The Ontario Curriculum: Mathematics, 2020

Mathletics Curriculum Alignment Crosswalk

Grades 1 – 8
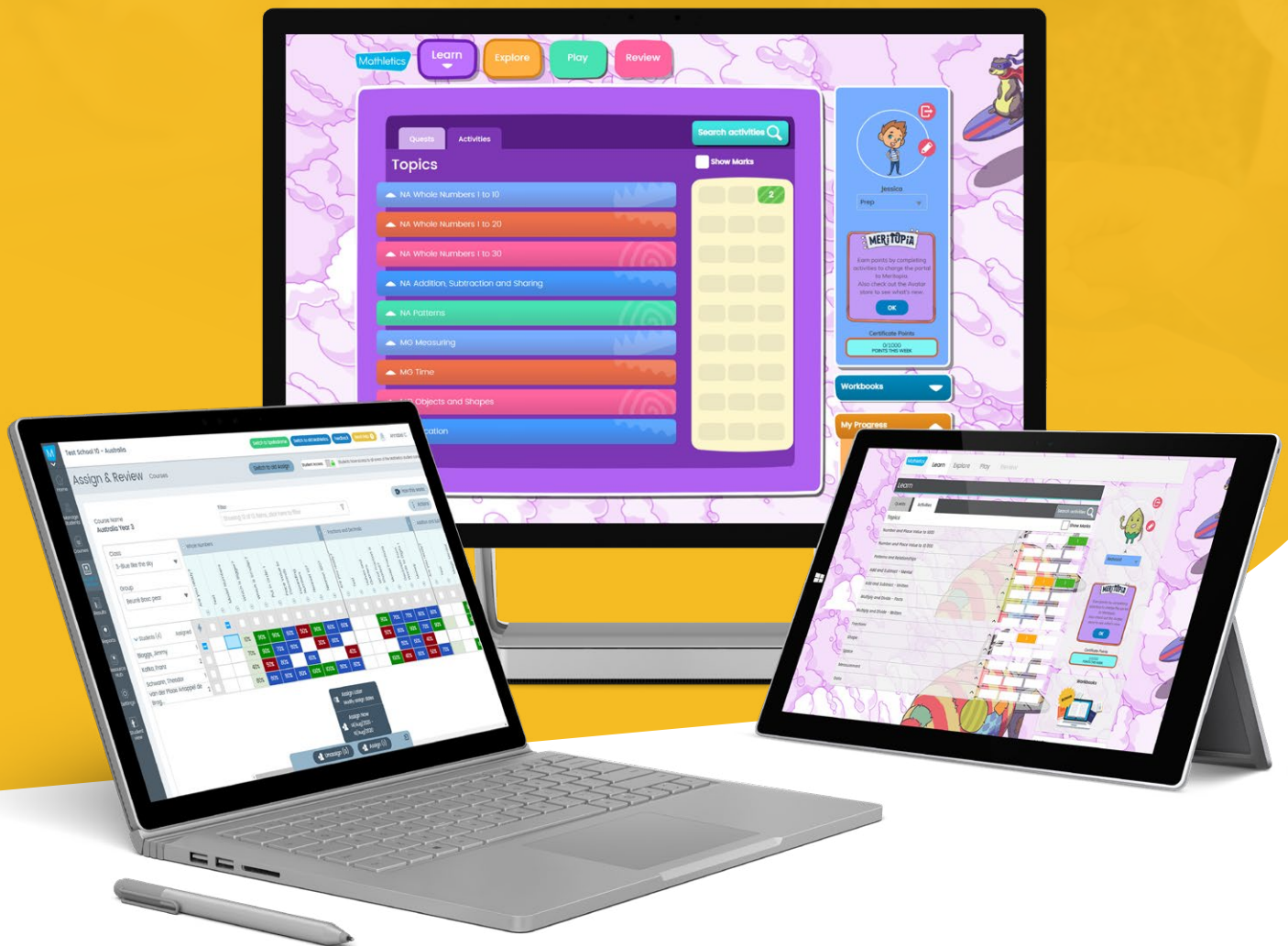
Mathletics

Introduction

Mathletics

At Mathletics, we are committed to providing students, teachers, schools and districts with high-quality learning resources that align with the most up-to-date curricula.

Our team of educational publishers has created this alignment document between Mathletics Ontario courses and the Ontario Curriculum: Mathematics 2020 for Grades 1–8. Courses consist of topics based on strands, including general and specific outcomes.

When a standard is best addressed by teacher directed activities, it is indicated in this document.

This document outlines the outcomes for the Ontario Curriculum: Mathematics and acts as a useful curriculum crosswalk guide when using Mathletics in your school.

3P Learning Canada

October 2020

3P Learning   Mathletics

Grade 1

Strand	Substrand/Topic	Specific Expectation	Topic/Activities
B. Number	B1. Number Sense: Whole Numbers	B1.1 read and represent whole numbers up to and including 50, and describe various ways they are used in everyday life	Number Sense and Numeration 1 - Making Numbers Count - Making Teen Numbers - Matching Numbers to 10
B. Number	B1. Number Sense: Whole Numbers	B1.2 compose and decompose whole numbers up to and including 50, using a variety of tools and strategies, in various contexts	Number Sense and Numeration 1 - Composing Additions to 20
B. Number	B1. Number Sense: Whole Numbers	B1.3 compare and order whole numbers up to and including 50, in various contexts	Number Sense and Numeration 1 - 1 to 30 - Order Numbers to 20 - More, Less or the Same to 10 - More, Less or the Same to 20 - Compare Numbers to 20 - Compare Numbers to 50
B. Number	B1. Number Sense: Whole Numbers	B1.4 estimate the number of objects in collections of up to 50, and verify their estimates by counting	Teacher directed
B. Number	B1. Number Sense: Whole Numbers	B1.5 count to 50 by 1s, 2s, 5s, and 10s, using a variety of tools and strategies	Number Sense and Numeration 1 - Before, After and Between to 20 Number Sense and Numeration 2 - How Many? - How Many Dots? - Counting Up to 20 - Going Up - Counting Forward - Count by Twos - Count by Fives - Counting Back Within 20
B. Number	B1. Number Sense: Fractions	B1.6 use drawings to represent and solve fair-share problems that involve 2 and 4 sharers, respectively, and have remainders of 1 or 2	Teacher directed
B. Number	B1. Number Sense: Fractions	B1.7 recognize that one half and two fourths of the same whole are equal, in fair-sharing contexts	Teacher directed
B. Number	B1. Number Sense: Fractions	B1.8 use drawings to compare and order unit fractions representing the individual portions that result when a whole is shared by different numbers of sharers, up to a maximum of 10	Teacher directed
B. Number	B2. Operations: Properties and Relationships	B2.1 use the properties of addition and subtraction, and the relationship between addition and subtraction, to solve problems and check calculations	Number Sense and Numeration 3 - Related Facts 1
B. Number	B2. Operations: Math Facts	B2.2 recall and demonstrate addition facts for numbers up to 10, and related subtraction facts	Number Sense and Numeration 3 - Adding to Ten - Subtracting from Ten
B. Number	B2. Operations: Mental Math	B2.3 use mental math strategies, including estimation, to add and subtract whole numbers that add up to no more than 20, and explain the strategies used	Teacher directed

Grade 1

Strand	Substrand/Topic	Specific Expectation	Topic/Activities
B. Number	B2. Operations: Addition and Subtraction	B2.4 use objects, diagrams, and equations to represent, describe, and solve situations involving addition and subtraction of whole numbers that add up to no more than 50	Number Sense and Numeration 3 - 1 more, 2 less - Doubles and Halves to 10 - Doubles and Halves to 20 - Doubles and Near Doubles - Model Addition - Model Subtraction - Addition Facts - Subtraction Facts to 18 - All about Ten - All about Twenty - Related Facts 1 - Adding to 10 Word Problems - Add and Subtract Problems
B. Number	B2. Operations: Multiplication and Division	B2.5 represent and solve equal-group problems where the total number of items is no more than 10, including problems in which each group is a half, using tools and drawings	Teacher directed
C. Algebra	C1. Patterns and Relationships: Patterns	C1.1 identify and describe the regularities in a variety of patterns, including patterns found in real-life contexts	Teacher directed
C. Algebra	C1. Patterns and Relationships: Patterns	C1.2 create and translate patterns using movements, sounds, objects, shapes, letters, and numbers	Teacher directed
C. Algebra	C1. Patterns and Relationships: Patterns	C1.3 determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in patterns	Patterning and Algebra - Missing it! - Color Patterns - Simple Patterns Geometry and Spatial Sense - Complete the Pattern
C. Algebra	C1. Patterns and Relationships: Patterns	C1.4 create and describe patterns to illustrate relationships among whole numbers up to 50	Teacher directed
C. Algebra	C2. Equations and Inequalities: Variables	C2.1 identify quantities that can change and quantities that always remain the same in real-life contexts	Teacher directed
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.2 determine whether given pairs of addition and subtraction expressions are equivalent or not	Teacher directed
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.3 identify and use equivalent relationships for whole numbers up to 50, in various contexts	Patterning and Algebra - Composing Numbers to 10 Number Sense and Numeration 1 - Composing Additions to 20
C. Algebra	C3. Coding: Coding Skills	C3.1 solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential events	Teacher directed
C. Algebra	C3. Coding: Coding Skills	C3.2 read and alter existing code, including code that involves sequential events, and describe how changes to the code affect the outcomes	Teacher directed

Grade 1

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
D. Data	D1. Data Literacy: Data Collection and Organization	D1.1 sort sets of data about people or things according to one attribute, and describe rules used for sorting	Teacher directed
D. Data	D1. Data Literacy: Data Collection and Organization	D1.2 collect data through observations, experiments, and interviews to answer questions of interest that focus on a single piece of information; record the data using methods of their choice; and organize the data in tally tables	Teacher directed
D. Data	D1. Data Literacy: Data Visualization	D1.3 display sets of data, using one-to-one correspondence, in concrete graphs and pictographs with proper sources, titles, and labels	Teacher directed
D. Data	D1. Data Literacy: Data Analysis	D1.4 order categories of data from greatest to least frequency for various data sets displayed in tally tables, concrete graphs, and pictographs	Data Management and Probability - Picture Graphs: More or Less - Picture Graphs: Who has the Goods?
D. Data	D1. Data Literacy: Data Analysis	D1.5 analyse different sets of data presented in various ways, including in tally tables, concrete graphs, and pictographs, by asking and answering questions about the data and drawing conclusions, then make convincing arguments and informed decisions	Data Management and Probability - Read Graphs - Add and Subtract Using Graphs - Tallies
D. Data	D2. Probability: Probability	D2.1 use mathematical language, including the terms "impossible", "possible", and "certain", to describe the likelihood of events happening, and use that likelihood to make predictions and informed decisions	Data Management and Probability - Will it Happen?
D. Data	D2. Probability: Probability	D2.2 make and test predictions about the likelihood that the categories in a data set from one population will have the same frequencies in data collected from a different population of the same size	Teacher directed
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.1 sort three-dimensional objects and two-dimensional shapes according to one attribute at a time, and identify the sorting rule being used	Geometry and Spatial Sense - Count Sides and Corners
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.2 construct three-dimensional objects, and identify two-dimensional shapes contained within structures and objects	Geometry and Spatial Sense - Relate Shapes and Solids
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.3 construct and describe two-dimensional shapes and three-dimensional objects that have matching halves	Teacher directed
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Location and Movement	E1.4 describe the relative locations of objects or people, using positional language	Geometry and Spatial Sense - Where is it? - Left or Right?
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Location and Movement	E1.5 give and follow directions for moving from one location to another	Geometry and Spatial Sense - Following Directions

Grade 1

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
E. Spatial Sense	E2. Measurement: Attributes	E2.1 identify measurable attributes of two-dimensional shapes and three-dimensional objects, including length, area, mass, capacity, and angle	Teacher directed
E. Spatial Sense	E2. Measurement: Attributes	E2.2 compare several everyday objects and order them according to length, area, mass, and capacity	Measurement - Filling Fast! - Which Holds More? - Compare Length
E. Spatial Sense	E2. Measurement: Time	E2.3 read the date on a calendar, and use a calendar to identify days, weeks, months, holidays, and seasons	Measurement - Using a Calendar
F. Financial Literacy	F1. Money and Finances: Money Concepts	F1.1 identify the various Canadian coins up to 50¢ and coins and bills up to $50, and compare their values	Teacher directed

Additional activities within other grades to support learning in Grade 1

Number Sense and Numeration 1

- Adding to Make 5 and 10
- Everyday Money
- Halves
- Halves and Quarters

Number Sense and Numeration 2

- Count by Tens
- Count by 2s, 5s and 10s
- Skip Counting with coins
- Ordinal Numbers
- 1st to 31st

Measurement

- Measuring Length with Blocks
- Equal Areas
- How Full?
- Set Time to the Hour
- Set Time to the Half Hour
- Months After and Before
- Hot or Cold?

Geometry and Spatial Sense

- Collect the Shapes
- Collect the Objects
- Match the Object
- Match the Solid 1
- Symmetry

Patterning and Algebra

- Balancing Act
- Balancing Objects

Data Management and Probability

- Sort It
- Making Picture Graphs: With Scale

Grade 2

Strand	Substrand/Topic	Specific Expectation	🗒 Topic/Activities
B. Number	B1. Number Sense: Whole Numbers	B1.1 read, represent, compose, and decompose whole numbers up to and including 200, using a variety of tools and strategies, and describe various ways they are used in everyday life	Number Sense and Numeration 1 - Matching Numbers to 20 - Place Value 1 - Making Big Numbers Count - Repartition Two-digit Numbers - Number Lines
B. Number	B1. Number Sense: Whole Numbers	B1.2 compare and order whole numbers up to and including 200, in various contexts	Number Sense and Numeration 1 - Number Line Order - Compare Numbers to 100 - Greater or Less to 100
B. Number	B1. Number Sense: Whole Numbers	B1.3 estimate the number of objects in collections of up to 200 and verify their estimates by counting	Teacher directed
B. Number	B1. Number Sense: Whole Numbers	B1.4 count to 200, including by 20s, 25s, and 50s, using a variety of tools and strategies	Number Sense and Numeration 2 - Going Up - Count by Twos - Count by Fives - Count by Tens - Skip Counting with Coins - Counting on a 100 Grid Patterning and Algebra - Count Forward Patterns - Count Backward Patterns
B. Number	B1. Number Sense: Whole Numbers	B1.5 describe what makes a number even or odd	Teacher directed
B. Number	B1. Number Sense: Fractions	B1.6 use drawings to represent, solve, and compare the results of fair-share problems that involve sharing up to 10 items among 2, 3, 4, and 6 sharers, including problems that result in whole numbers, mixed numbers, and fractional amounts	Teacher directed
B. Number	B. Number	B1.7 recognize that one third and two sixths of the same whole are equal, in fair-sharing contexts	Teacher directed
B. Number	B2. Operations: Properties and Relationships	B2.1 use the properties of addition and subtraction, and the relationships between addition and multiplication and between subtraction and division, to solve problems and check calculations	Patterning and Algebra - Commutative Property of Addition - Adding In Any Order
B. Number	B2. Operations: Math Facts	B2.2 recall and demonstrate addition facts for numbers up to 20, and related subtraction facts	Number Sense and Numeration 3 - Addition - Addition Facts - Subtraction Facts to 18 - Simple Subtraction
B. Number	B2. Operations: Mental Math	B2.3 use mental math strategies, including estimation, to add and subtract whole numbers that add up to no more than 50, and explain the strategies used	Number Sense and Numeration 3 - Addition - Simple Subtraction

Grade 2

Strand	Substrand/Topic	Specific Expectation	▤ Topic/Activities
B. Number	B2. Operations: Addition and Subtraction	B2.4 use objects, diagrams, and equations to represent, describe, and solve situations involving addition and subtraction of whole numbers that add up to no more than 100	Number Sense and Numeration 3 - Bar Model Problems 1 - Bar Model Problems 2 - Add Numbers: Regroup a Ten - Add Two 2-Digit Numbers - Subtract Numbers - Subtract Numbers: Regroup - 2-Digit Differences - Problems: Add and Subtract Patterning and Algebra - Add 3 Numbers Using Bonds to 10
B. Number	B2. Operations: Multiplication and Division	B2.5 represent multiplication as repeated equal groups, including groups of one half and one fourth, and solve related problems, using various tools and drawings	Number Sense and Numeration 3 - Groups of Two - Groups of Three - Groups of Four - Groups of Five
B. Number	B2. Operations: Multiplication and Division	B2.6 represent division of up to 12 items as the equal sharing of a quantity, and solve related problems, using various tools and drawings	Teacher directed
C. Algebra	C1. Patterns and Relationships: Patterns	C1.1 identify and describe a variety of patterns involving geometric designs, including patterns found in real-life contexts	Patterning and Algebra - Describing Patterns
C. Algebra	C1. Patterns and Relationships: Patterns	C1.2 create and translate patterns using various representations, including shapes and numbers	Teacher directed
C. Algebra	C1. Patterns and Relationships: Patterns	C1.3 determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in patterns represented with shapes and numbers	Patterning and Algebra - Count Forward Patterns - Count Backward Patterns - Counting on a 100 grid
C. Algebra	C1. Patterns and Relationships: Patterns	C1.4 create and describe patterns to illustrate relationships among whole numbers up to 100	Teacher directed
C. Algebra	C2. Equations and Inequalities: Variables	C2.1 identify when symbols are being used as variables, and describe how they are being used	Teacher directed
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.2 determine what needs to be added to or subtracted from addition and subtraction expressions to make them equivalent	Patterning and Algebra - Composing Additions to 20 - Composing Numbers to 20 - Commutative Property of Addition - Adding In Any Order - Fact Families: Add and Subtract - Missing Numbers
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.3 identify and use equivalent relationships for whole numbers up to 100, in various contexts	Patterning and Algebra - Composing Additions to 20 - Composing Numbers to 20
C. Algebra	C3. Coding: Coding Skills	C3.1 solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential and concurrent events	Teacher directed

Grade 2

Strand	Substrand/Topic	Specific Expectation	Topic/Activities
C. Algebra	C3. Coding: Coding Skills	C3.2 read and alter existing code, including code that involves sequential and concurrent events, and describe how changes to the code affect the outcomes	Teacher directed
D. Data	D1. Data Literacy: Data Collection and Organization	D1.1 sort sets of data about people or things according to two attributes, using tables and logic diagrams, including Venn and Carroll diagrams	Teacher directed
D. Data	D1. Data Literacy: Data Collection and Organization	D1.2 collect data through observations, experiments, and interviews to answer questions of interest that focus on two pieces of information, and organize the data in two-way tally tables	Teacher directed
D. Data	D1. Data Literacy: Data Visualization	D1.3 display sets of data, using one-to-one correspondence, in concrete graphs, pictographs, line plots, and bar graphs with proper sources, titles, and labels	Teacher directed
D. Data	D1. Data Literacy: Data Analysis	D1.4 identify the mode(s), if any, for various data sets presented in concrete graphs, pictographs, line plots, bar graphs, and tables, and explain what this measure indicates about the data	Teacher directed
D. Data	D1. Data Literacy: Data Analysis	D1.5 analyse different sets of data presented in various ways, including in logic diagrams, line plots, and bar graphs, by asking and answering questions about the data and drawing conclusions, then make convincing arguments and informed decisions	Data Management and Probability - Pictographs - Bar Graphs 1 - Bar Graphs 2 - Read Graphs - Reading from a Bar Chart - Tallies
D. Data	D2. Probability: Probability	D2.1 use mathematical language, including the terms "impossible", "possible", and "certain", to describe the likelihood of complementary events happening, and use that likelihood to make predictions and informed decisions	Data Management and Probability - Will it Happen? - Most Likely and Least Likely - What are the Chances?
D. Data	D2. Probability: Probability	D2.2 make and test predictions about the likelihood that the mode(s) of a data set from one population will be the same for data collected from a different population	Teacher directed
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.1 sort and identify two-dimensional shapes by comparing number of sides, side lengths, angles, and number of lines of symmetry	Geometry and Spatial Sense - Collect Simple Shapes - Collect More Shapes - Count Sides and Corners - Lines of Symmetry
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.2 compose and decompose two-dimensional shapes, and show that the area of a shape remains constant regardless of how its parts are rearranged	Teacher directed
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.3 identify congruent lengths and angles in two-dimensional shapes by mentally and physically matching them, and determine if the shapes are congruent	Teacher directed
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Location and Movement	E1.4 create and interpret simple maps of familiar places	Teacher directed

Grade 2

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Location and Movement	E1.5 describe the relative positions of several objects and the movements needed to get from one object to another	Teacher directed
E. Spatial Sense	E2. Measurement: Length	E2.1 choose and use non-standard units appropriately to measure lengths, and describe the inverse relationship between the size of a unit and the number of units needed	Teacher directed
E. Spatial Sense	E2. Measurement: Length	E2.2 explain the relationship between centimetres and metres as units of length, and use benchmarks for these units to estimate lengths	Teacher directed
E. Spatial Sense	E2. Measurement: Length	E2.3 measure and draw lengths in centimetres and metres, using a measuring tool, and recognize the impact of starting at points other than zero	Measurement - How Long is That? - Measuring Length
E. Spatial Sense	E2. Measurement: Time	E2.4 use units of time, including seconds, minutes, hours, and non-standard units, to describe the duration of various events	Teacher directed
F. Financial Literacy	F1. Money and Finances: Money Concepts	F1.1 identify different ways of representing the same amount of money up to Canadian 200¢ using various combinations of coins, and up to $200 using various combinations of $1 and $2 coins and $5, $10, $20, $50, and $100 bills	Teacher directed

Additional activities within other grades to support learning in Grade 2

Number Sense and Numeration 1

- Nearest 10?
- Shade Fractions
- Model Fractions
- Halves
- Halves and Quarters
- Uneven partitioned shapes 1
- Compare Fractions 1a

Number Sense and Numeration 3

- Dividing Twos
- Dividing Threes
- Dividing Fours
- Dividing Fives

Measurement

- Measuring Length with Blocks
- Equal Areas
- Bigger or Smaller Shape
- Filling Fast!
- Everyday Mass
- Days of the Week
- Months of the Year

Geometry and Spatial Sense

- How Many Faces?
- How many Edges?
- How many Corners?
- Collect the Objects
- Symmetry
- Following Directions

Data Management and Probability

- Sorting Data
- Making Picture Graphs: With Scale
- Introductory Probability

Grade 3

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
B. Number	Number Sense: Whole Numbers	B1.1 read, represent, compose, and decompose whole numbers up to and including 1000, using a variety of tools and strategies, and describe various ways they are used in everyday life	Number Sense and Numeration 1-2 - Reading Numbers to 30 - Model Numbers - Understanding Place Value 1 - Place Value 2 - Place Value Partitioning
B. Number	B1. Number Sense: Whole Numbers	B1.2 compare and order whole numbers up to and including 1000, in various contexts	Number Sense and Numeration 1-2 - Which is Smaller? - Which is Bigger?
B. Number	B1. Number Sense: Whole Numbers	B1.3 round whole numbers to the nearest ten or hundred, in various contexts	Number Sense and Numeration 1-2 - Nearest 10?
B. Number	B1. Number Sense: Whole Numbers	B1.4 count to 1000, including by 50s, 100s, and 200s, using a variety of tools and strategies	Number Sense and Numeration 1-2 - Count by Twos - Count by Fives - Count to Tens - Count by 2s, 5s and 10s - Counting on a 100 grid
B. Number	B1. Number Sense: Whole Numbers	B1.5 use place value when describing and representing multi-digit numbers in a variety of ways, including with base ten materials	Number Sense and Numeration 1-2 - Understanding Place Value 1 - Place Value 2 - Place Value to Thousands - Model Numbers
B. Number	B1. Number Sense: Fractions	B1.6 use drawings to represent, solve, and compare the results of fair-share problems that involve sharing up to 20 items among 2, 3, 4, 5, 6, 8, and 10 sharers, including problems that result in whole numbers, mixed numbers, and fractional amounts	Number Sense and Numeration 1-2 - Partition into Equal Parts Number Sense and Numeration 3B - Making Equal Groups - Fill the Jars - Dividing Twos
B. Number	B1. Number Sense: Fractions	B1.7 represent and solve fair-share problems that focus on determining and using equivalent fractions, including problems that involve halves, fourths, and eighths; thirds and sixths; and fifths and tenths	Teacher directed
B. Number	B2. Operations: Properties and Relationships	B2.1 use the properties of operations, and the relationships between multiplication and division, to solve problems and check calculations	Patterning and Algebra - Addition Properties
B. Number	B2. Operations: Math Facts	B2.2 recall and demonstrate multiplication facts of 2, 5, and 10, and related division facts	Number Sense and Numeration 3B - Groups of Two - Groups of Five - Dividing Twos - Dividing Fives
B. Number	B2. Operations: Mental Math	B2.3 use mental math strategies, including estimation, to add and subtract whole numbers that add up to no more than 1000, and explain the strategies used	Number Sense and Numeration 3A - Mental Addition - Mental Subtraction - Add 3 Numbers: Bonds to Multiples of 10 - Add 3 Numbers: Bonds to 100 - Estimate Differences
B. Number	B2. Operations: Addition and Subtraction	B2.4 demonstrate an understanding of algorithms for adding and subtracting whole numbers by making connections to and describing the way other tools and strategies are used to add and subtract	Teacher directed

Grade 3

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
B. Number	B2. Operations: Addition and Subtraction	B2.5 represent and solve problems involving the addition and subtraction of whole numbers that add up to no more than 1000, using various tools and algorithms	Number Sense and Numeration 3A - Add 3-Digit Numbers - Add 3-Digit Numbers: Regroup - 3-Digit Differences - 3-Digit Differences: 1 Regrouping - 3-Digit Differences: 2 Regroupings - 3-Digit Differences with Zeros
B. Number	B2. Operations: Multiplication and Division	B2.6 represent multiplication of numbers up to 10 × 10 and division up to 100 ÷ 10, using a variety of tools and drawings, including arrays	Number Sense and Numeration 3B - Groups of Two - Groups of Three - Groups of Four - Groups of Five - Groups of Six - Groups of Seven - Arrays 1 - Multiplication Arrays - Model Multiplication to 5 x 5 - Times tables - Frog Jump Multiplication - Dividing Twos - Dividing Threes - Dividing Fours - Dividing Fives - Dividing Sixes - Dividing Sevens
B. Number	B2. Operations: Multiplication and Division	B2.7 represent and solve problems involving multiplication and division, including problems that involve groups of one half, one fourth, and one third, using tools and drawings	Number Sense and Numeration 3B - Making Equal Groups - Fill the Jars - Dividing Twos
B. Number	B2. Operations: Multiplication and Division	B2.8 represent the connection between the numerator of a fraction and the repeated addition of the unit fraction with the same denominator using various tools and drawings, and standard fractional notation	Teacher directed
B. Number	B2. Operations: Multiplication and Division	B2.9 use the ratios of 1 to 2, 1 to 5, and 1 to 10 to scale up numbers and to solve problems	Teacher directed
C. Algebra	C1. Patterns and Relationships: Patterns	C1.1 identify and describe repeating elements and operations in a variety of patterns, including patterns found in real-life contexts	Patterning and Algebra - Describing Patterns
C. Algebra	C1. Patterns and Relationships: Patterns	C1.2 create and translate patterns that have repeating elements, movements, or operations using various representations, including shapes, numbers, and tables of values	Teacher directed
C. Algebra	C1. Patterns and Relationships: Patterns	C1.3 determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in patterns that have repeating elements, movements, or operations	Patterning and Algebra - Increasing Patterns - Decreasing Patterns - Pick the Next Number - Simple Patterns - Pattern Error - Missing it!
C. Algebra	C1. Patterns and Relationships: Patterns	C1.4 create and describe patterns to illustrate relationships among whole numbers up to 1000	Teacher directed

Grade 3

Strand	Substrand/Topic	Specific Expectation	Topic/Activities
C. Algebra	C2. Equations and Inequalities: Variables	C2.1 describe how variables are used, and use them in various contexts as appropriate	Teacher directed
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.2 determine whether given sets of addition, subtraction, multiplication, and division expressions are equivalent or not	Teacher directed
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.3 identify and use equivalent relationships for whole numbers up to 1000, in various contexts	Patterning and Algebra - Missing Numbers - Missing Values
C. Algebra	C3. 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, and repeating events	Teacher directed
C. Algebra	C3. Coding: Coding Skills	C3.2 read and alter existing code, including code that involves sequential, concurrent, and repeating events, and describe how changes to the code affect the outcomes	Teacher directed
D. Data	D1. Data Literacy: Data Collection and Organization	D1.1 sort sets of data about people or things according to two and three attributes, using tables and logic diagrams, including Venn, Carroll, and tree diagrams, as appropriate	Data Management and Probability - Sort It
D. Data	D1. Data Literacy: Data Collection and Organization	D1.2 collect data through observations, experiments, and interviews to answer questions of interest that focus on qualitative and quantitative data, and organize the data using frequency tables	Teacher directed
D. Data	D1. Data Literacy: Data Visualization	D1.3 display sets of data, using many-to-one correspondence, in pictographs and bar graphs with proper sources, titles, and labels, and appropriate scales	Data Management and Probability - Making Picture Graphs: With Scale
D. Data	D1. Data Literacy: Data Analysis	D1.4 determine the mean 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	Data Management and Probability - Mode
D. Data	D1. Data Literacy: Data Analysis	D1.5 analyse different sets of data presented in various ways, including in frequency tables and in graphs with different scales, by asking and answering questions about the data and drawing conclusions, then make convincing arguments and informed decisions	Data Management and Probability - Interpreting Tables - Pictographs - Bar Graphs 1 - Bar Graphs 2
D. Data	D2. Probability: Probability	D2.1 use mathematical language, including the terms "impossible", "unlikely", "equally likely", "likely", and "certain", to describe the likelihood of events happening, and use that likelihood to make predictions and informed decisions	Teacher directed
D. Data	D2. Probability: Probability	D2.2 make and test predictions about the likelihood that the mean and the mode(s) of a data set will be the same for data collected from different populations	Teacher directed

Grade 3

Strand	Substrand/Topic	Specific Expectation	Topic/Activities
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.1 sort, construct, and identify cubes, prisms, pyramids, cylinders, and cones by comparing their faces, edges, vertices, and angles	Geometry and Spatial Sense - How Many Faces? - How many Edges? - How many Corners? - Faces, Edges and Vertices
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.2 compose and decompose various structures, and identify the two-dimensional shapes and three-dimensional objects that these structures contain	Geometry and Spatial Sense - Relate Shapes and Solids
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.3 identify congruent lengths, angles, and faces of three-dimensional objects by mentally and physically matching them, and determine if the objects are congruent	Teacher directed
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Location and Movement	E1.4 give and follow multistep instructions involving movement from one location to another, including distances and half- and quarter-turns	Geometry and Spatial Sense - Following Directions
E. Spatial Sense	E2. Measurement: Length, Mass, and Capacity	E2.1 use appropriate units of length to estimate, measure, and compare the perimeters of polygons and curved shapes, and construct polygons with a given perimeter	Measurement - Perimeter - Calculate Perimeter of Squares and Rectangles
E. Spatial Sense	E2. Measurement: Length, Mass, and Capacity	E2.2 explain the relationships between millimetres, centimetres, metres, and kilometres as metric units of length, and use benchmarks for these units to estimate lengths	Teacher directed
E. Spatial Sense	E2. Measurement: Length, Mass, and Capacity	E2.3 use non-standard units appropriately to estimate, measure, and compare capacity, and explain the effect that overfilling or underfilling, and gaps between units, have on accuracy	Teacher directed
E. Spatial Sense	E2. Measurement: Length, Mass, and Capacity	E2.4 compare, estimate, and measure the mass of various objects, using a pan balance and non-standard units	Teacher directed
E. Spatial Sense	E2. Measurement: Length, Mass, and Capacity	E2.5 use various units of different sizes to measure the same attribute of a given item, and demonstrate that even though using different-sized units produces a different count, the size of the attribute remains the same	Teacher directed
E. Spatial Sense	E2. Measurement: Time	E2.6 use analog and digital clocks and timers to tell time in hours, minutes, and seconds	Measurement - Five Minute Times
E. Spatial Sense	E2. Measurement: Area	E2.7 compare the areas of two-dimensional shapes by matching, covering, or decomposing and recomposing the shapes, and demonstrate that different shapes can have the same area	Measurement - Equal Areas - Bigger or Smaller Shape
E. Spatial Sense	E2. Measurement: Area	E2.8 use appropriate non-standard units to measure area, and explain the effect that gaps and overlaps have on accuracy	Measurement - Equal Areas - Bigger or Smaller Shape

Grade 3

Strand	Substrand/Topic	Specific Expectation	☰ Topic/Activities
E. Spatial Sense	E2. Measurement: Area	E2.9 use square centimetres (cm^2) and square metres (m^2) to estimate, measure, and compare the areas of various two-dimensional shapes, including those with curved sides	Measurement - Area of Shapes
F. Financial Literacy	F1. Money and Finances: Money Concepts	F1.1 estimate and calculate the change required for various simple cash transactions involving whole-dollar amounts and amounts of less than one dollar	Number Sense and Numeration 3A - How much Change?

Additional activities within other grades to support learning in Grade 3

Number Sense and Numeration 1-2

- Shade Fractions
- Money
- Who's got the Money?

Number Sense and Numeration 3A

- Estimate Sums

Number Sense and Numeration 3B

- Divide Into Equal Groups

Measurement

- How Long is That?
- What's the Temperature (Celsius)?
- Using a Litre

Geometry and Spatial Sense

- Right Angle Relation
- What Type of Angle?
- Collect the Polygons
- Count Sides and Corners
- Equal Angles
- Comparing Angles
- Collect the Objects
- What Pyramid am I?
- What Prism am I?
- Congruent Figures (Dot Grid)
- Congruent Figures (Grid)
- Flip, Slide, Turn
- Transformations

Patterning and Algebra

- Related Facts 1
- Fact Families: Add and Subtract

Data Management and Probability

- Sorting Data
- Fair Games

Grade 4

Mathletics

Strand	Substrand/Topic	Specific Expectation	Topic/Activities
B. Number	B1. Number Sense: 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	Number Sense and Numeration 1 - Place Value 3 - Understanding Place Value 2
B. Number	B1. Number Sense: Whole Numbers	B1.2 compare and order whole numbers up to and including 10 000, in various contexts	Number Sense and Numeration 1 - Greater Than or Less Than?
B. Number	B1. Number Sense: Whole Numbers	B1.3 round whole numbers to the nearest ten, hundred, or thousand, in various contexts	Number Sense and Numeration 1 - Nearest Ten? - Nearest Hundred? - Nearest Thousand?
B. Number	B1. Number Sense: 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	Number Sense and Numeration 1 - What Fraction is Shaded? - Identifying Fractions on a Number Line - Model Fractions - Shade Fractions
B. Number	B1. Number Sense: Fractions and Decimals	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	Teacher directed
B. Number	B1. Number Sense: Fractions and Decimals	B1.6 count to 10 by halves, thirds, fourths, fifths, sixths, eighths, and tenths, with and without the use of tools	Teacher directed
B. Number	B1. Number Sense: Fractions and Decimals	B1.7 read, represent, compare, and order decimal tenths, in various contexts	Teacher directed
B. Number	B1. Number Sense: Fractions and Decimals	B1.8 round decimal numbers to the nearest whole number, in various contexts	Teacher directed
B. Number	B1. Number Sense: Fractions and Decimals	B1.9 describe relationships and show equivalences among fractions and decimal tenths, in various contexts	Teacher directed
B. Number	B2. 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	Number Sense and Numeration 3B - Fact Families: Multiply and Divide Patterning and Algebra - Related Facts 2
B. Number	B2. Operations: Math Facts	B2.2 recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts	Number Sense and Numeration 3B - Fact Families: Multiply and Divide - Arrays 1 - Groups of Seven - Groups of Eight - Groups of Nine - Dividing Sevens - Dividing Eights - Dividing Nines - Times Tables
B. Number	B2. Operations: 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 decimal tenths, and explain the strategies used	Number Sense and Numeration 3B - Multiplying by 10, 100, 1000

3P Learning | 14

Grade 4

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
B. Number	B2. Operations: 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	Number Sense and Numeration 3A - Mental Addition - Add Two 2-Digit Numbers - Add Two 2-Digit Numbers: Regroup - Add 3 Numbers: Bonds to 100 - Add Three 2-Digit Numbers - Add Three 2-Digit Numbers: Regroup - Mental Subtraction - Decompose Numbers to Subtract - 2-Digit Differences - 2-Digit Differences: Regroup - Adding Colossal Columns - Subtracting Colossal Columns
B. Number	B2. 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	Number Sense and Numeration 3B - Multiply: 2-Digit by 1-Digit - Multiplying by 10, 100, 1000
B. Number	B2. Operations: Multiplication and Division	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	Number Sense and Numeration 3B - Halve it! - Divide: 1-Digit Divisor 1
B. Number	B2. 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	Teacher directed
B. Number	B2. Operations: Multiplication and Division	B2.8 show simple multiplicative relationships involving whole-number rates, using various tools and drawings	Teacher directed
C. Algebra	C1. Patterns and Relationships: Patterns	C1.1 identify and describe repeating and growing patterns, including patterns found in real-life contexts	Patterning and Algebra - Describing Patterns
C. Algebra	C1. Patterns and Relationships: Patterns	C1.2 create and translate repeating and growing patterns using various representations, including tables of values and graphs	Teacher directed
C. Algebra	C1. Patterns and Relationships: Patterns	C1.3 determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in repeating and growing patterns	Patterning and Algebra - Pick the Next Number - Increasing Patterns
C. Algebra	C1. Patterns and Relationships: Patterns	C1.4 create and describe patterns to illustrate relationships among whole numbers and decimal tenths	Teacher directed
C. Algebra	C2. Equations and Inequalities: Variables	C2.1 identify and use symbols as variables in expressions and equations	Teacher directed
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.2 solve equations that involve whole numbers up to 50 in various contexts, and verify solutions	Patterning and Algebra - Equivalent Facts: Multiply

Grade 4

Strand	Substrand/Topic	Specific Expectation	☰ Topic/Activities
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.3 solve inequalities that involve addition and subtraction of whole numbers up to 20, and verify and graph the solutions	Teacher directed
C. Algebra	C3. 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	Teacher directed
C. Algebra	C3. Coding: Coding Skills	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	Teacher directed
D. Data	D1. Data Literacy: Data Collection and Organization	D1.1 describe the difference between qualitative and quantitative data, and describe situations where each would be used	Teacher directed
D. Data	D1. Data Literacy: Data Collection and Organization	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	Teacher directed
D. Data	D1. 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	Teacher directed
D. Data	D1. Data Literacy: Data Visualization	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	Teacher directed
D. Data	D1. 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	Data Management and Probability - The Median - Median - Median from Stem and Leaf Plot
D. Data	D1. Data Literacy: Data Analysis	D1.6 analyse different sets of data presented in various ways, including in stem-and-leaf plots and multiple-bar graphs, by asking and answering questions about the data and drawing conclusions, then make convincing arguments and informed decisions	Data Management and Probability - Bar Chart - Bar Graphs 2 - Stem and Leaf Plots: Concept - Interpreting Data Tables
D. Data	D2. 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	Teacher directed
D. Data	D2. Probability: Probability	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	Teacher directed

Grade 4

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
E. Spatial Sense	E1. 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	Teacher directed
E. Spatial Sense	E1. 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	Teacher directed
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Location and Movement	E1.3 describe and perform translations and reflections on a grid, and predict the results of these transformations	Teacher directed
E. Spatial Sense	E2. 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 capacity, and use benchmarks for these units to estimate mass and capacity	Measurement - Using a Litre
E. Spatial Sense	E2. Measurement: The Metric System	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	Measurement - Which Measuring Tool? - How Long is That? - Measuring Length - How Heavy?
E. Spatial Sense	E2. Measurement: Time	E2.3 solve problems involving elapsed time by applying the relationships between different units of time	Measurement - Time Mentals - Elapsed Time
E. Spatial Sense	E2. Measurement: Angles	E2.4 identify angles and classify them as right, straight, acute, or obtuse	Geometry and Spatial Sense - Right Angle Relation - What Type of Angle?
E. Spatial Sense	E2. Measurement: 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	Measurement - Area of Shapes
E. Spatial Sense	E2. Measurement: Area	E2.6 apply the formula for the area of a rectangle to find the unknown measurement when given two of the three	Measurement - Area of Shapes
F. Financial Literacy	F1. Money and Finances: Money Concepts	F1.1 identify various methods of payment that can be used to purchase goods and services	Teacher directed
F. Financial Literacy	F1. Money and Finances: Money Concepts	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	Teacher directed
F. Financial Literacy	F1. 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	Teacher directed

Grade 4

Strand	Substrand/Topic	Specific Expectation	▦ Topic/Activities
F. Financial Literacy	F1. Money and Finances: Financial Management	F1.4 explain the relationship between spending and saving, and describe how spending and saving behaviours may differ from one person to another	Teacher directed
F. Financial Literacy	F1. Money and Finances: Consumer and Civic Awareness	F1.5 describe some ways of determining whether something is reasonably priced and therefore a good purchase	Teacher directed

Additional activities within other grades to support learning in Grade 4

Number Sense and Numeration 1
- Place Value to Thousands
- Comparing Fractions 1
- Compare Fractions 1a
- Compare Fractions 1b
- Equivalent Fraction Wall 1
- Shading Equivalent Fractions
- Money
- Who's got the Money?

Number Sense and Numeration 3B
- Dividing by 10, 100, 1000
- Estimate Sums
- Estimate Differences

Patterning and Algebra
- Decreasing Patterns
- Multiply 3 single-digit numbers

Geometry and Spatial Sense
- Lines of Symmetry
- Collect the Shapes 2
- Comparing Angles
- Prisms and Pyramids
- Faces, Edges and Vertices
- Coordinate Meeting Place
- Map Coordinates
- Using a Key

Measurement
- What is the Time?
- Perimeter
- Perimeter: Squares and Rectangles
- Equal Areas
- Comparing Volume
- How many Blocks?
- Volume of Solids and Prisms–1cm^3 blocks
- Perimeter, Area, Dimension Change
- Congruent Figures (Grid)

Grade 5

Strand	Substrand/Topic	Specific Expectation	▤ Topic/Activities
B. Number	B1. Number Sense: 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	Number Sense and Numeration 1 - Numbers in Words - Understanding Place Value 3
B. Number	B1. Number Sense: Whole Numbers	B1.2 compare and order whole numbers up to and including 100 000, in various contexts	Number Sense and Numeration 1 - Greater Than or Less Than?
B. Number	B1. Number Sense: Fractions, Decimals, and Percents	B1.3 represent equivalent fractions from halves to twelfths, including improper fractions and mixed numbers, using appropriate tools, in various contexts	Number Sense and Numeration 1 - Equivalent Fraction Wall 1 - Equivalent Fraction Wall 2 - Shading Equivalent Fractions
B. Number	B1. Number Sense: Fractions, Decimals, and Percents	B1.4 compare and order fractions from halves to twelfths, including improper fractions and mixed numbers, in various contexts.	Number Sense and Numeration 1 - Compare Fractions 1a
B. Number	B1. Number Sense: Fractions, Decimals, and Percents	B1.5 read, represent, compare, and order decimal numbers up to hundredths, in various contexts	Number Sense and Numeration 1 - Comparing Decimals 1 - Decimal Order 1
B. Number	B1. Number Sense: Fractions, Decimals, and Percents	B1.6 round decimal numbers to the nearest tenth, in various contexts	Teacher directed
B. Number	B1. Number Sense: Fractions, Decimals, and Percents	B1.7 describe relationships and show equivalences among fractions, decimal numbers up to hundredths, and whole number percents, using appropriate tools and drawings, in various contexts	Teacher directed
B. Number	B2. Operations: 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	Teacher directed
B. Number	B2. Operations: Math Facts	B2.2 recall and demonstrate multiplication facts from 0 × 0 to 12 × 12, and related division facts	Teacher directed
B. Number	B2. Operations: 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 numbers up to hundredths, and explain the strategies used	Teacher directed
B. Number	B2. Operations: 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	Number Sense and Numeration 3 - Mental Addition - Compensation – Add - Mental Subtraction - Compensation – Subtract - Decompose Numbers to Subtract - Bump Add and Subtract - Jump Add and Subtract - Subtract Decimals 1 - Decimal Complements
B. Number	B2. Operations: Addition and Subtraction	B2.5 add and subtract fractions with like denominators, in various contexts	Teacher directed

Grade 5

Strand	Substrand/Topic	Specific Expectation	▤ Topic/Activities
B. Number	B2. Operations: 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	<u>Number Sense and Numeration 3</u> - Multiply 2 Digits Area Model - Double and Halve to Multiply
B. Number	B2. Operations: Multiplication and Division	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	Teacher directed
B. Number	B2. Operations: Multiplication and Division	B2.8 multiply and divide one-digit whole numbers by unit fractions, using appropriate tools and drawings	Teacher directed
B. Number	B2. Operations: Multiplication and Division	B2.9 represent and create equivalent ratios and rates, using a variety of tools and models, in various contexts	Teacher directed
C. Algebra	C1. Patterns and Relationships: Patterns	C1.1 identify and describe repeating, growing, and shrinking patterns, including patterns found in real-life contexts	<u>Patterning and Algebra</u> - Describing Patterns
C. Algebra	C1. Patterns and Relationships: Patterns	C1.2 create and translate growing and shrinking patterns using various representations, including tables of values and graphs	Teacher directed
C. Algebra	C1. Patterns and Relationships: Patterns	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	<u>Patterning and Algebra</u> - Pattern Error - Increasing Patterns - Decreasing Patterns - Tables of Values
C. Algebra	C1. Patterns and Relationships: Patterns	C1.4 create and describe patterns to illustrate relationships among whole numbers and decimal tenths and hundredths	Teacher directed
C. Algebra	C2. Equations and Inequalities: Variables and Expressions	C2.1 translate among words, algebraic expressions, and visual representations that describe equivalent relationships	Teacher directed
C. Algebra	C2. Equations and Inequalities: Variables and Expressions	C2.2 evaluate algebraic expressions that involve whole numbers	Teacher directed
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.3 solve equations that involve whole numbers up to 100 in various contexts, and verify solutions	<u>Patterning and Algebra</u> - Missing Values - Find the Missing Number 1 - Missing Numbers: Variables - Missing Numbers: × and ÷ facts
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.4 solve inequalities that involve one operation and whole numbers up to 50, and verify and graph the solutions	Teacher directed
C. Algebra	C3. Coding: 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	Teacher directed

Grade 5

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
C. Algebra	C3. Coding: Coding Skills	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	Teacher directed
D. Data	D1. Data Literacy: 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	Teacher directed
D. Data	D1. Data Literacy: Data Collection and Organization	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	Teacher directed
D. Data	D1. Data Literacy: 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	Teacher directed
D. Data	D1. Data Literacy: Data Visualization	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	Teacher directed
D. Data	D1. 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 decimal numbers, and explain what each of these measures indicates about the data	Data Management and Probability - The Mean
D. Data	D1. Data Literacy: Data Analysis	D1.6 analyse different sets of data presented in various ways, including in stacked-bar graphs 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	Data Management and Probability - Tally Charts - Reading from a Bar Chart - Line Graphs: Interpretation - Stem and Leaf Plots: Concept - Interpreting Tables
D. Data	D2. Probability: 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	Data Management and Probability - Probability Scale
D. Data	D2. Probability: Probability	D2.2 determine and compare the theoretical and experimental probabilities of an event happening	Data Management and Probability - Introductory Probability - Find the Probability
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.1 identify geometric properties of triangles, and construct different types of triangles when given side or angle measurements	Geometry and Spatial Sense - Triangle Tasters - Triangles: Acute, Right, Obtuse
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.2 identify and construct congruent triangles, rectangles, and parallelograms	Teacher directed
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.3 draw top, front, and side views of objects, and match drawings with objects	Teacher directed

Grade 5

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
E. Spatial Sense	E1. Geometric and Spatial Reasoning: 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	Teacher directed
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Location and Movement	E1.5 describe and perform translations, reflections, and rotations up to 180° on a grid, and predict the results of these transformations	Teacher directed
E. Spatial Sense	E2. Measurement: The Metric System	E2.1 use appropriate metric units to estimate and measure length, area, mass, and capacity	Teacher directed
E. Spatial Sense	E2. Measurement: The Metric System	E2.2 solve problems that involve converting larger metric units into smaller ones, and describe the base ten relationships among metric units	Measurement - Centimetres and Metres - Metres and Kilometres
E. Spatial Sense	E2. Measurement: Angles	E2.3 compare angles and determine their relative size by matching them and by measuring them using appropriate non-standard units	Teacher directed
E. Spatial Sense	E2. Measurement: Angles	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	Geometry and Spatial Sense - Measuring Angles - Estimating Angles
E. Spatial Sense	E2. Measurement: 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	Measurement - Area: Squares and Rectangles
E. Spatial Sense	E2. Measurement: Area	E2.6 show that two-dimensional shapes with the same area can have different perimeters, and solve related problems	Teacher directed
F. Financial Literacy	F1. Money and Finances: Money Concepts	F1.1 describe several ways money can be transferred among individuals, organizations, and businesses	Teacher directed
F. Financial Literacy	F1. Money and Finances: 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	Teacher directed
F. Financial Literacy	F1. Money and Finances: Financial Management	F1.3 design sample basic budgets to manage finances for various earning and spending scenarios	Teacher directed
F. Financial Literacy	F1. Money and Finances: Financial Management	F1.4 explain the concepts of credit and debt, and describe how financial decisions may be impacted by each	Teacher directed
F. Financial Literacy	F1. Money and Finances: Consumer and Civic Awareness	F1.5 calculate unit rates for various goods and services, and identify which rates offer the best value	Teacher directed
F. Financial Literacy	F1. Money and Finances: Consumer and Civic Awareness	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	Teacher directed

Grade 5

Additional activities within other grades to support learning in Grade 5

Number Sense and Numeration 1
- Place Value to Thousands
- What Fraction is Shaded?
- Identifying Fractions on a Number Line
- Identifying Fractions Beyond 1
- Decimal Place Value
- Rounding Decimals 1

Number Sense and Numeration 3
- Estimate Sums
- Estimate Differences
- Mental Methods Multiplication 1
- Mental Methods Multiplication 2
- Divide: 1-digit Divisor 2
- Divide: 1-digit Divisor, Remainder
- Estimate Quotients
- Multiply Decimals: 10, 100, 1000
- Divide Decimals: 10, 100, 1000

Data Management and Probability
- Possible Outcomes

Geometry and Spatial Sense
- Collect More Shapes
- Collect the Polygons
- Prisms and Pyramids
- Collect the Objects 1
- Collect the Objects 2
- What Type of Angle?
- Classifying Angles
- What Direction was That?
- More Directions!
- Using a Key
- Map Coordinates

Measurement
- Area of Shapes
- Area: Compound Figures
- What is the Time?
- Time Mentals
- Elapsed Time
- What Time Will it Be?
- Using Timetables
- What's the Temperature (Celsius)?
- Perimeter of Shapes
- Perimeter: Triangles
- Perimeter: Squares and Rectangles
- Perimeter Detectives 1
- 24 Hour Time
- Filling Fast!

Grade 6

Strand	Substrand/Topic	Specific Expectation	Topic/Activities
B. Number	B1. Number Sense: Rational 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	Number Sense and Numeration 1 - Numbers from Words to Digits 1
B. Number	B1. Number Sense: Rational Numbers	B1.2 read and represent integers, using a variety of tools and strategies, including horizontal and vertical number lines	Teacher directed
B. Number	B1. Number Sense: Rational Numbers	B1.3 compare and order integers, decimal numbers, and fractions, separately and in combination, in various contexts	Number Sense and Numeration 1 - Put in Order 1 - Comparing Decimals - Decimal Order - Comparing Fractions 1 - Comparing Fractions 2 - Ordering Fractions 1
B. Number	B1. Number Sense: Fractions, Decimals, and Percents	B1.4 read, represent, compare, and order decimal numbers up to thousandths, in various contexts	Number Sense and Numeration 1 - Comparing Decimals - Decimal Order - Decimals on the Number Line - Decimals on a Number Line
B. Number	B1. Number Sense: Fractions, Decimals, and Percents	B1.5 round decimal numbers, both terminating and repeating, to the nearest tenth, hundredth, or whole number, as applicable, in various contexts	Teacher directed
B. Number	B1. Number Sense: Fractions, Decimals, and Percents	B1.6 describe relationships and show equivalences among fractions and decimal numbers up to thousandths, using appropriate tools and drawings, in various contexts	Teacher directed
B. Number	B2. Operations: 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	Number Sense and Numeration 2A - Addition Properties - Multiplication Properties
B. Number	B2. 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	Teacher directed
B. Number	B2. Operations: Mental Math	B2.3 use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 15%, 25%, and 50%, and explain the strategies used	Teacher directed

Grade 6

Strand	Substrand/Topic	Specific Expectation	☰ Topic/Activities
B. Number	B2. Operations: Addition and Subtraction	B2.4 represent and solve problems involving the addition and subtraction of whole numbers and decimal numbers, using estimation and algorithms	Number Sense and Numeration 2A - Mental Addition - Compensation – Add - Mental Subtraction - Compensation – Subtract - Jump Add and Subtract Number Sense and Numeration 2B-3 - Add Decimals 1 - Add Decimals 2 - Estimate Decimal Sums 1 - Estimate Decimal Sums 2 - Subtract Decimals 2 - Subtracting Decimals - Estimate Decimal Differences 1 - Estimate Decimal Differences 2 - Estimate Sums - Estimate Differences
B. Number	B2. Operations: Addition and Subtraction	B2.5 add and subtract fractions with like and unlike denominators, using appropriate tools, in various contexts	Teacher directed
B. Number	B2. Operations: Multiplication and Division	B2.6 represent composite numbers as a product of their prime factors, including through the use of factor trees	Number Sense and Numeration 1 - Product of Prime Factors
B. Number	B2. Operations: Multiplication and Division	B2.7 represent and solve problems involving the multiplication of three-digit whole numbers by decimal tenths, using algorithms	Teacher directed
B. Number	B2. Operations: Multiplication and Division	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	Teacher directed
B. Number	B2. Operations: Multiplication and Division	B2.9 multiply whole numbers by proper fractions, using appropriate tools and strategies	Teacher directed
B. Number	B2. Operations: Multiplication and Division	B2.10 divide whole numbers by proper fractions, using appropriate tools and strategies	Teacher directed
B. Number	B2. Operations: Multiplication and Division	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	Teacher directed
B. Number	B2. Operations: Multiplication and Division	B2.12 solve problems involving ratios, including percents and rates, using appropriate tools and strategies	Number Sense and Numeration 2B-3 - Rates
C. Algebra	C1. Patterns and Relationships: 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	Patterning and Algebra - Describing Patterns
C. Algebra	C1. Patterns and Relationships: Patterns	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	Teacher directed

Grade 6

Strand	Substrand/Topic	Specific Expectation	▦ Topic/Activities
C. Algebra	C1. Patterns and Relationships: Patterns	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	Patterning and Algebra - Table of Values
C. Algebra	C1. Patterns and Relationships: Patterns	C1.4 create and describe patterns to illustrate relationships among whole numbers and decimal numbers	Teacher directed
C. Algebra	C2. Equations and Inequalities: Variables and Expressions	C2.1 add monomials with a degree of 1 that involve whole numbers, using tools	Teacher directed
C. Algebra	C2. Equations and Inequalities: Variables and Expressions	C2.2 evaluate algebraic expressions that involve whole numbers and decimal tenths	Teacher directed
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.3 solve equations that involve multiple terms and whole numbers in various contexts, and verify solutions	Patterning and Algebra - Write an Equation: Word Problems - Missing Numbers: Variables - Find the Missing Number 2 - Magic Symbols 1 - Magic Symbols 2
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.4 solve inequalities that involve two operations and whole numbers up to 100, and verify and graph the solutions	Teacher directed
C. Algebra	C3. Coding: 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	Teacher directed
C. Algebra	C3. Coding: Coding Skills	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	Teacher directed
D. Data	D1. Data Literacy: Data Collection and Organization	D1.1 describe the difference between discrete and continuous data, and provide examples of each	Teacher directed
D. Data	D1. Data Literacy: Data Collection and Organization	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	Teacher directed
D. Data	D1. Data Literacy: 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	Teacher directed

Grade 6

Strand	Substrand/Topic	Specific Expectation	🗎 Topic/Activities
D. Data	D1. Data Literacy: Data Visualization	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	Teacher directed
D. Data	D1. Data Literacy: 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	Teacher directed
D. Data	D1. Data Literacy: Data Analysis	D1.6 analyse different sets of data presented in various ways, including in histograms and broken-line graphs 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	Data Management and Probability - Histograms - Stem and Leaf Plots: Concept - Interpreting Tables - Line Graphs: Interpretation - Tally Charts
D. Data	D2. Probability: 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	Data Management and Probability - Probability Scale
D. Data	D2. Probability: Probability	D2.2 determine and compare the theoretical and experimental probabilities of two independent events happening	Data Management and Probability - Dice and Coins
E. Spatial Sense	E1. Geometric and Spatial Reasoning: 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	Geometry and Spatial Sense - Properties of Quadrilaterals
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.2 construct three-dimensional objects when given their top, front, and side views	Teacher directed
E. Spatial Sense	E1. Geometric and Spatial Reasoning: 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	Geometry and Spatial Sense - Coordinate Graphs: 1st Quadrant
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Location and Movement	E1.4 describe and perform combinations of translations, reflections, and rotations up to 360° on a grid, and predict the results of these transformations	Geometry and Spatial Sense - Congruent Figures (Dot Grid) - Congruent Figures (Grid)
E. Spatial Sense	E2. Measurement: 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	Measurement - Measuring Length - Measure to the Nearest Half Centimetre - How Heavy? - Millilitres and Litres - Grams and Kilograms - Centimetres and Metres - Converting Units of Length - Converting Units of Area
E. Spatial Sense	E2. Measurement: 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	Geometry and Spatial Sense - Measuring Angles

Grade 6

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
E. Spatial Sense	E2. Measurement: Angles	E2.3 use the properties of supplementary angles, complementary angles, opposite angles, and interior and exterior angles to solve for unknown angle measures	Teacher directed
E. Spatial Sense	E2. Measurement: Area and Surface Area	E2.4 determine the areas of trapezoids, rhombuses, kites, and composite polygons by decomposing them into shapes with known areas	Teacher directed
E. Spatial Sense	E2. Measurement: Area and Surface Area	E2.5 create and use nets to demonstrate the relationship between the faces of prisms and pyramids and their surface areas	Teacher directed
E. Spatial Sense	E2. Measurement: Area and Surface Area	E2.6 determine the surface areas of prisms and pyramids by calculating the areas of their two-dimensional faces and adding them together	Measurement - Surface Area: Triangular Prisms - Surface Area: Rectangular Prisms
F. Financial Literacy	F1. Money and Finances: Money Concepts	F1.1 describe the advantages and disadvantages of various methods of payment that can be used to purchase goods and services	Teacher directed
F. Financial Literacy	F1. Money and Finances: Financial Management	F1.2 identify different types of financial goals, including earning and saving goals, and outline some key steps in achieving them	Teacher directed
F. Financial Literacy	F1. Money and Finances: Financial Management	F1.3 identify and describe various factors that may help or interfere with reaching financial goals	Teacher directed
F. Financial Literacy	F1. Money and Finances: 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	Teacher directed
F. Financial Literacy	F1. Money and Finances: Consumer and Civic Awareness	F1.5 describe trading, lending, borrowing, and donating as different ways to distribute financial and other resources among individuals and organizations	Teacher directed

Grade 6

Additional activities within other grades to support learning in Grade 6

Number Sense and Numeration 1
- Place Value to Millions
- Place Value 1 (x10 and ÷10)
- Place Value 2 (x10 and ÷10)
- Decimal Place Value
- Equivalent Fractions on a Number Line 2
- Equivalent Fraction Wall 2
- Identifying Fractions Beyond 1
- Mixed and Improper Fractions on a Number Line
- Prime or Composite?

 Number Sense and Numeration 2A
- Mental Methods Multiplication 1
- Mental Methods Multiplication 2
- Double and Halve to Multiply
- Mental Methods Division 1
- Mental Methods Division 2
- Contracted Multiplication
- Long Multiplication
- Divide: 2-Digit Divisor, Remainder
- Long Division

Number Sense and Numeration 2B-3
- Multiply Decimals and Powers of 10
- Divide by Powers of 10
- Mixed decimal, percentage and fraction conversions
- Match Decimals and Percentages

Data Management and Probability
- Mean
- Introductory Probability
- Find the Probability
- Will it Happen?
- Chance Gauge
- What are the Chances?

Geometry and Spatial Sense
- Symmetry or Not?
- Rotational Symmetry of Shapes
- Rotational Symmetry
- What Type of Angle?
- Classifying Angles
- Rotations: Coordinate Plane
- Transformations

Measurement
- Area: Triangles
- Area: Right Triangles
- Area: Parallelograms (Metric)
- Volume: Triangular Prisms
- Volume: Rectangular Prisms 1

Grade 7

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
B. Number	B1. Number Sense: Rational Numbers	B1.1 represent and compare whole numbers up to and including one billion, including in expanded form using powers of ten, and describe various ways they are used in everyday life	Teacher directed
B. Number	B1. Number Sense: Rational Numbers	B1.2 identify and represent perfect squares, and determine their square roots, in various contexts	Teacher directed
B. Number	B1. Number Sense: Rational Numbers	B1.3 read, represent, compare, and order rational numbers, including positive and negative fractions and decimal numbers to thousandths, in various contexts	Number Sense and Numeration 1 - Decimals on the Number Line - Decimal Order 1 - Comparing Decimals 1 - Identifying Fractions on a Number Line - Mixed and Improper Fractions on a Number Line - Compare Fractions 2 - Integers on a Number Line - Ordering Integers (Number Line)
B. Number	B1. Number Sense: Fractions, Decimals, and Percents	B1.4 use equivalent fractions to simplify fractions, when appropriate, in various contexts	Teacher directed
B. Number	B1. Number Sense: Fractions, Decimals, and Percents	B1.5 generate fractions and decimal numbers between any two quantities	Teacher directed
B. Number	B1. Number Sense: Fractions, Decimals, and Percents	B1.6 round decimal numbers to the nearest tenth, hundredth, or whole number, as applicable, in various contexts	Teacher directed
B. Number	B1. Number Sense: Fractions, Decimals, and Percents	B1.7 convert between fractions, decimal numbers, and percents, in various contexts	Number Sense and Numeration 3 - Mixed decimal, percentage and fraction conversions - Match Decimals and Percentages
B. Number	B2. Operations: Properties and Relationships	B2.1 use the properties and order of operations, and the relationships between operations, to solve problems involving whole numbers, decimal numbers, fractions, ratios, rates, and percents, including those requiring multiple steps or multiple operations	Number Sense and Numeration 2 - Order of Operations 1 (BEMDAS)
B. Number	B2. Operations: Math Facts	B2.2 understand and recall commonly used percents, fractions, and decimal equivalents	Number Sense and Numeration 3 - Mixed decimal, percentage and fraction conversions - Match Decimals and Percentages
B. Number	B2. Operations: Mental Math	B2.3 use mental math strategies to increase and decrease a whole number by 1%, 5%, 10%, 25%, 50%, and 100%, and explain the strategies used	Teacher directed
B. Number	B2. Operations: Addition and Subtraction	B2.4 use objects, diagrams, and equations to represent, describe, and solve situations involving addition and subtraction of integers	Number Sense and Numeration 2 - Add Integers - Subtract Integers
B. Number	B2. Operations: Addition and Subtraction	B2.5 add and subtract fractions, including by creating equivalent fractions, in various contexts	Number Sense and Numeration 2 - Add Like Fractions - Add Unlike Fractions - Subtract Like Fractions - Subtract Unlike Fractions

Grade 7

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
B. Number	B2. Operations: Multiplication and Division	B2.6 determine the greatest common factor for a variety of whole numbers up to 144 and the lowest common multiple for two and three whole numbers	Number Sense and Numeration 1 - Venn Diagram 1 - Multiples - Factors - Find the Factor
B. Number	B2. Operations: Multiplication and Division	B2.7 evaluate and express repeated multiplication of whole numbers using exponential notation, in various contexts	Teacher directed
B. Number	B2. Operations: Multiplication and Division	B2.8 multiply and divide fractions by fractions, using tools in various contexts	Teacher directed
B. Number	B2. Operations: Multiplication and Division	B2.9 multiply and divide decimal numbers by decimal numbers, in various contexts	Teacher directed
B. Number	B2. Operations: Multiplication and Division	B2.10 identify proportional and non-proportional situations and apply proportional reasoning to solve problems	Number Sense and Numeration 3 - Best Buy - Average Speed - Rate Word Problems
C. Algebra	C1. Patterns and Relationships: Patterns	C1.1 identify and compare a variety of repeating, growing, and shrinking patterns, including patterns found in real-life contexts, and compare linear growing patterns on the basis of their constant rates and initial values	Teacher directed
C. Algebra	C1. Patterns and Relationships: Patterns	C1.2 create and translate repeating, growing, and shrinking patterns involving whole numbers and decimal numbers using various representations, including algebraic expressions and equations for linear growing patterns	Teacher directed
C. Algebra	C1. Patterns and Relationships: Patterns	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 involving whole numbers and decimal numbers, and use algebraic representations of the pattern rules to solve for unknown values in linear growing patterns	Patterning and Algebra - Table of Values
C. Algebra	C1. Patterns and Relationships: Patterns	C1.4 create and describe patterns to illustrate relationships among integers	Teacher directed
C. Algebra	C2. Equations and Inequalities: Variables and Expressions	C2.1 add and subtract monomials with a degree of 1 that involve whole numbers, using tools	Teacher directed
C. Algebra	C2. Equations and Inequalities: Variables and Expressions	C2.2 evaluate algebraic expressions that involve whole numbers and decimal numbers	Patterning and Algebra - Simple Substitution 1
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.3 solve equations that involve multiple terms, whole numbers, and decimal numbers in various contexts, and verify solutions	Patterning and Algebra - Write an Equation: Word Problems
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.4 solve inequalities that involve multiple terms and whole numbers, and verify and graph the solutions	Teacher directed

Grade 7

Strand	Substrand/Topic	Specific Expectation	Topic/Activities
C. Algebra	C3. Coding: Coding Skills	C3.1 solve problems and create computational representations of mathematical situations by writing and executing efficient code, including code that involves events influenced by a defined count and/or sub-program and other control structures	Teacher directed
C. Algebra	C3. Coding: Coding Skills	C3.2 read and alter existing code, including code that involves events influenced by a defined count and/or sub-program and other control structures, and describe how changes to the code affect the outcomes and the efficiency of the code	Teacher directed
D. Data	D1. Data Literacy: Data Collection and Organization	D1.1 explain why percentages are used to represent the distribution of a variable for a population or sample in large sets of data, and provide examples	Teacher directed
D. Data	D1. Data Literacy: Data Collection and Organization	D1.2 collect qualitative data and discrete and continuous quantitative data to answer questions of interest, and organize the sets of data as appropriate, including using percentages	Data Management and Probability - Grouped Frequency
D. Data	D1. Data Literacy: Data Visualization	D1.3 select from among a variety of graphs, including circle 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	Teacher directed
D. Data	D1. Data Literacy: Data Visualization	D1.4 create an infographic about a data set, representing the data in appropriate ways, including in tables and circle graphs, and incorporating any other relevant information that helps to tell a story about the data	Teacher directed
D. Data	D1. Data Literacy: Data Analysis	D1.5 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	Teacher directed
D. Data	D1. Data Literacy: Data Analysis	D1.6 analyse different sets of data presented in various ways, including in circle graphs 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	Data Management and Probability - Divided Bar Graphs - Sector Graphs - Tally Charts - Interpreting Tables - Frequency Histograms - Line Graphs: Interpretation
D. Data	D2. Probability: Probability	D2.1 describe the difference between independent and dependent events, and explain how their probabilities differ, providing examples	Teacher directed
D. Data	D2. Probability: Probability	D2.2 determine and compare the theoretical and experimental probabilities of two independent events happening and of two dependent events happening	Data Management and Probability - Dice and Coins
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.1 describe and classify cylinders, pyramids, and prisms according to their geometric properties, including plane and rotational symmetry	Teacher directed

Grade 7

Strand	Substrand/Topic	Specific Expectation	Topic/Activities
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.2 draw top, front, and side views, as well as perspective views, of objects and physical spaces, using appropriate scales	Teacher directed
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Location and Movement	E1.3 perform dilations and describe the similarity between the image and the original shape	Geometry and Spatial Sense - Similar Figures 1 - Scale Factor
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Location and Movement	E1.4 describe and perform translations, reflections, and rotations on a Cartesian plane, and predict the results of these transformations	Teacher directed
E. Spatial Sense	E2. Measurement: The Metric System	E2.1 describe the differences and similarities between volume and capacity, and apply the relationship between millilitres (mL) and cubic centimetres (cm^3) to solve problems	Measurement - Capacity Word Problems
E. Spatial Sense	E2. Measurement: The Metric System	E2.2 solve problems involving perimeter, area, and volume that require converting from one metric unit of measurement to another	Measurement - Converting Units of Area - Converting cm and mm - Metres and Kilometres - Converting Units of Length - Capacity Addition - Converting Volume - Capacity Word Problems
E. Spatial Sense	E2. Measurement: Circles	E2.3 use the relationships between the radius, diameter, and circumference of a circle to explain the formula for finding the circumference and to solve related problems	Teacher directed
E. Spatial Sense	E2. Measurement: Circles	E2.4 construct circles when given the radius, diameter, or circumference	Teacher directed
E. Spatial Sense	E2. Measurement: Circles	E2.5 show the relationships between the radius, diameter, and area of a circle, and use these relationships to explain the formula for measuring the area of a circle and to solve related problems	Teacher directed
E. Spatial Sense	E2. Measurement: Volume and Surface Area	E2.6 represent cylinders as nets and determine their surface area by adding the areas of their parts	Teacher directed
E. Spatial Sense	E2. Measurement: Volume and Surface Area	E2.7 show that the volume of a prism or cylinder can be determined by multiplying the area of its base by its height, and apply this relationship to find the area of the base, volume, and height of prisms and cylinders when given two of the three measurements	Teacher directed
F. Financial Literacy	F1. Money and Finances: Money Concepts	F1.1 identify and compare exchange rates, and convert foreign currencies to Canadian dollars and vice versa	Teacher directed
F. Financial Literacy	F1. Money and Finances: Financial Management	F1.2 identify and describe various reliable sources of information that can help with planning for and reaching a financial goal	Teacher directed
F. Financial Literacy	F1. Money and Finances: Financial Management	F1.3 create, track, and adjust sample budgets designed to meet longer-term financial goals for various scenarios	Teacher directed

Grade 7

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
F. Financial Literacy	F1. Money and Finances: Financial Management	F1.4 identify various societal and personal factors that may influence financial decision making, and describe the effects that each might have	Teacher directed
F. Financial Literacy	F1. Money and Finances: Consumer and Civic Awareness	F1.5 explain how interest rates can impact savings, investments, and the cost of borrowing to pay for goods and services over time	Teacher directed
F. Financial Literacy	F1. Money and Finances: Consumer and Civic Awareness	F1.6 compare interest rates and fees for different accounts and loans offered by various financial institutions, and determine the best option for different scenarios	Teacher directed

Additional activities within other grades to support learning in Grade 4

Number Sense and Numeration 1
- Decimal Place Value

Number Sense and Numeration 2
- Divide Decimal by Whole Number
- Multiply Decimal by Whole Number
- Money Problems: Four Operations
- Estimate Decimal Sums 1
- Estimate Decimal Sums 2
- Estimate Decimal Differences 1
- Estimate Decimal Differences 2
- Estimate Decimal Operations
- Model Fractions to Multiply

Number Sense and Numeration 3
- What Percentage?
- Ratio and Proportion

Patterning and Algebra
- Graphing from a Table of Values
- $y=ax$
- Writing Algebraic Expressions

Data Management and Probability
- Mean from a Frequency Table
- Median from a Frequency Table
- Mode from a Frequency Table

Geometry and Spatial Sense
- Triangle Tasters
- Properties of Quadrilaterals
- Perimeter, Area, Dimension Change
- Transformations
- Congruent Figures (Grid)
- Coordinate Graphs

Measurement
- Converting Units of Mass
- Mass Addition
- Area: Quadrilaterals
- Area: Composite Shapes
- Nets
- Surface Area: Rectangular Prisms
- Surface Area: Triangular Prisms

Grade 8

Strand	Substrand/Topic	Specific Expectation	Topic/Activities
B. Number	B1. Number Sense: Rational and Irrational Numbers	B1.1 represent and compare very large and very small numbers, including through the use of scientific notation, and describe various ways they are used in everyday life	Teacher directed
B. Number	B1. Number Sense: Rational and Irrational Numbers	B1.2 describe, compare, and order numbers in the real number system (rational and irrational numbers), separately and in combination, in various contexts	Number Sense and Numeration 1 - Ordering Integers (Number Line) - Comparing Fractions with Signs
B. Number	B1. Number Sense: Rational and Irrational Numbers	B1.3 estimate and calculate square roots, in various contexts	Number Sense and Numeration 2B - Square Roots 1 - Estimate Square Roots
B. Number	B1. Number Sense: Fractions, Decimals, and Percents	B1.4 use fractions, decimal numbers, and percents, including percents of more than 100% or less than 1%, interchangeably and flexibly to solve a variety of problems	Number Sense and Numeration 1 - Decimals to Fractions 1 - Decimals to Fractions 2 - Fractions to Decimals - Fractions to Decimals 2 - Percents and Decimals - Percents to Fractions Number Sense and Numeration 2A - Percentage Word Problems - Percentage of an amount using fractions (< 100%) - Percentages of a quantity (>100%) - Successive Discounts - Quantities to Percentages (no units) - Commission - Percent Increase and Decrease - Solve Percent Equations - Money Problems: Four Operations - Best Buy
B. Number	B2. Operations: Properties and Relationships	B2.1 use the properties and order of operations, and the relationships between operations, to solve problems involving rational numbers, ratios, rates, and percents, including those requiring multiple steps or multiple operations	Number Sense and Numeration 2B - Integers: Order of Operations (BEDMAS)
B. Number	B2. Operations: Math Facts	B2.2 understand and recall commonly used square numbers and their square roots	Number Sense and Numeration 2B - Square Roots 1
B. Number	B2. Operations: Mental Math	B2.3 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 Sense and Numeration 2B - Multiply Decimals and Powers of 10 - Divide Decimals by Powers of 10, 100, 1000
B. Number	B2. Operations: Addition and Subtraction	B2.4 add and subtract integers, using appropriate strategies, in various contexts	Number Sense and Numeration 2B - Integers: Add and Subtract
B. Number	B2. Operations: Addition and Subtraction	B2.5 add and subtract fractions, using appropriate strategies, in various contexts	Number Sense and Numeration 2B - Add Like Fractions - Add Unlike Fractions - Subtract Like Fractions - Subtract Unlike Fractions
B. Number	B2. Operations: Multiplication and Division	B2.6 multiply and divide fractions by fractions, as well as by whole numbers and mixed numbers, in various contexts	Number Sense and Numeration 2B - Multiply Fraction by Fraction - Divide Fractions Visual Model - Multiply Two Fractions 1 - Divide Fractions by Fractions 1

Grade 8

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
B. Number	B2. Operations: Multiplication and Division	B2.7 multiply and divide integers, using appropriate strategies, in various contexts	Teacher directed
B. Number	B2. Operations: Multiplication and Division	B2.8 compare proportional situations and determine unknown values in proportional situations, and apply proportional reasoning to solve problems in various contexts	<u>Number Sense and Numeration 3</u> - Ratio Word Problems - Best Buy - Rates Word Problems - Average Speed - Rates <u>Patterning and Algebra</u> - $y=ax$
C. Algebra	C1. Patterns and Relationships: Patterns	C1.1 identify and compare a variety of repeating, growing, and shrinking patterns, including patterns found in real-life contexts, and compare linear growing and shrinking patterns on the basis of their constant rates and initial values	Teacher directed
C. Algebra	C1. Patterns and Relationships: Patterns	C1.2 create and translate repeating, growing, and shrinking patterns involving rational numbers using various representations, including algebraic expressions and equations for linear growing and shrinking patterns	Teacher directed
C. Algebra	C1. Patterns and Relationships: Patterns	C1.3 determine pattern rules and use them to extend patterns, make and justify predictions, and identify missing elements in growing and shrinking patterns involving rational numbers, and use algebraic representations of the pattern rules to solve for unknown values in linear growing and shrinking patterns	<u>Patterning and Algebra</u> - Reading Values from a Line - Pattern Rules and Tables - Find the Pattern Rule
C. Algebra	C1. Patterns and Relationships: Patterns	C1.4 create and describe patterns to illustrate relationships among rational numbers	Teacher directed
C. Algebra	C2. Equations and Inequalities: Variables and Expressions	C2.1 add and subtract monomials with a degree of 1, and add binomials with a degree of 1 that involve integers, using tools	Teacher directed
C. Algebra	C2. Equations and Inequalities: Variables and Expressions	C2.2 evaluate algebraic expressions that involve rational numbers	<u>Patterning and Algebra</u> - Simple Substitution 3
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.3 solve equations that involve multiple terms, integers, and decimal numbers in various contexts, and verify solutions	<u>Patterning and Algebra</u> - Writing Equations - Solve Equations: Multiply, Divide 1 - Solve Equations: Multiply, Divide 2 - Equations to Solve Problems - Solve Multi-Step Equations - Solve Two-Step Equations - Equations with Grouping Symbols - Solving More Equations - Checking Solutions
C. Algebra	C2. Equations and Inequalities: Equalities and Inequalities	C2.4 solve inequalities that involve integers, and verify and graph the solutions	Teacher directed

Grade 8

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
C. Algebra	C3. Coding: Coding Skills	C3.1 solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves the analysis of data in order to inform and communicate decisions	Teacher directed
C. Algebra	C3. Coding: Coding Skills	C3.2 read and alter existing code involving the analysis of data in order to inform and communicate decisions, and describe how changes to the code affect the outcomes and the efficiency of the code	Teacher directed
D. Data	D1. Data Literacy: Data Collection and Organization	D1.1 identify situations involving one-variable data and situations involving two-variable data, and explain when each type of data is needed	Teacher directed
D. Data	D1. Data Literacy: Data Collection and Organization	D1.2 collect continuous data to answer questions of interest involving two variables, and organize the data sets as appropriate in a table of values	Teacher directed
D. Data	D1. Data Literacy: Data Visualization	D1.3 select from among a variety of graphs, including scatter plots, 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	Data Management and Probability - Data Analysis: Scatter Plots
D. Data	D1. Data Literacy: Data Visualization	D1.4 create an infographic about a data set, representing the data in appropriate ways, including in tables and scatter plots, and incorporating any other relevant information that helps to tell a story about the data	Teacher directed
D. Data	D1. Data Literacy: Data Analysis	D1.5 use mathematical language, including the terms "strong", "weak", "none", "positive", and "negative", to describe the relationship between two variables for various data sets with and without outliers	Data Management and Probability - Scatter Plots
D. Data	D1. Data Literacy: Data Analysis	D1.6 analyse different sets of data presented in various ways, including in scatter plots 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	Data Management and Probability - Histograms - Scatter Plots - Line Graphs: Interpretation - Travel Graphs
D. Data	D2. Probability: Probability	D2.1 solve various problems that involve probability, using appropriate tools and strategies, including Venn and tree diagrams	Data Management and Probability - Complementary Events
D. Data	D2. Probability: Probability	D2.2 determine and compare the theoretical and experimental probabilities of multiple independent events happening and of multiple dependent events happening	Teacher directed
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.1 identify geometric properties of tessellating shapes and identify the transformations that occur in the tessellations	Teacher directed
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.2 make objects and models using appropriate scales, given their top, front, and side views or their perspective views	Teacher directed

Grade 8

Strand	Substrand/Topic	Specific Expectation	Topic/Activities
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Geometric Reasoning	E1.3 use scale drawings to calculate actual lengths and areas, and reproduce scale drawings at different ratios	Teacher directed
E. Spatial Sense	E1. Geometric and Spatial Reasoning: Location and Movement	E1.4 describe and perform translations, reflections, rotations, and dilations on a Cartesian plane, and predict the results of these transformations	Geometry and Spatial Sense - Transformations: Coordinate Plane
E. Spatial Sense	E2. Measurement: The Metric System	E2.1 represent very large (mega, giga, tera) and very small (micro, nano, pico) metric units using models, base ten relationships, and exponential notation	Teacher directed
E. Spatial Sense	E2. Measurement: Lines and Angles	E2.2 solve problems involving angle properties, including the properties of intersecting and parallel lines and of polygons	Geometry and Spatial Sense - Angle Measures in a Triangle - Angle Sum of a Triangle - Exterior Angles of a Triangle - Vertically Opposite: Value of x - Equal, Complementary or Supplementary Angles? - Introduction to Angles on Parallel Lines 1 - Parallel Lines - Angles and Parallel Lines
E. Spatial Sense	E2. Measurement: Length, Area, and Volume	E2.3 solve problems involving the perimeter, circumference, area, volume, and surface area of composite two-dimensional shapes and three-dimensional objects, using appropriate formulas	Teacher directed
E. Spatial Sense	E2. Measurement: Length, Area, and Volume	E2.4 describe the Pythagorean relationship using various geometric models, and apply the theorem to solve problems involving an unknown side length for a given right triangle	Geometry and Spatial Sense - Pythagorean Triads - Pythagorean Theorem - Pythagoras' Theorem - Pythagoras: Find a Short Side (integers only) - Pythagoras: Find a Short Side (decimal values) - Pythagoras: Find a Short Side (rounding needed)
F. Financial Literacy	F1. Money and Finances: Money Concepts	F1.1 describe some advantages and disadvantages of various methods of payment that can be used when dealing with multiple currencies and exchange rates	Teacher directed
F. Financial Literacy	F1. Money and Finances: Financial Management	F1.2 create a financial plan to reach a long-term financial goal, accounting for income, expenses, and tax implications	Teacher directed
F. Financial Literacy	F1. Money and Finances: Financial Management	F1.3 identify different ways to maintain a balanced budget, and use appropriate tools to track all income and spending, for several different scenarios	Teacher directed
F. Financial Literacy	F1. Money and Finances: Financial Management	F1.4 determine the growth of simple and compound interest at various rates using digital tools, and explain the impact interest has on long-term financial planning	Teacher directed

Grade 8

Strand	Substrand/Topic	Specific Expectation	📋 Topic/Activities
F. Financial Literacy	F1. Money and Finances: Consumer and Civic Awareness	F1.5 compare various ways for consumers to get more value for their money when spending, including taking advantage of sales and customer loyalty and incentive programs, and determine the best choice for different scenarios	Teacher directed
F. Financial Literacy	F1. Money and Finances: Consumer and Civic Awareness	F1.6 compare interest rates, annual fees, and rewards and other incentives offered by various credit card companies and consumer contracts to determine the best value and the best choice for different scenarios	Teacher directed

Grade 8: Activities to review/extend

Number Sense and Numeration 1
- Exponent Notation
- Prime Factoring
- Greatest Common Factor
- Least Common Multiple

Number Sense and Numeration 2A
- Estimate Decimal Operations
- Estimate Decimal Sums 2
- Estimate Decimal Differences 2
- Estimate Sums
- Estimate Differences
- Estimate Products
- Estimate Quotients

Patterning and Algebra
- Graphing from a Table of Values
- Writing Algebraic Expressions

Data Management and Probability
- Which Measure of Central Tendency?

Geometry and Spatial Sense
- Properties of Quadrilaterals
- Perimeter, Area, Dimension Change
- Similar Figures
- Euler's Formula

Measurement
- Converting Units of Area
- Converting Volume
- Capacity Word Problems
- Capacity Addition
- Circumference: Circles
- Area: Circles 1
- Surface Area: Cylinders
- Volume: Cylinders

Mathletics

For more information about Mathletics,
contact our friendly team.

www.mathletics.com/contact

A 3P Learning product.