkbox"/> Determine the lowest common multiple for two or three whole numbers	
MARCH BREAK						
About 5 days	Spatial Sense E2	AREA <input type="checkbox"/> Use rows and columns to measure the areas of rectangles <input type="checkbox"/> Develop and apply the formula for the area of a rectangle <input type="checkbox"/> Find unknown measurements when given two of the three sides	AREA <input type="checkbox"/> Use metric units to estimate and measure length and area <input type="checkbox"/> Show that 2D shapes with the same area can have different perimeters AREA RELATIONSHIPS (+5 days) <input type="checkbox"/> Use metric units to estimate and measure area <input type="checkbox"/> Determine and develop the formula for the area of a parallelogram and the area of a triangle <input type="checkbox"/> Show that 2D shapes with the same area can have different perimeters	AREA <input type="checkbox"/> Measure area using metric units <input type="checkbox"/> Solve problems that require converting metric units <input type="checkbox"/> Determine the areas of trapezoids, rhombuses, kites, and composite polygons by decomposing them into shapes with known areas <input type="checkbox"/> Develop the formula for the area of a trapezoid	AREA & SURFACE AREA <input type="checkbox"/> Solve problems involving perimeter and area that require converting metric units <input type="checkbox"/> Represent cylinders as nets and determine their surface area by adding the areas of their parts	

Dates	Strands	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
About 7 days	Algebra C2, C4	ALGEBRA <ul style="list-style-type: none"> <input type="checkbox"/> Identify and use symbols as variables in expressions and equations <input type="checkbox"/> Solve equations that involve whole numbers up to 50 (Link to NSN-B2) <input type="checkbox"/> Solve inequalities that involve addition and subtraction of whole numbers up to 20 and graph the solutions 	USING ALGEBRA <ul style="list-style-type: none"> <input type="checkbox"/> Recognize situations that can be represented by equations <input type="checkbox"/> Understand the use of variables <input type="checkbox"/> Translate expressions into algebraic notation <input type="checkbox"/> Evaluate algebraic expressions 	ALGEBRA <ul style="list-style-type: none"> <input type="checkbox"/> Add monomials with a degree of 1 that involve whole numbers <input type="checkbox"/> Evaluate algebraic expressions that involve whole numbers and decimal tenths <input type="checkbox"/> Solve equations that involve multiple terms and whole numbers <input type="checkbox"/> Solve inequalities that involve two operations and whole numbers up to 100 <input type="checkbox"/> Verify and graph solutions 	ALGEBRA <ul style="list-style-type: none"> <input type="checkbox"/> Add and subtract monomials with a degree of 1 that involve whole numbers <input type="checkbox"/> Evaluate algebraic expressions that involve whole and decimal numbers <input type="checkbox"/> Solve equations that involve multiple terms, whole numbers, and decimal numbers <input type="checkbox"/> Solve inequalities that involve multiple terms and whole numbers, and verify and graph the solutions 	SOLVING EQUATIONS & INEQUALITIES <ul style="list-style-type: none"> <input type="checkbox"/> Solve equations that involve multiple terms, integers, and decimal numbers <input type="checkbox"/> Solve inequalities that involve integers and graph the solutions
About 9 days	NSN B2 Algebra C4	MORE COMPLEX MULTIPLICATION & DIVISION <ul style="list-style-type: none"> <input type="checkbox"/> Estimate and solve problems products and quotients involving one-digit and two-digit numbers <input type="checkbox"/> Solve problems involving dividing two-digit or three-digit numbers by one-digit whole numbers; express any remainder as a fraction <input type="checkbox"/> Use arrays 	DECIMAL OPERATIONS <ul style="list-style-type: none"> <input type="checkbox"/> Solve problems involving decimal numbers using the relationships between operations and properties of operations <input type="checkbox"/> Use mental math strategies to multiply whole numbers by 0.1 and 0.01 (use place value) <input type="checkbox"/> Estimate sums and differences of decimal numbers up to hundredths <input type="checkbox"/> Represent and solve problems involving addition and subtraction of decimal numbers up to hundredths 	DIVISIBILITY TESTS <ul style="list-style-type: none"> <input type="checkbox"/> Understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9, and 10 Link to Coding (C3) <ul style="list-style-type: none"> <input type="checkbox"/> Write and execute code, including conditional statements and other control structures <input type="checkbox"/> Read and alter code 		
About 8 days	Spatial Sense E1, E2 Algebra C4	MASS <ul style="list-style-type: none"> <input type="checkbox"/> Explain the relationship between g and kg as metric units of mass and compare them <input type="checkbox"/> Use benchmarks of g and kg to estimate mass <input type="checkbox"/> Choose appropriate tools and units to measure mass 	CLASSIFYING TRIANGLES (E1)- 4 days <ul style="list-style-type: none"> <input type="checkbox"/> Identify geometric properties of triangles <input type="checkbox"/> Construct different types of triangles when given side or angle measurements 	2D SHAPES & 3D OBJECTS <ul style="list-style-type: none"> <input type="checkbox"/> List the properties of the diagonals, rotational symmetry, and line symmetry of various types of quadrilaterals <input type="checkbox"/> Construct 3D objects when given their top, front, and side views Link to Coding (C3) <ul style="list-style-type: none"> <input type="checkbox"/> Coding: properties of quadrilaterals: <input type="checkbox"/> Write and execute code, including conditional statements and other control structures <input type="checkbox"/> Read and alter code 	DESCRIBING & CLASSIFYING 3D OBJECTS (E1) <ul style="list-style-type: none"> <input type="checkbox"/> Describe and classify cylinders, pyramids, and prisms according to their geometric properties <input type="checkbox"/> Identify plane and rotational symmetry 	
About 7 days	Financial Literacy F1 Algebra C4	FINANCIAL LITERACY <ul style="list-style-type: none"> <input type="checkbox"/> Identify various methods of payment to purchase goods and services <input type="checkbox"/> Estimate and calculate the cost of multiple items in whole-dollar amounts, not including sales tax <input type="checkbox"/> Use mental math to calculate change <input type="checkbox"/> Explain the concepts of spending, saving, earning, investing and donating <input type="checkbox"/> Relationship between spending and saving <input type="checkbox"/> Understand whether something is reasonably priced and therefore a good purchase 	FINANCIAL LITERACY <ul style="list-style-type: none"> <input type="checkbox"/> Describe several ways money can be transferred among individuals, organizations and businesses <input type="checkbox"/> Estimate and calculate the cost of transactions involving multiple items, including sales tax <input type="checkbox"/> Design sample basic budgets to manage finances for various earning and spending scenarios <input type="checkbox"/> Explain the concepts of credit and debt and how they impact each other <input type="checkbox"/> Describe the types of taxes that are collected by the different levels of government in Canada <input type="checkbox"/> Explain how tax revenue is used to provide services in the community 	FINANCIAL LITERACY <ul style="list-style-type: none"> <input type="checkbox"/> Identify different types of financial goals, including earning and saving goals <input type="checkbox"/> Identify factors that may help or interfere with reaching financial goals <input type="checkbox"/> Describe the advantages and disadvantages of various methods of payment that can be used to purchase goods and services <input type="checkbox"/> Explain the concept of interest rates <input type="checkbox"/> Identify the types of interest rates and fees associated with different accounts and loans offered by banks and other financial institutions <input type="checkbox"/> Describe trading, lending, borrowing and donating 	FINANCIAL LITERACY <ul style="list-style-type: none"> <input type="checkbox"/> Identify and compare exchange rates, and convert foreign currencies to Canadian dollars and vice versa <input type="checkbox"/> Identify and describe various reliable sources of information that can help with planning for and reaching a financial goal <input type="checkbox"/> Create, track, and adjust sample budgets designed to meet longer-term financial goals <input type="checkbox"/> Identify various societal and personal factors that may influence financial decision making and the effects each might have <input type="checkbox"/> Explain how interest rates can impact saving, investments, and the cost of borrowing to pay for goods and services over time <input type="checkbox"/> Compare interest rates and fees for different accounts and loans offered by various financial institutions 	FINANCIAL LITERACY <ul style="list-style-type: none"> <input type="checkbox"/> Describe advantages and disadvantages of various methods of payment when dealing with multiple currencies and exchange rates <input type="checkbox"/> Create a financial plan to reach a long-term goal (account for income, expenses, and tax) <input type="checkbox"/> Identify ways to maintain a balanced budget and track it <input type="checkbox"/> Determine the growth of simple and compound interest at various rates <input type="checkbox"/> Compare ways for consumers to get more value for their money <input type="checkbox"/> Compare interest rates, annual fees, and rewards by various credit card companies and consumer contracts
About 8 days	Data D1, D2 Algebra C4	PROBABILITY <ul style="list-style-type: none"> <input type="checkbox"/> Likelihood of an event:: impossible, unlikely, equally likely, likely and certain <input type="checkbox"/> Represent likelihoods on a probability line and use it to make predictions and informed decisions 	PROBABILITY <ul style="list-style-type: none"> <input type="checkbox"/> Collect data, using appropriate sampling techniques, and organize the data <input type="checkbox"/> Use fractions to express the probability of events happening <input type="checkbox"/> Represent probability on a probability line and use it to make predictions <input type="checkbox"/> Determine and compare the theoretical and experimental probabilities of an event happening 	PROBABILITY <ul style="list-style-type: none"> <input type="checkbox"/> Use fractions, decimals, and percents to express the probability of events happening <input type="checkbox"/> Represent probability on a probability line and use it to make predictions/decisions <input type="checkbox"/> Determine and compare the theoretical and experimental probabilities of two independent events happening 	PROBABILITY <ul style="list-style-type: none"> <input type="checkbox"/> Describe the difference between independent and dependent events <input type="checkbox"/> Explain how probabilities differ <input type="checkbox"/> Determine and compare theoretical and experimental probabilities of two events 	PROBABILITY <ul style="list-style-type: none"> <input type="checkbox"/> Solve problems involving probability <input type="checkbox"/> Use venn and tree diagrams <input type="checkbox"/> Determine and compare the theoretical and experimental probabilities of multiple independent events and depends events
About 6 days	Algebra C3	CODING (links to Patterning & Location & Movement) <ul style="list-style-type: none"> <input type="checkbox"/> Create and execute code for sequential, concurrent, repeating, and nested events <input type="checkbox"/> Read and alter code <input type="checkbox"/> Describe how changes to the code affect the outcomes 	CODING <ul style="list-style-type: none"> <input type="checkbox"/> Create and execute code with conditional statements and other control structures (Link to D2: Probability) <input type="checkbox"/> Read and alter code, including code that involves conditional statements (link to C1: Patterns) <input type="checkbox"/> Describe how changes to code affect the outcomes SOLVING EQUATIONS & INEQUALITIES (C2) (+ 4 DAYS) <ul style="list-style-type: none"> <input type="checkbox"/> Solve equations that involve whole numbers up to 100 <input type="checkbox"/> Solve inequalities that involve one operation and whole number up to 50 <input type="checkbox"/> Verify solutions 	Linked to Divisibility Tests and 2D Shapes & 3D Objects	REPRESENTING LINEAR RELATIONSHIPS <ul style="list-style-type: none"> <input type="checkbox"/> Identify proportional (equivalent) and non-proportional situations <input type="checkbox"/> Apply proportional reasoning to solve problems <input type="checkbox"/> Graph linear relationships and describe them algebraically 	LINEAR PATTERNS & RELATIONSHIPS <ul style="list-style-type: none"> <input type="checkbox"/> Determine pattern rules and use them to extend patterns <input type="checkbox"/> Make and justify predictions <input type="checkbox"/> Identify missing elements in growing and shrinking patterns <input type="checkbox"/> Use algebraic expressions of the pattern rules to solve for unknown values in linear patterns <input type="checkbox"/> Identify, compare, create and translate repeating, growing, and shrinking patterns
About 7 days	Spatial Sense E2			SURFACE AREA <ul style="list-style-type: none"> <input type="checkbox"/> Create and use nets to demonstrate the relationship between the faces of prisms and pyramids and their surface areas <input type="checkbox"/> Determine the surface areas of prisms and pyramids by calculating the areas of their 2D faces and adding them together 	VOLUME (12 days) <ul style="list-style-type: none"> <input type="checkbox"/> Relating volume to capacity (mL to cm³) <input type="checkbox"/> Solve problems involving area and volume that require conversion <input type="checkbox"/> Volume of a prism or cylinder Link to Coding (C3): <ul style="list-style-type: none"> <input type="checkbox"/> Write and execute code <input type="checkbox"/> Read and alter code 	THE PYTHAGOREAN THEOREM <ul style="list-style-type: none"> <input type="checkbox"/> Describe the pythagorean relationship using geometric models <input type="checkbox"/> Apply the theorem to solve problems involving an unknown side length for a given right triangle