GECDSB Pacing Guide

Expectations Continuously Assessed

- A.1 SEL- Social Emotional Learning Skills and the Mathematical Processes occurs across all of the other 5 strands.
- C.4 Mathematical Modelling - apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations.

JUNIOR

MATHEMATICS

Resources

- Math Makes Sense
- Context For Learning Mathematics (CFLM)
- TIPS4Math
- Knowledgehook
- Leaps and Bounds
- PRIME
- EQAO Sample Materials

Important Notes:

- These **Pacing Guides** were developed using **only** expectations outlined in the new 2020 Grade 1 to 8 Mathematics Curriculum. The intent is to attempt making the transition from one cohort to another after each term as smooth as possible for our students. Teachers **do not** have to follow the order **within** a term and you are **not limited** to only the concepts listed in a term. Spiralling of concepts and using professional judgement to deliver your mathematics program in the most effective way possible is acceptable and encouraged. We ask that you make an attempt to introduce the majority of the concepts from each term, but we understand that there will be some minor variance from classroom to classroom.
- As a **reminder,** our curriculum document is created with the expectation that students will achieve the learning outlined in a specific grade by **the end of the school year**. This means it is **not** expected that students fully achieve the learning outlined in each term by the end of that specific term.
- **Key Changes** listed attempt to show a summary of the wording from the 2005 curriculum indicated by ~~strike-out~~ formatting with the 2020 curriculum wording shared in regular formatting and/or on the next line.
- **Related Resources** are listed and shared from TIPS4Math, Math Makes Sense (3-6), Making Connections (7-8), and other web-based resources which were developed to attempt aligning to the 2005 mathematics curriculum (or earlier). This means that some resources will require modifications in order to align more appropriately to the 2020 mathematics curriculum and you may want to look at some of the recommended resources from an earlier grade or later grade to best match both the curriculum and your unique group of learners.
- Note that many of the **OERB resources** provided in some of the TIPS4Math Units often use Flash which is not compatible on iPads or board laptops. If you are struggling to access an OERB resource link (i.e.: “Page Not Found”), consider following the steps outlined inside the Math Educator PD Portal here.
- **Have suggestions** on resources to add, remove, or modify? Send them to **kyle.pearce@publicboard.ca.**

TERM 1

TERM	Strands Focused on During Mathematics Block	Grade 4 Specific Expectations	Grade 5 Specific Expectations	Grade 6 Specific Expectations

TERM 1	**B.1 Number**	**Whole Numbers** ● B1.1 read, represent, compose, and decompose whole numbers up to and including 10 000, using appropriate tools and strategies, and describe various ways they are used in everyday life ● B1.2 compare and order whole numbers up to and including 10 000, in various contexts ● B1.3 round whole numbers to the nearest ten, hundred, or thousand, in various contexts	**Whole Numbers** ● B1.1 read, represent, compose, and decompose whole numbers up to and including 100 000, using appropriate tools and strategies, and describe various ways they are used in everyday life ● B1.2 compare and order whole numbers up to and including 100 000, in various contexts	**Whole Numbers** ● B1.1 read and represent whole numbers up to and including one million, using appropriate tools and strategies, and describe various ways they are used in everyday life ● B1.2 read and represent integers, using a variety of tools and strategies, including horizontal and vertical number lines ● B1.3 compare and order integers, decimal numbers, and fractions, separately and in combination, in various contexts
	Related Resources	● Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment ● TIPS4Math ○ Represent, Compare and Order Numbers 0 to 10 000	● Math Makes Sense 5 (MMS5) Curriculum Correlation Alignment ● TIPS4Math ○ Represent, Compare and Order Numbers 0.01 to 10 000 ○ Represent, Compare and Order Numbers 0.01 to 100 000	● Math Makes Sense 6 (MMS6) Curriculum Correlation Alignment ● TIPS4Math ○ Represent, Compare and Order Numbers 0.01 to 1 000 000 ○ Represent, Compare and Order Integers (Old Gr 7 Unit)
	Key Changes from 2005 to 2020 Curriculum	● No significant changes	● No significant changes	● ~~No explicit expectations related to integers~~ ● Work with integers through reading, representing, comparing, and ordering integers
	C.1 Patterns and Relationships	**Patterns** ● C1.1 identify and describe repeating and growing patterns, including patterns found in real-life contexts ● C1.2 create and translate repeating and growing patterns using various representations, including tables of values and graphs ● C1.3 determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in repeating and growing patterns ● C1.4 create and describe patterns to illustrate relationships among whole numbers and decimal tenths	**Patterns** ● C1.1 identify and describe repeating, growing, and shrinking patterns, including patterns found in real-life contexts ● C1.2 create and translate growing and shrinking patterns using various representations, including tables of values and graphs ● C1.3 determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in repeating, growing, and shrinking patterns ● C1.4 create and describe patterns to illustrate relationships among whole numbers and decimal tenths and hundredths	**Patterns** ● C1.1 identify and describe repeating, growing, and shrinking patterns, including patterns found in real-life contexts, and specify which growing patterns are linear ● C1.2 create and translate repeating, growing, and shrinking patterns using various representations, including tables of values, graphs, and, for linear growing patterns, algebraic expressions and equations ● C1.3 determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in repeating, growing, and shrinking patterns, and use algebraic representations of the pattern rules to solve for unknown values in linear growing patterns ● C1.4 create and describe patterns to illustrate relationships among whole numbers and decimal numbers
	Related Resources	● Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment ● TIPS4Math ○ Numeric Patterns	● Math Makes Sense 5 (MMS5) Curriculum Correlation Alignment ● TIPS4Math ○ Location, Movement and Geometric Patterns	● Math Makes Sense 6 (MMS6) Curriculum Correlation Alignment ● TIPS4Math ○ Location, Movement and Geometric Patterns

TERM 1		○ *Location, Movement and Geometric Patterns** **Geometric patterns not explicitly mentioned, but could be worth exploring.*	○ Numeric Patterns	○ Numeric Patterns
	Key Changes from 2005 to 2020 Curriculum	● ~~Numeric and geometric patterns, and repeating patterns involving reflections~~ ● Repeating and growing patterns	● ~~Growing and shrinking patterns, and repeating patterns involving translations~~ ● Repeating, growing and shrinking patterns, including linear growing patterns	● ~~Growing and shrinking patterns, and repeating patterns involving rotations~~ ● Repeating, growing, and shrinking patterns, including linear growing patterns
	D.1 Data Literacy	**Data Collection and Organization** ● D1.1 describe the difference between qualitative and quantitative data, and describe situations where each would be used ● D1.2 collect data from different primary and secondary sources to answer questions of interest that involve comparing two or more sets of data, and organize the data in frequency tables and stem-and-leaf plots	**Data Collection and Organization** ● D1.1 explain the importance of various sampling techniques for collecting a sample of data that is representative of a population ● D1.2 collect data, using appropriate sampling techniques as needed, to answer questions of interest about a population, and organize the data in relative-frequency tables	**Data Collection and Organization** ● D1.1 describe the difference between discrete and continuous data, and provide examples of each ● D1.2 collect qualitative data and discrete and continuous quantitative data to answer questions of interest about a population, and organize the sets of data as appropriate, including using intervals
	Related Resources	● Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment ● TIPS4Math ○ Collect, Organize, Display and Interpret Categorical Data ○ Collect, Organize, Display and Interpret Numerical Data	● Math Makes Sense 5 (MMS5) Curriculum Correlation Alignment ● TIPS4Math ○ Collect, Organize and Display Primary Data ○ Collect, Organize, Display and Interpret Numerical Data	● Math Makes Sense 6 (MMS6) Curriculum Correlation Alignment ● TIPS4Math ○ Collect, Organize and Display Primary and Secondary Data
	Key Changes from 2005 to 2020 Curriculum	● ~~Collect and organize discrete primary data...~~ ● Describe the difference between qualitative and quantitative data	● ~~Distinguish between (two types of quantitative data) discrete data and continuous data~~ ● Working with qualitative and quantitative data	● Working with ~~categorical~~ qualitative and numerical (discrete and continuous) data
	E.2 Measurement	**Time** ● E2.3 solve problems involving elapsed time by applying the relationships between different units of time **Area** ● E2.5 use the row and column structure of an array to measure the areas of rectangles and to show that the area of any rectangle can be found by multiplying its side lengths ● E2.6 apply the formula for the area of a rectangle to find the unknown measurement when given two of the three	**Area** ● E2.5 use the area relationships among rectangles, parallelograms, and triangles to develop the formulas for the area of a parallelogram and the area of a triangle, and solve related problems ● E2.6 show that two-dimensional shapes with the same area can have different perimeters, and solve related problems	**Area** ● E2.4 determine the areas of trapezoids, rhombuses, kites, and composite polygons by decomposing them into shapes with known areas ● E2.5 create and use nets to demonstrate the relationship between the faces of prisms and pyramids and their surface areas ● E2.6 determine the surface areas of prisms and pyramids by calculating the areas of their two-dimensional faces and adding them together
	Related Resources	● Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment ● TIPS4Math ○ Area – Non-Standard and Square Units, Perimeter – Standard Units (Old Gr 3 Unit) ○ Perimeter and Area Involving Whole Numbers	● Math Makes Sense 5 (MMS5) Curriculum Correlation Alignment ● TIPS4Math ○ Perimeter and Area ○ Perimeter and Area Applications ○ Area of Parallelograms and Triangles (Old Gr 6 Unit)	● Math Makes Sense 6 (MMS6) Curriculum Correlation Alignment ● TIPS4Math ○ Area of Parallelograms and Triangles ○ Area (Old Gr 7 Unit) ○ Measurement, Surface Area, Volume (Old Grade 7 Unit)

TERM 1		○ Time ○ Time (Old Gr 5 Unit)		
	Key Changes from 2005 to 2020 Curriculum	• ~~Perimeter treated separate from length; often linked to area with a focus in grades 3 to 5~~ • Perimeter treated as an application of length (with a focus in Grade 3) • ~~Area focus using arrays with square units~~ • Area focus using arrays; area of a rectangle • ~~Telling time to the nearest 5 minutes~~ • Solving problems involving elapsed time involving different units of time	• ~~Perimeter treated separate from length; often linked to area with a focus in grades 3 to 5~~ • Perimeter treated as an application of length (with a focus in Grade 3) • ~~Area focus using arrays with square units; area of a rectangle~~ • Area of a parallelogram and triangle	• ~~Perimeter applied as a distinct attribute~~ • Perimeter treated as an application of length (with a focus in Grade 3) • ~~Area focus using square centimetres; area of a parallelogram and triangle~~ • Area of quadrilaterals, including trapezoids; surface area of prisms
	F.1 Money and Finances	**Money Concepts** • F1.1 identify various methods of payment that can be used to purchase goods and services • F1.2 estimate and calculate the cost of transactions involving multiple items priced in whole-dollar amounts, not including sales tax, and the amount of change needed when payment is made in cash, using mental math	**Money Concepts** • F1.1 describe several ways money can be transferred among individuals, organizations, and businesses • F1.2 estimate and calculate the cost of transactions involving multiple items priced in dollars and cents, **not including** sales tax (addressed in Quad 3), using various strategies	**Money Concepts** • F1.1 describe the advantages and disadvantages of various methods of payment that can be used to purchase goods and services
	Related Resources	• EduGains Financial Literacy Resources* • OAME Financial Literacy Resources* • Talk With Our Kids About Money • NextGenEdition - Globe and Mail **Aligned to 2005 curriculum*	• EduGains Financial Literacy Resources* • OAME Financial Literacy Resources* • Talk With Our Kids About Money • NextGenEdition - Globe and Mail **Aligned to 2005 curriculum*	• EduGains Financial Literacy Resources* • OAME Financial Literacy Resources* • Grade 6 Specific Lessons in the Math Educators PD Portal • Talk With Our Kids About Money • NextGenEdition - Globe and Mail **Aligned to 2005 curriculum*
	Key Changes from 2005 to 2020 Curriculum	• ~~Add and subtract money amounts to $100 for simulated purchases~~ • Estimate and calculate change for cash transactions involving more than one item, whole dollar amounts or amounts less than one dollar	• Identify and describe various payment methods and ways to transfer money	• Identify and describe various payment methods and ways to transfer money
	B.2 Operations	**Properties and Relationships** • B2.1 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 operation, and check calculations **Math Facts** • B2.2 recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts **Mental Math** • B2.3 use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and *add and subtract*	**Properties and Relationships** • B2.1 use the properties of operations, and the relationships between operations, to solve problems involving whole numbers and decimal numbers, including those requiring more than one operation, and check calculations **Math Facts** • B2.2 recall and demonstrate multiplication facts from 0 × 0 to 12 × 12, and related division facts **Mental Math** • B2.3 use mental math strategies to multiply whole numbers by 0.1 and 0.01 and estimate sums and differences of decimal	**Properties and Relationships** • B2.1 use the properties of operations, and the relationships between operations, to solve problems involving whole numbers, decimal numbers, fractions, ratios, rates, and whole number percents, including those requiring multiple steps or multiple operations **Math Facts** • B2.2 understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9, and 10 **Mental Math** • B2.3 use mental math strategies to calculate percents of whole numbers, including 1%, 5%,

TERM 1		*decimal tenths, and explain the strategies used (in quad 4)* **Addition and Subtraction** ● B2.4 represent and solve problems involving the addition and subtraction of whole numbers that add up to no more than 10 000 and of decimal tenths, using appropriate tools and strategies, including algorithms	numbers up to hundredths, and explain the strategies used **Addition and Subtraction** ● B2.4 represent and solve problems involving the addition and subtraction of whole numbers that add up to no more than 100 000, and of decimal numbers up to hundredths, using appropriate tools, strategies, and algorithms	10%, 15%, 25%, and 50%, and explain the strategies used **Addition and Subtraction** ● B2.4 represent and solve problems involving the addition and subtraction of whole numbers and decimal numbers, using estimation and algorithms
	Related Resources	● Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment ● TIPS4Math ○ Mental Math, Multiplicative Relationships and Equality ○ Operations Involving Numbers 0 to 10 000 ○ Operations Involving Numbers 0.1 to 10 000	● Math Makes Sense 5 (MMS5) Curriculum Correlation Alignment ● TIPS4Math ○ Operations Involving Numbers 0.01 to 100 000	● Math Makes Sense 6 (MMS6) Curriculum Correlation Alignment ● TIPS4Math ○ Mental Math, Whole Number Relationships and Order of Operations ○ Operations Involving Numbers 0.001 to 1 000 000 ○ Fractions, Ratios and Rates ○ Fractions, Decimals, Ratios and Percents
	Key Changes from 2005 to 2020 Curriculum	● ~~Multiply to 10 x 10, and related division facts~~ ● **Recall** and demonstrate (i.e.: model) multiplication facts from 1 x 1 to to 10 x 10, and related division facts to build on the new grade 3 expectations that have students recalling x2, x5, x10 facts, and represent multiplication to 10 x 10 using tools and drawings ● ~~Working with decimal tenths~~ ● Working with decimal tenths, including using **mental math strategies** to add and subtract decimal tenths ● ~~Understand and use the commutative property and distributive property of multiplication~~ ● Explicit references to number properties as part of the Number strand	● ~~Solve problems involving the addition, subtraction, and multiplication of whole numbers, using a variety of mental strategies~~ ● Recall and demonstrate (i.e.: model) multiplication facts from 0 x 0 to 12 x 12, and related division facts ● ~~Working with decimal hundredths, including equivalent representations of decimal numbers~~ ● Working with decimal hundredths, including conversions between fractions, decimal numbers and percent, and using mental math strategies to multiply whole numbers by 0.1 and 0.01 and estimate sums and differences of decimal numbers up to hundredths ● ~~solve problems ... using a variety of mental strategies (e.g., use the commutative property)~~ ● Explicit references to number properties as part of the Number strand	● ~~No explicit expectations related to divisibility rules~~ ● Understand divisibility rules for reinforcement of multiplication facts ● ~~Multiplying and dividing decimal numbers by 10, 100, 1 000, and 10 000 using mental math strategies~~ ● Use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 15%, 25%, and 50% ● ~~use a variety of mental strategies to solve ... problems involving whole numbers (e.g., use the commutative property ... distributive property ...)~~ ● Explicit references to number properties as part of the Number strand
	C.2 Equations and Inequalities	**Variables** ● C1.2 identify and use symbols as variables in expressions and equations **Equalities and Inequalities** ● C2.2 solve equations that involve whole numbers up to 50 in various contexts, and verify solutions ● C2.3 solve inequalities that involve addition and subtraction of whole numbers up to 20, and verify and graph the solutions	**Variables and Expressions** ● C2.1 translate among words, algebraic expressions, and visual representations that describe equivalent relationships ● C2.2 evaluate algebraic expressions that involve whole numbers **Equalities and Inequalities** ● C2.3 solve equations that involve whole numbers up to 100 in various contexts, and verify solutions	**Variables and Expressions** ● C2.1 add monomials with a degree of 1 that involve whole numbers, using tools ● C2.2 evaluate algebraic expressions that involve whole numbers and decimal tenths **Equalities and Inequalities** ● C2.3 solve equations that involve multiple terms and whole numbers in various contexts, and verify solutions ● C2.4 solve inequalities that involve two operations and whole numbers up to 100, and verify and graph the solutions

TERM 1			• C2.4 solve inequalities that involve one operation and whole numbers up to 50, and verify and graph the solutions	

	Related Resources	• Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment
		• TIPS4Math
		  ○ Mental Math, Multiplicative Relationships and Equality
			• Math Makes Sense 5 (MMS5) Curriculum Correlation Alignment
			• TIPS4Math
			  ○ Mental Math Operations, Multiplicative Relationships and Equality
				• Math Makes Sense 6 (MMS6) Curriculum Correlation Alignment
				• TIPS4Math
				  ○ Equality – Unknown Quantities

	Key Changes from 2005 to 2020 Curriculum	• ~~No explicit expectations related to introducing variables in equations~~ • Working with variables including Identifying and use symbols as variables in expressions and equations • ~~No explicit expectations related to solving inequalities~~ • Solve inequalities	• ~~Introducing variables in equations~~ • Working with variables to evaluate algebraic expressions and solve equations • ~~No explicit expectations related to evaluating algebraic expressions~~ • Evaluate algebraic expressions that involve whole numbers • ~~No explicit expectations related to solving inequalities~~ • Solve inequalities	• ~~No explicit expectations related to simplifying algebraic expressions (i.e.: collecting like terms)~~ • Simplify algebraic expressions by adding monomials with a degree of 1 (i.e.: 3a + 4a = 7a) • ~~No explicit expectations related to evaluating algebraic expressions~~ • Evaluate algebraic expressions that involve whole numbers and decimal tenths • ~~Determine the solution to a simple equation with one variable, through investigation using a variety of tools and strategies~~ • Solve equations that involve **multiple terms** and whole number (coefficients and constants) and verify solutions • ~~No explicit expectations related to solving inequalities~~ • Solve inequalities involving two operations and whole numbers up to 100, and verify and graph the solutions
	D.1 Data Literacy	**Data Visualization** • D1.3 select from among a variety of graphs, including multiple-bar graphs, the type of graph best suited to represent various sets of data; display the data in the graphs with proper sources, titles, and labels, and appropriate scales; and justify their choice of graphs • D1.4 create an infographic about a data set, representing the data in appropriate ways, including in frequency tables, stem-and-leaf plots, and multiple-bar graphs, and incorporating any other relevant information that helps to tell a story about the data	**Data Visualization** • D1.3 select from among a variety of graphs, including stacked-bar graphs, the type of graph best suited to represent various sets of data; display the data in the graphs with proper sources, titles, and labels, and appropriate scales; and justify their choice of graphs • D1.4 create an infographic about a data set, representing the data in appropriate ways, including in relative-frequency tables and stacked-bar graphs, and incorporating any other relevant information that helps to tell a story about the data	**Data Visualization** • D1.3 select from among a variety of graphs, including histograms and broken-line graphs, the type of graph best suited to represent various sets of data; display the data in the graphs with proper sources, titles, and labels, and appropriate scales; and justify their choice of graphs • D1.4 create an infographic about a data set, representing the data in appropriate ways, including in tables, histograms, and broken-line graphs, and incorporating any other relevant information that helps to tell a story about the data

	Related Resources	• Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment
		• TIPS4Math
		  ○ Collect, Organize, Display and Interpret Categorical Data
			• Math Makes Sense 5 (MMS5) Curriculum Correlation Alignment
			• TIPS4Math
			  ○ Collect, Organize and Display Primary Data
				• Math Makes Sense 6 (MMS6) Curriculum Correlation Alignment
				• TIPS4Math
				  ○ Collect, Organize and Display Primary and Secondary Data

TERM 1		○ Collect, Organize, Display and Interpret Numerical Data	○ Collect, Organize, Display and Interpret Numerical Data	
	Key Changes from 2005 to 2020 Curriculum	● ~~Double bar graphs~~ ● Multiple bar graphs ● ~~No explicit expectations related to infographics~~ ● Reading and creating infographics	● ~~Broken-line graphs~~ ● Stacked bar graphs ● ~~No explicit expectations related to infographics~~ ● Reading and creating infographics	● ~~Continuous line graphs~~ ● Broken-line graphs, histograms ● ~~No explicit expectations related to infographics~~ ● Reading and creating infographics
	E.1 Geometric and Spatial Reasoning	**Geometric Reasoning** ● E1.1 identify geometric properties of rectangles, including the number of right angles, parallel and perpendicular sides, and lines of symmetry	**Geometric Reasoning** ● E1.1 identify geometric properties of triangles, and construct different types of triangles when given side or angle measurements ● E1.2 identify and construct congruent triangles, rectangles, and parallelograms ● E1.3 draw top, front, and side views of objects, and match drawings with objects	**Geometric Reasoning** ● E1.1 create lists of the geometric properties of various types of quadrilaterals, including the properties of the diagonals, rotational symmetry, and line symmetry ● E1.2 construct three-dimensional objects when given their top, front, and side views
	Related Resources	● Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment ● TIPS4Math ○ Angles and Geometric Properties of 2D Shapes	● Math Makes Sense 5 (MMS5) Curriculum Correlation Alignment ● TIPS4Math ○ *3D Figures* **Although comparing and sorting three-dimensional figures and identifying and constructing nets is not explicitly mentioned, some activities could be worth exploring*	● Math Makes Sense 6 (MMS6) Curriculum Correlation Alignment ● TIPS4Math ○ 3D Figures (Old Gr 4 Unit) ○ 3D Figures (Old Gr 5 Unit) ○ 3D Figures
	Key Changes from 2005 to 2020 Curriculum	● ~~Prisms and pyramids, quadrilaterals, constructing 3D figures from a picture~~ ● Properties of rectangles, inclusive of squares	● ~~Triangles. nets of 3D figures. and identifying prisms and pyramids from nets~~ ● Properties of triangles, constructing congruent triangles, rectangles and parallelograms, and drawing top, front, side views of objects	● ~~Properties of quadrilaterals and polygons, constructing (congruent) polygons~~ ● Properties of quadrilaterals, nets of prisms and pyramids, and nested relationships between quadrilaterals

TERM 2

TERM	Strands Focused on During Mathematics Block	Grade 4 Specific Expectations	Grade 5 Specific Expectations	Grade 6 Specific Expectations
	B.1 Number	**Fractions and Decimals** ● B1.4 represent fractions from halves to tenths using drawings, tools, and standard fractional notation, and explain the meanings of the denominator and the numerator ● B1.5 use drawings and models to represent, compare, and order fractions representing the individual portions that result from two different fair-share scenarios involving any combination of 2, 3, 4, 5, 6, 8, and 10 sharers ● B1.6 count to 10 by halves, thirds, fourths, fifths, sixths, eighths, and tenths, with and without the use of tools	**Fractions and Decimals** ● B1.3 represent equivalent fractions from halves to twelfths, including improper fractions and mixed numbers, using appropriate tools, in various contexts ● B1.4 compare and order fractions from halves to twelfths, including improper fractions and mixed numbers, in various contexts ● B1.5 read, represent, compare, and order decimal numbers up to hundredths, in various contexts ● B1.6 round decimal numbers to the nearest tenth, in various contexts ● B1.7 describe relationships and show equivalences among fractions, decimal numbers	**Fractions and Decimals** ● B1.4 read, represent, compare, and order decimal numbers up to thousandths, in various contexts ● B1.5 round decimal numbers, both terminating and repeating, to the nearest tenth, hundredth, or whole number, as applicable, in various contexts ● B1.6 describe relationships and show equivalences among fractions and decimal numbers up to thousandths, using appropriate tools and drawings, in various contexts

TERM 2			up to hundredths, and whole number percents, using appropriate tools and drawings, in various contexts	

	Related Resources	• Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment
		• TIPS4Math
		  ○ Represent, Compare and Order Fractions
			• Math Makes Sense 5 (MMS5) Curriculum Correlation Alignment
			• TIPS4Math
			  ○ Represent, Compare and Order Numbers 0.01 to 10 000
			  ○ Represent, Compare and Order Numbers 0.01 to 100 000
			  ○ Represent, Compare and Order Fractions
			  ○ Fractions and Decimal Hundredths Relationships
				• Math Makes Sense 6 (MMS6) Curriculum Correlation Alignment
				• TIPS4Math
				  ○ Represent, Compare and Order Numbers 0.001 to 1 000 000

	Key Changes from 2005 to 2020 Curriculum	• ~~Introduce writing fractions with standard fractional notation, e.g., ½ for the first time~~ • Build on student knowledge of using standard fractional notation which is now Introduced in grade 3 • Begin to work with equivalent fractions	• ~~Working with decimal hundredths, including equivalent representations of decimal numbers~~ • Working with decimal hundredths, including conversions between fractions, decimal numbers and percent	• ~~No explicit expectations related to rounding~~ • Round decimal numbers, both terminating and repeating, to the nearest tenth, hundredth, or whole number, as applicable, in various contexts • ~~Working with decimal thousandths, including conversions between fractions, decimal numbers and percent~~ • Working with decimal thousandths, conversions between fractions and decimals (not percent)* **Please note that conversion to percent is now introduced in grade 5 and should be revisited throughout grade 6*
	B.2 Operations	**Multiplication and Division** • B2.5 represent and solve problems involving the multiplication of two- or three-digit whole numbers by one-digit whole numbers and by 10, 100, and 1000, using appropriate tools, including arrays • B2.6 represent and solve problems involving the division of two- or three-digit whole numbers by one-digit whole numbers, expressing any remainder as a fraction when appropriate, using appropriate tools, including arrays	**Addition and Subtraction** • B2.5 add and subtract fractions with like denominators, in various contexts **Multiplication and Division** • B2.6 represent and solve problems involving the multiplication of two-digit whole numbers by two-digit whole numbers using the area model and using algorithms, and make connections between the two methods • B2.7 represent and solve problems involving the division of three-digit whole numbers by two-digit whole numbers using the area model and using algorithms, and make connections between the two methods, while expressing any remainder appropriately	**Addition and Subtraction** • B2.5 add and subtract fractions with like and unlike denominators, using appropriate tools, in various contexts **Multiplication and Division** • B2.6 represent composite numbers as a product of their prime factors, including through the use of factor trees • B2.7 represent and solve problems involving the multiplication of three-digit whole numbers by decimal tenths, using algorithms • B2.8 represent and solve problems involving the division of three-digit whole numbers by decimal tenths, using appropriate tools, strategies, and algorithms, and expressing remainders as appropriate
	Related Resources	• Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment • TIPS4Math	• Math Makes Sense 5 (MMS5) Curriculum Correlation Alignment • TIPS4Math	• Math Makes Sense 6 (MMS6) Curriculum Correlation Alignment • TIPS4Math

TERM 2		○ Mental Math, Multiplicative Relationships and Equality ○ Operations Involving Numbers 0 to 10 000	○ Mental Math Operations, Multiplicative Relationships and Equality	○ Operations Involving Numbers 0.01 to 1 000 000 ○ Operations Involving Numbers 0.001 to 1 000 000
	Key Changes from 2005 to 2020 Curriculum	● ~~Divide two-digit whole numbers by one-digit whole numbers~~ ● Divide two- or three-digit whole numbers by one-digit whole numbers	● ~~No explicit expectations related to adding and subtracting fractions~~ ● Add and subtract fractions with like denominators	● ~~No explicit expectations related to adding and subtracting fractions~~ ● Add and subtract fractions with like and unlike denominators ● ~~Multiplying and dividing decimal numbers to tenths by whole numbers~~ ● Multiplication and division of three-digit whole numbers by decimal tenths
	C.3 Coding	**Coding Skills** ● C3.1 solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential, concurrent, repeating, and nested events ● C3.2 read and alter existing code, including code that involves sequential, concurrent, repeating, and nested events, and describe how changes to the code affect the outcomes	**Coding Skills** ● C3.1 solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves conditional statements and other control structures ● C3.2 read and alter existing code, including code that involves conditional statements and other control structures, and describe how changes to the code affect the outcomes	**Coding Skills** ● C3.1 solve problems and create computational representations of mathematical situations by writing and executing efficient code, including code that involves conditional statements and other control structures ● C3.2 read and alter existing code, including code that involves conditional statements and other control structures, and describe how changes to the code affect the outcomes and the efficiency of the code
	Related Resources	● Elementary Math Curriculum Resource Project ○ Grade 4 Coding Lessons ● EduGains: Coding in Elementary ○ Visit site for tech and no-tech based lessons such as: ○ Using Scratch to Explore Shapes ○ Coding Your Friend Bot [No Tech] ● LearnX.ca ON Math & Coding ● CSUnplugged.org: Computer Science Without a Computer ● Hour of Code ● CS Education Week ● Science North: Coding, Science & More	● Elementary Math Curriculum Resource Project ○ Grade 5 Coding Lessons ● EduGains: Coding in Elementary ○ Visit site for tech and no-tech based lessons such as: ○ Using Scratch to Make Triangles ○ Coding Your Friend Bot [No Tech] ● LearnX.ca ON Math & Coding ● CSUnplugged.org: Computer Science Without a Computer ● Hour of Code ● CS Education Week ● Science North: Coding, Science & More	● Elementary Math Curriculum Resource Project ○ Grade 6 Coding Lessons ● EduGains: Coding in Elementary ○ Visit site for tech and no-tech based lessons such as: ○ Using Scratch to Make Polygons ○ Graph Paper Programming [No Tech] ● LearnX.ca ON Math & Coding ● CSUnplugged.org: Computer Science Without a Computer ● Hour of Code ● CS Education Week ● Science North: Coding, Science & More
	Key Changes from 2005 to 2020 Curriculum	● ~~No references to coding~~ ● Sequential, concurrent, repeating, and nested events	● ~~No references to coding~~ ● Code involving conditional statements and other control structures	● ~~No references to coding~~ ● Code involving conditional statements and other control structures
	D.1 Data Literacy	**Data Analysis** ● D1.5 determine the mean and the median and identify the mode(s), if any, for various data sets involving whole numbers, and explain what each of these measures indicates about the data ● D1.6 analyse different sets of data presented in various ways, including in stem-and-leaf plots and multiple-bar graphs, by asking and	**Data Analysis** ● D1.5 determine the mean and the median and identify the mode(s), if any, for various data sets involving whole numbers and decimal numbers, and explain what each of these measures indicates about the data ● D1.6 analyse different sets of data presented in various ways, including in stacked-bar graphs	**Data Analysis** ● D1.5 determine the range as a measure of spread and the measures of central tendency for various data sets, and use this information to compare two or more data sets ● D1.6 analyse different sets of data presented in various ways, including in histograms and broken-line graphs and in misleading graphs, by

TERM 2		answering questions about the data and drawing conclusions, then make convincing arguments and informed decisions	and in misleading graphs, by asking and answering questions about the data, challenging preconceived notions, and drawing conclusions, then make convincing arguments and informed decisions	asking and answering questions about the data, challenging preconceived notions, and drawing conclusions, then make convincing arguments and informed decisions

	Related Resources	• Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment
		• TIPS4Math
		  ○ Collect, Organize, Display and Interpret Numerical Data
		  ○ Collect, Organize, Display and Interpret Numerical Data (Old Gr 5 Unit)
			• Math Makes Sense 5 (MMS5) Curriculum Correlation Alignment
			• TIPS4Math
			  ○ Collect, Organize, Display and Interpret Numerical Data
				• Math Makes Sense 6 (MMS6) Curriculum Correlation Alignment
				• TIPS4Math
				  ○ Interpret Data
				  ○ Data Analysis and Interpretation

	Key Changes from 2005 to 2020 Curriculum	• ~~Analyze data by determining, understanding, and using the mode and the median of a dataset~~ • Determine the mean and the median and identify the mode(s), if any, for various data sets* **Mode introduced in grade 2, Mean introduced in grade 3*	• No significant changes	• ~~No explicit expectations related to determining the range of data~~ • Determine the range as a measure of spread and the measures of central tendency
	F.1 Money and Finances	**Financial Management** • F1.3 explain the concepts of spending, saving, earning, investing, and donating, and identify key factors to consider when making basic decisions related to each • F1.4 explain the relationship between spending and saving, and describe how spending and saving behaviours may differ from one person to another	**Financial Management** • F1.3 design sample basic budgets to manage finances for various earning and spending scenarios • F1.4 explain the concepts of credit and debt, and describe how financial decisions may be impacted by each **Money Concepts** • F1.2 estimate and calculate the cost of transactions involving multiple items priced in dollars and cents, **including** sales tax, using various strategies	**Financial Management** • F1.2 identify different types of financial goals, including earning and saving goals, and outline some key steps in achieving them • F1.3 identify and describe various factors that may help or interfere with reaching financial goals
	Related Resources	• EduGains Financial Literacy Resources* • OAME Financial Literacy Resources* • Talk With Our Kids About Money • NextGenEdition - Globe and Mail **Aligned to 2005 curriculum*	• EduGains Financial Literacy Resources* • OAME Financial Literacy Resources* • Talk With Our Kids About Money • NextGenEdition - Globe and Mail **Aligned to 2005 curriculum*	• EduGains Financial Literacy Resources* • OAME Financial Literacy Resources* • Grade 6 Specific Lessons in the Math Educators PD Portal • Talk With Our Kids About Money • NextGenEdition - Globe and Mail **Aligned to 2005 curriculum*
	Key Changes from 2005 to 2020 Curriculum	• ~~No expectations related to financial management~~	• ~~No expectations related to financial management~~	• ~~No expectations related to financial management~~
	B.1 Number	**Fractions and Decimals** • B1.7 read, represent, compare, and order decimal tenths, in various contexts • B1.8 round decimal numbers to the nearest whole number, in various contexts		

TERM 2		• B1.9 describe relationships and show equivalences among fractions and decimal tenths, in various contexts		

	Related Resources	• Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment
		• TIPS4Math
		  ○ Represent, Compare and Order Numbers 0.1 to 10 000
		  ○ Perimeter and Area Involving Decimal Tenths
		  ○ Fractions and Decimal Tenths Relationships		

	Key Changes from 2005 to 2020 Curriculum	• ~~Working with decimal tenths~~ • Working with decimal tenths, including conversions between fractions and decimal numbers • ~~No explicit rounding of decimals to nearest whole number~~ • Round decimal numbers to the nearest whole number, in various contexts		
	B.2 Operations	**Multiplication and Division** • B2.7 represent the relationship between the repeated addition of a unit fraction and the multiplication of that unit fraction by a whole number, using tools, drawings, and standard fractional notation • B2.8 show simple multiplicative relationships involving whole-number rates, using various tools and drawings **Mental Math** • B2.3 *use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10 (from quad 1),* and add and subtract decimal tenths, and explain the strategies used	**Multiplication and Division** • B2.8 multiply and divide one-digit whole numbers by unit fractions, using appropriate tools and drawings • B2.9 represent and create equivalent ratios and rates, using a variety of tools and models, in various contexts	**Multiplication and Division** • B2.9 multiply whole numbers by proper fractions, using appropriate tools and strategies • B2.10 divide whole numbers by proper fractions, using appropriate tools and strategies • B2.11 represent and solve problems involving the division of decimal numbers up to thousandths by whole numbers up to 10, using appropriate tools and strategies • B2.12 solve problems involving ratios, including percents and rates, using appropriate tools and strategies

	Related Resources	• Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment	• Math Makes Sense 5 (MMS5) Curriculum Correlation Alignment
			• TIPS4Math
			  ○ Fractions, Ratios and Rates (Old Gr 6 Unit)
				• Math Makes Sense 6 (MMS6) Curriculum Correlation Alignment
				• TIPS4Math
				  ○ Fractions, Ratios and Rates
				  ○ Fractions, Decimals, Ratios and Percents

	Key Changes from 2005 to 2020 Curriculum	• ~~No explicit expectations related to the repeated addition (or multiplication) of a fraction~~ • Explore multiplication of unit fractions by a whole number through repeated addition	• ~~No explicit expectations related to multiplying and dividing fractions~~ • Multiplying and dividing one-digit whole numbers by unit fractions	• ~~No explicit expectations related to multiplying and dividing fractions~~ • Multiplying and dividing one-digit whole numbers by proper fractions • ~~Multiplying and dividing decimal numbers to tenths by whole numbers~~ • Represent and solve problems involving the division of decimal numbers up to thousandths

				by whole numbers up to 10, using appropriate tools and strategies
TERM 2	**D.2 Probability**	**Probability** ● D2.1 use mathematical language, including the terms “impossible”, “unlikely”, “equally likely”, “likely”, and “certain”, to describe the likelihood of events happening, represent this likelihood on a probability line, and use it to make predictions and informed decisions ● D2.2 make and test predictions about the likelihood that the mean, median, and mode(s) of a data set will be the same for data collected from different populations	**Probability** ● D2.1 use fractions to express the probability of events happening, represent this probability on a probability line, and use it to make predictions and informed decisions ● D2.2 determine and compare the theoretical and experimental probabilities of an event happening	**Probability** ● D2.1 use fractions, decimals, and percents to express the probability of events happening, represent this probability on a probability line, and use it to make predictions and informed decisions ● D2.2 determine and compare the theoretical and experimental probabilities of two independent events happening
	Related Resources	● Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment ● TIPS4Math ○ Probability	● Math Makes Sense 5 (MMS5) Curriculum Correlation Alignment ● TIPS4Math ○ Probability	● Math Makes Sense 6 (MMS6) Curriculum Correlation Alignment ● TIPS4Math ○ Probability
	Key Changes from 2005 to 2020 Curriculum	~~● Simple experimental probability~~ ● Likelihood of events including getting the same mean, median, and mode(s) from another population of the same size	~~● Simple experimental probability~~ ● Experimental and theoretical probability of an event as well as the probability of the complement (i.e.: the probability that an event will not happen)	~~● Simple experimental and theoretical probability~~ ● Experimental and theoretical probability of two independent events as well as the probability of the complement (i.e.: the probability that an event will not happen)
	E.1 Geometric and Spatial Reasoning	**Location and Movement** ● E1.2 plot and read coordinates in the first quadrant of a Cartesian plane, and describe the translations that move a point from one coordinate to another ● E1.3 describe and perform translations and reflections on a grid, and predict the results of these transformations	**Location and Movement** ● E1.4 plot and read coordinates in the first quadrant of a Cartesian plane using various scales, and describe the translations that move a point from one coordinate to another ● E1.5 describe and perform translations, reflections, and rotations up to 180° on a grid, and predict the results of these transformations	**Location and Movement** ● E1.3 plot and read coordinates in all four quadrants of a Cartesian plane, and describe the translations that move a point from one coordinate to another ● E1.4 describe and perform combinations of translations, reflections, and rotations up to 360° on a grid, and predict the results of these transformations
	Related Resources	● Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment ● TIPS4Math ○ Location, Movement and Geometric Patterns	● Math Makes Sense 5 (MMS5) Curriculum Correlation Alignment ● TIPS4Math ○ Location, Movement and Geometric Patterns	● Math Makes Sense 6 (MMS6) Curriculum Correlation Alignment ● TIPS4Math ○ Location, Movement and Geometric Patterns
	Key Changes from 2005 to 2020 Curriculum	~~● Reflections~~ ● Plotting points on first quadrant of Cartesian plane; translations and reflections	~~● Cardinal directions, coordinate system~~ ● Cartesian plane with various scales, rotations up to 180 degrees	~~● First quadrant of Cartesian plane, rotations of 180 degrees clockwise and 90 degrees counterclockwise~~ ● Four quadrants of Cartesian plane, combinations of transformations, rotations to 360 degrees
	E.2 Measurement	**The Metric System** ● E2.1 explain the relationships between grams and kilograms as metric units of mass, and between litres and millilitres as metric units of	**The Metric System** ● E2.1 use appropriate metric units to estimate and measure length, area, mass, and capacity ● E2.2 solve problems that involve converting larger metric units into smaller ones, and	**The Metric System** ● E2.1 measure length, area, mass, and capacity using the appropriate metric units, and solve problems that require converting smaller units to larger ones and vice versa

TERM 2		capacity, and use benchmarks for these units to estimate mass and capacity ● E2.2 use metric prefixes to describe the relative size of different metric units, and choose appropriate units and tools to measure length, mass, and capacity **Angles** ● E2.4 identify angles and classify them as right, straight, acute, or obtuse	describe the base ten relationships among metric units **Angles** ● E2.3 compare angles and determine their relative size by matching them and by measuring them using appropriate non-standard units ● E2.4 explain how protractors work, use them to measure and construct angles up to 180°, and use benchmark angles to estimate the size of other angles	**Angles** ● E2.2 use a protractor to measure and construct angles up to 360°, and state the relationship between angles that are measured clockwise and those that are measured counterclockwise ● E2.3 use the properties of supplementary angles, complementary angles, opposite angles, and interior and exterior angles to solve for unknown angle measures
	Related Resources	● Math Makes Sense 4 (MMS4) Curriculum Correlation Alignment ● TIPS4Math ○ Linear Measurement ○ Angles and Geometric Properties of 2D Shapes ○ Mass* ○ Volume and Capacity* *Note changes to 2020 curriculum below	● Math Makes Sense 5 (MMS5) Curriculum Correlation Alignment ● TIPS4Math ○ Linear Measurement ○ Angles and Geometric Properties of 2D Shapes ○ Mass* ○ Volume and Capacity* *Note changes to 2020 curriculum below	● Math Makes Sense 6 (MMS6) Curriculum Correlation Alignment ● TIPS4Math ○ Angles and Geometric Properties of 2D Shapes ○ Mass* ○ Volume, Surface Area and Capacity*
	Key Changes from 2005 to 2020 Curriculum	● ~~Length, height, and distance described discreetly in cm, m, km, mm~~ ● Unifies width, height, and distance under length and through application in metric units ● ~~Capacity and mass grouped together~~ ● Mass and capacity treated as different attributes with different measurement tools and units ● ~~Right angles~~ ● Right, straight, acute angles	● ~~Length, height, and distance described discreetly in metric units~~ ● Unifies width, height, and distance under length and through application in metric units ● ~~Capacity and mass grouped together~~ ● Mass and capacity treated as different attributes with different measurement tools and units ● ~~Capacity and volume units (mL, cm^2)~~ ● Use appropriate metric units to estimate and measure length, area, mass, and capacity ● ~~Convert from metres to centimetres and from kilometres to metres~~ ● Solve problems that involve converting larger metric units into smaller ones, and describe the base ten relationships among metric units ● ~~Angles to 90 degrees~~ ● Angles to 180 degrees	● ~~Length, height, and distance described discreetly in metric units~~ ● Unifies width, height, and distance under length and through application in metric units ● ~~Capacity and volume units (mL, cm^2)~~ ● Measure length, area, mass, and capacity using the appropriate metric units ● ~~Convert from larger to smaller metric units, including square metres to square centimetres~~ ● Solve problems that require converting smaller units to larger ones and vice versa ● ~~Angles to 180 degrees~~ ● Angles to 360 degrees and introduce angle properties of supplementary, complementary, opposite, interior, and exterior angles to solve for unknown angle measures
	F.1 Money and Finances	**Consumer and Civic Awareness** ● F1.5 describe some ways of determining whether something is reasonably priced and therefore a good purchase	**Consumer and Civic Awareness** ● F1.5 calculate unit rates for various goods and services, and identify which rates offer the best value ● F1.6 describe the types of taxes that are collected by the different levels of government in Canada, and explain how tax revenue is used to provide services in the community	**Consumer and Civic Awareness** ● F1.4 explain the concept of interest rates, and identify types of interest rates and fees associated with different accounts and loans offered by various banks and other financial institutions ● F1.5 describe trading, lending, borrowing, and donating as different ways to distribute

TERM 2				financial and other resources among individuals and organizations
	Related Resources	• EduGains Financial Literacy Resources* • OAME Financial Literacy Resources* • Talk With Our Kids About Money • NextGenEdition - Globe and Mail **Aligned to 2005 curriculum*	• EduGains Financial Literacy Resources* • OAME Financial Literacy Resources* • Talk With Our Kids About Money • NextGenEdition - Globe and Mail **Aligned to 2005 curriculum*	• EduGains Financial Literacy Resources* • OAME Financial Literacy Resources* • Grade 6 Specific Lessons in the Math Educators PD Portal • Talk With Our Kids About Money • NextGenEdition - Globe and Mail **Aligned to 2005 curriculum*
	Key Changes from 2005 to 2020 Curriculum	• ~~No expectations related to consumer and civic awareness~~	• ~~No expectations related to consumer and civic awareness~~	• ~~No expectations related to consumer and civic awareness~~