Simcoe County District School Board

# Grade 6: Scope and Sequence

## Block 1

Start of school year
to Winter Break

71 instructional days

1. **First 20 Days**
   A1
   15+ days
2. **Number**
   B1, B2
   20+ days
3. **Geometric Reasoning**
   E1, E2
   15+ days
4. **Patterns and Algebra**
   C1
   10+ days

**Progress Report** → **Term 1**

**Winter Break**

## Block 2

Winter Break
to March Break

48 instructional days

5. **Number**
   B1, B2, F1
   15+ days
6. **Algebra and Coding**
   C2, C3
   15+ days
7. **Location and Movement**
   E1, C3
   10+ days

**Term 1** → **Term 2**

**March Break**

## Block 3

March Break
to end of school year

67 instructional days

8. **Financial Lit/Number**
   F1, B2
   10+ days
9. **Data and Probability**
   D1, D2
   15+ days
10. **Measurement**
    E2, B2
    20+ days
11. **Last 20 Days**
    A1
    15+ days

**Term 2**

**Last update:** August 2020

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# Grade 6: Course of Study

Welcome to the updated SCDSB Math Course of Study, revised to reflect the expectations found in *The Ontario Curriculum, Grades 1–8: Mathematics (2020)*.

The Scope and Sequence is split into three distinct “blocks”, with natural breaks (Winter Break and March Break) separating them. Educators are encouraged to use their professional judgement and consider the total number of instructional days in a block, minimum unit lengths, reporting periods (indicated by the grey arrows), as well as the remaining “flex days” and how they can be used to support their students’ achievement in mathematics. These “flex” days allow educators to tailor their programs to their students’ needs, while ensuring they stay on course, so that sufficient time is dedicated to each unit.

This Scope and Sequence emphasizes a common focus across all grades at the same time, although unit lengths may vary from grade to grade due to shifts in emphasis in knowledge and skill development throughout the grades. Please note that because of this alignment, consideration will need to be given to the strategic organization, distribution, and sharing of resources (i.e., manipulatives) among classes.

Units are sequenced to allow for fundamental skills and concepts to be introduced early and then applied in later units, providing opportunities to deepen understanding and make connections between mathematical concepts.

The specific expectations that are to be the focus of instruction and assessment, as well as any relevant cross-strand connections are listed for each unit. Each grade has expectations that are an ongoing focus throughout the year. Previous grade expectations may be noted in this section for continued practice, however, only grade level expectations will be assessed.

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# Grade 6: Block 1 Overview

1

## First 20 Days

15+ days

**Social-Emotional Learning Skills**: A1. apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the mathematics curriculum

2

## Number

20+ days

**Number:** B1. demonstrate an understanding of numbers and make connections to the way numbers are used in everyday life

**Number:** B2. use knowledge of numbers and operations to solve mathematical problems encountered in everyday life

B1.1 - B1.6, B2.2 - B2.5

**Progress Report**

3

## Geometric Reasoning

15+ days

**Spatial Sense:** E1. describe and represent shape, location, and movement by applying geometric properties and spatial relationships in order to navigate the world around them

**Spatial Sense:** E2. compare, estimate, and determine measurements in various contexts

E1.1, E1.2, E2.1 - E2.3

4

## Patterns and Algebra

10+ days

**Algebra:** C1. identify, describe, extend, create, and make predictions about a variety of patterns, including those found in real-life contexts

C1.1 - C1.4

**Term 1**

## Ongoing Focus:

**Social-Emotional Learning:** A1. apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the mathematics curriculum

**Mathematical Modelling:** C4. apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations

**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

**Math Facts:** B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 5*) recall and demonstrate multiplication facts from 0 × 0 to 12 × 12, and related division facts; (*Grade 6*) understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9

**Mental Math:** B2.3 (*Grade 5*) use mental math strategies to multiply whole numbers by 0.1, 0.01 and estimate sums and differences of decimal numbers to hundredths and explain strategies used; (*Grade 6*) use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 25%, 50%, and 100%, and explain the strategies used

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# Grade 6: Unit 1 - First 20 Days (15+ days)

**Social-Emotional Learning** A1. apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the mathematics curriculum

| To the best of their ability, students will learn to: | … as they apply the mathematical processes: | … so they can: |
|---|---|---|
| 1. identify and manage emotions | **problem solving:** develop, select, and apply problem-solving strategies<br>**reasoning and proving:** develop and apply reasoning skills (e.g., classification, recognition of relationships, use of counter-examples) to justify thinking, make and investigate conjectures, and construct and defend arguments<br>**reflecting:** demonstrate that as they solve problems, they are pausing, looking back, and monitoring their thinking to help clarify their understanding (e.g., by comparing and adjusting strategies used, by explaining why they think their results are reasonable, by recording their thinking in a math journal)<br>**connecting:** make connections among mathematical concepts, procedures, and representations, and relate mathematical ideas to other contexts (e.g., other curriculum areas, daily life, sports)<br>**communicating:** express and understand mathematical thinking, and engage in mathematical arguments using everyday language, language resources as necessary, appropriate mathematical terminology, a variety of representations, and mathematical conventions<br>**representing:** select from and create a variety of representations of mathematical ideas (e.g., representations involving physical models, pictures, numbers, variables, graphs), and apply them to solve problems<br>**selecting tools and strategies:** select and use a variety of concrete, visual, and electronic learning tools and appropriate strategies to investigate mathematical ideas and to solve problems | 1. express and manage their feelings, and show understanding of the feelings of others, as they engage positively in mathematics activities |
| 2. recognize sources of stress and cope with challenges | | 2. work through challenging math problems, understanding that their resourcefulness in using various strategies to respond to stress is helping them build personal resilience |
| 3. maintain positive motivation and perseverance | | 3. recognize that testing out different approaches to problems and learning from mistakes is an important part of the learning process, and is aided by a sense of optimism and hope |
| 4. build relationships and communicate effectively | | 4. work collaboratively on math problems – expressing their thinking, listening to the thinking of others, and practising inclusivity – and in that way fostering healthy relationships |
| 5. develop self-awareness and sense of identity | | 5. see themselves as capable math learners, and strengthen their sense of ownership of their learning, as part of their emerging sense of identity and belonging |
| 6. think critically and creatively | | 6. make connections between math and everyday contexts to help them make informed judgements and decisions |

## Ongoing Focus:

**Social-Emotional Learning:** A1. apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the mathematics curriculum

**Mathematical Modelling:** C4. apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations

**Properties and Relationships** B2.1 use the properties of operations, and the relationships between operations, to solve problems involving whole numbers, decimal numbers, fractions, ratios, rates, and whole number percents, including those requiring multiple steps or multiple operations

**Math Facts:** B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 5*) recall and demonstrate multiplication facts from 0 × 0 to 12 × 12, and related division facts; (*Grade 6*) understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9

**Mental Math:** B2.3 (*Grade 5*) use mental math strategies to multiply whole numbers by 0.1, 0.01 and estimate sums and differences of decimal numbers to hundredths and explain strategies used; (*Grade 6*) use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 25%, 50%, and 100%, and explain the strategies used

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# Grade 6: Unit 2 - Number (20+ days)

## Specific Expectations:

**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
**Rational Numbers** B1.2 read and represent integers, using a variety of tools and strategies, including horizontal and vertical number lines
**Rational Numbers** B1.3 compare and order integers, decimal numbers, and fractions, separately and in combination, in various contexts
**Fractions, Decimals, and Percents** B1.4 read, represent, compare, and order decimal numbers up to thousandths, in various contexts
**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
**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
**Math Facts** B2.2 understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9, and 10
**Mental Math** B2.3 use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 15%, 25%, and 50%, and explain the strategies used
**Addition and Subtraction** B2.4 represent and solve problems involving the addition and subtraction of whole numbers and decimal numbers, using estimation and algorithms
**Addition and Subtraction** B2.5 add and subtract fractions with like and unlike denominators, using appropriate tools, in various contexts

## Cross-Strand Connections:

**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

**Patterns** C1.4 create and describe patterns to illustrate relationships among whole numbers and decimal numbers

**Area** E2.4 determine the areas of trapezoids, rhombuses, kites, and composite polygons by decomposing them into shapes with known areas

**Area** E2.6 determine the surface areas of prisms and pyramids by calculating the areas of their two dimensional faces and adding them together

## Ongoing Focus:

**Social-Emotional Learning:** A1. apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the mathematics curriculum

**Mathematical Modelling:** C4. apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations

**Properties and Relationships** B2.1 use the properties of operations, and the relationships between operations, to solve problems involving whole numbers, decimal numbers, fractions, ratios, rates, and whole number percents, including those requiring multiple steps or multiple operations

**Math Facts:** B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 5*) recall and demonstrate multiplication facts from 0 × 0 to 12 × 12, and related division facts; (*Grade 6*) understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9

**Mental Math:** B2.3 (*Grade 5*) use mental math strategies to multiply whole numbers by 0.1, 0.01 and estimate sums and differences of decimal numbers to hundredths and explain strategies used; (*Grade 6*) use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 25%, 50%, and 100%, and explain the strategies used

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# Grade 6: Unit 3 - Geometric Reasoning (15+ days)

## Specific Expectations:

**Geometric Reasoning** E1.1 create lists of geometric properties of various types of quadrilaterals, including the properties of the diagonals, rotational symmetry, and line symmetry

**Geometric Reasoning** E1.2 construct three-dimensional objects when given their top, front, and side views

**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

**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

**Angles** E2.3 use the properties of supplementary angles, complementary angles, opposite angles, and interior and exterior angles to solve for unknown angle measures

## Cross-Strand Connections:

**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

**Addition and Subtraction** *B2.4 represent and solve problems involving the addition and subtraction of whole numbers and decimal numbers, using estimation and algorithms

**Equalities and Inequalities** C2.3 solve equations that involve multiple terms and whole numbers in various contexts, and verify solutions

## Ongoing Focus:

**Social-Emotional Learning:** A1. apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the mathematics curriculum

**Mathematical Modelling:** C4. apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations

**Properties and Relationships** B2.1 use the properties of operations, and the relationships between operations, to solve problems involving whole numbers, decimal numbers, fractions, ratios, rates, and whole number percents, including those requiring multiple steps or multiple operations

**Math Facts:** B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 5*) recall and demonstrate multiplication facts from 0 × 0 to 12 × 12, and related division facts; (*Grade 6*) understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9

**Mental Math:** B2.3 (*Grade 5*) use mental math strategies to multiply whole numbers by 0.1, 0.01 and estimate sums and differences of decimal numbers to hundredths and explain strategies used; (*Grade 6*) use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 25%, 50%, and 100%, and explain the strategies used

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# Grade 6: Unit 4 - Patterns (10+ days)

## Specific Expectations:

**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

**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

**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

**Patterns** C1.4 create and describe patterns to illustrate relationships among whole numbers and decimal numbers

## Cross-Strand Connections:

**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

**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

## Ongoing Focus:

**Social-Emotional Learning:** A1. apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the mathematics curriculum

**Mathematical Modelling:** C4. apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations

**Properties and Relationships** B2.1 use the properties of operations, and the relationships between operations, to solve problems involving whole numbers, decimal numbers, fractions, ratios, rates, and whole number percents, including those requiring multiple steps or multiple operations

**Math Facts:** B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 5*) recall and demonstrate multiplication facts from 0 × 0 to 12 × 12, and related division facts; (*Grade 6*) understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9

**Mental Math:** B2.3 (*Grade 5*) use mental math strategies to multiply whole numbers by 0.1, 0.01 and estimate sums and differences of decimal numbers to hundredths and explain strategies used; (*Grade 6*) use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 25%, 50%, and 100%, and explain the strategies used

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# Grade 6: Block 2 Overview

5

## Number

15+ days

**Number:** B2. use knowledge of numbers and operations to solve mathematical problems encountered in everyday life

**Financial Literacy:** F1. demonstrate the knowledge and skills needed to make informed financial decisions

B2.2, B2.3, B2.6 - B2.12

6

## Algebra and Coding

15+ days

**Algebra:** C2. demonstrate an understanding of variables, expressions, equalities, and inequalities, and apply this understanding in various contexts

**Algebra:** C3. solve problems and create computational representations of mathematical situations using coding concepts and skills

C2.1 - C2.4, C3.1, C3.2

7

## Location and Movement

10+ days

**Spatial Sense:** E1. describe and represent shape, location, and movement by applying geometric properties and spatial relationships in order to navigate the world around them

**Algebra:** C3. solve problems and create computational representations of mathematical situations using coding concepts and skills

E1.3, E1.4

C3.1, C3.2

**Term 1**

**Term 2**

## Ongoing Focus:

**Social-Emotional Learning:** A1. apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the mathematics curriculum

**Mathematical Modelling:** C4. apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations

**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

**Math Facts:** B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 5*) recall and demonstrate multiplication facts from 0 × 0 to 12 × 12, and related division facts; (*Grade 6*) understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9

**Mental Math:** B2.3 (*Grade 5*) use mental math strategies to multiply whole numbers by 0.1, 0.01 and estimate sums and differences of decimal numbers to hundredths and explain strategies used; (*Grade 6*) use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 25%, 50%, and 100%, and explain the strategies used

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# Grade 6: Unit 5 - Number (15+ days)

## Specific Expectations:

**Math Facts** B2.2 understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9, and 10*

**Mental Math** B2.3 use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 15%, 25%, and 50%, and explain the strategies used*

**Multiplication and Division** B2.6 represent composite numbers as a product of their prime factors, including through the use of factor trees

**Multiplication and Division** B2.7 represent and solve problems involving the multiplication of three-digit whole numbers by decimal tenths, using algorithms

**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

**Multiplication and Division** B2.9 multiply whole numbers by proper fractions, using appropriate tools and strategies

**Multiplication and Division** B2.10 divide whole numbers by proper fractions, using appropriate tools and strategies

**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

**Multiplication and Division** B2.12 solve problems involving ratios, including percents and rates, using appropriate tools and strategies

## Cross-Strand Connections:

**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

**Equalities and Inequalities** *C2.3 solve equations that involve multiple terms and whole numbers in various contexts, and verify solutions

**Equalities and Inequalities** *C2.4 solve inequalities that involve two operations and whole numbers up to 100, and verify and graph the solutions

**Money Concepts** F1.1 describe the advantages and disadvantages of various methods of payment that can be used to purchase goods and services

## Ongoing Focus:

**Social-Emotional Learning:** A1. apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the mathematics curriculum

**Mathematical Modelling:** C4. apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations

**Properties and Relationships** B2.1 use the properties of operations, and the relationships between operations, to solve problems involving whole numbers, decimal numbers, fractions, ratios, rates, and whole number percents, including those requiring multiple steps or multiple operations

**Math Facts:** B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 5*) recall and demonstrate multiplication facts from 0 × 0 to 12 × 12, and related division facts; (*Grade 6*) understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9

**Mental Math:** B2.3 (*Grade 5*) use mental math strategies to multiply whole numbers by 0.1, 0.01 and estimate sums and differences of decimal numbers to hundredths and explain strategies used; (*Grade 6*) use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 25%, 50%, and 100%, and explain the strategies used

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# Grade 6: Unit 6 - Algebra and Coding (15+ days)

## Specific Expectations:

**Variables** C2.1 add monomials with a degree of 1 that involve whole numbers, using tools

**Variables** C2.2 evaluate algebraic expressions that involve whole numbers and decimal tenths

**Equalities and Inequalities** C2.3 solve equations that involve multiple terms and whole numbers in various contexts, and verify solutions

**Equalities and Inequalities** C2.4 solve inequalities that involve two operations and whole numbers up to 100, and verify and graph the solutions

**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

**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

## Cross-Strand Connections:

**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

**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

## Ongoing Focus:

**Social-Emotional Learning:** A1. apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the mathematics curriculum

**Mathematical Modelling:** C4. apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations

**Properties and Relationships** B2.1 use the properties of operations, and the relationships between operations, to solve problems involving whole numbers, decimal numbers, fractions, ratios, rates, and whole number percents, including those requiring multiple steps or multiple operations

**Math Facts:** B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 5*) recall and demonstrate multiplication facts from 0 × 0 to 12 × 12, and related division facts; (*Grade 6*) understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9

**Mental Math:** B2.3 (*Grade 5*) use mental math strategies to multiply whole numbers by 0.1, 0.01 and estimate sums and differences of decimal numbers to hundredths and explain strategies used; (*Grade 6*) use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 25%, 50%, and 100%, and explain the strategies used

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# Grade 6: Unit 7 - Location and Movement (10+ days)

## Specific Expectations:

**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

**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

**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

**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

## Cross-Strand Connections:

**Number: B2.** use knowledge of numbers and operations to solve mathematical problems encountered in everyday life

## Ongoing Focus:

**Social-Emotional Learning:** A1. apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the mathematics curriculum

**Mathematical Modelling:** C4. apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations

**Properties and Relationships** B2.1 use the properties of operations, and the relationships between operations, to solve problems involving whole numbers, decimal numbers, fractions, ratios, rates, and whole number percents, including those requiring multiple steps or multiple operations

**Math Facts:** B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 5*) recall and demonstrate multiplication facts from 0 × 0 to 12 × 12, and related division facts; (*Grade 6*) understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9

**Mental Math:** B2.3 (*Grade 5*) use mental math strategies to multiply whole numbers by 0.1, 0.01 and estimate sums and differences of decimal numbers to hundredths and explain strategies used; (*Grade 6*) use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 25%, 50%, and 100%, and explain the strategies used

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# Grade 6: Block 3 Overview

**8**

## Financial Lit/Number

15+ days

**Financial Literacy:** F1. demonstrate the knowledge and skills needed to make informed financial decisions

F1.1- F1.5

**9**

## Data and Probability

20+ days

**Data:** D1. manage, analyse, and use data to make convincing arguments and informed decisions, in various contexts drawn from real life

**Data:** D2. describe the likelihood that events will happen, and use that information to make predictions

D1.1 - D1.6, D2.1, D2.2

**10**

## Measurement

15+ days

**Spatial Sense:** E2. compare, estimate, and determine measurements in various contexts

**Number:** B2. use knowledge of numbers and operations to solve mathematical problems encountered in everyday life

E2.1 - E2.6

B2.4, B2.7, B2.8

**11**

## Last 20 Days

10+ days

**Social-Emotional Learning Skills**: A1. apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the mathematics curriculum

**Term 2**

## Ongoing Focus:

**Social-Emotional Learning:** A1. apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the mathematics curriculum

**Mathematical Modelling:** C4. apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations

**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

**Math Facts:** B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 5*) recall and demonstrate multiplication facts from 0 × 0 to 12 × 12, and related division facts; (*Grade 6*) understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9

**Mental Math:** B2.3 (*Grades 3-5)* use mental math strategies to add and subtract whole numbers, decimals and explain the strategies used; (*Grade 6*) use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 25%, 50%, and 100%, and explain the strategies used

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# Grade 6: Unit 8 - Financial Literacy/Number (10+ days)

## Specific Expectations:

**Money Concepts** F1.1 describe the advantages and disadvantages of various methods of payment that can be used to purchase goods and services

**Financial Management** F1.2 identify different types of financial goals, including earning and saving goals, and outline some key steps in achieving them

**Financial Management** F1.3 identify and describe various factors that may help or interfere with reaching financial goals

**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

**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

## Cross-Strand Connections:

**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

**Rational Numbers** *B1.3 compare and order integers, decimal numbers, and fractions, separately and in combination, in various contexts

**Multiplication and Division** *B2.12 solve problems involving ratios, including percents and rates, using appropriate tools and strategies

**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

## Ongoing Focus:

**Social-Emotional Learning:** A1. apply, to the best of their ability, a variety of social-emotional learning skills to support their use of the mathematical processes and their learning in connection with the expectations in the other five strands of the mathematics curriculum

**Mathematical Modelling:** C4. apply the process of mathematical modelling to represent, analyse, make predictions, and provide insight into real-life situations

**Properties and Relationships** B2.1 use the properties of operations, and the relationships between operations, to solve problems involving whole numbers, decimal numbers, fractions, ratios, rates, and whole number percents, including those requiring multiple steps or multiple operations

**Math Facts:** B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 5*) recall and demonstrate multiplication facts from 0 × 0 to 12 × 12, and related division facts; (*Grade 6*) understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9

**Mental Math:** B2.3 (*Grade 5*) use mental math strategies to multiply whole numbers by 0.1, 0.01 and estimate sums and differences of decimal numbers to hundredths and explain strategies used; (*Grade 6*) use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 25%, 50%, and 100%, and explain the strategies used

Simcoe County District School Board

# Grade 6: Unit 9 - Data and Probability (15+ days)

## Specific Expectations:

**Data Collection and Organization** D1.1 describe the difference between discrete and continuous data, and provide examples of each

**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

**Data visualisation** 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

**Data visualisation** 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

**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

**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

**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

**Probability** D2.2 determine and compare the theoretical and experimental probabilities of two independent events happening

## Cross-Strand Connections:

**Addition and Subtraction** *B2.4 represent and solve problems involving the addition and subtraction of whole numbers and decimal numbers, using estimation and algorithms

**Multiplication and Division** *B2.7 represent and solve problems involving the multiplication of three-digit whole numbers by decimal tenths, using algorithms

**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

## Ongoing Focus:

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# Grade 6: Unit 10 - Measurement (20+ days)

## Specific Expectations:

**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*

**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*

**Angles** E2.3 use the properties of supplementary angles, complementary angles, opposite angles, and interior and exterior angles to solve for unknown angle measures*

**Area** E2.4 determine the areas of trapezoids, rhombuses, kites, and composite polygons by decomposing them into shapes with known areas

**Area** E2.5 create and use nets to demonstrate the relationship between the faces of prisms and pyramids and their surface areas

**Area** E2.6 determine the surface areas of prisms and pyramids by calculating the areas of their two dimensional faces and adding them together

**Addition and Subtraction** B2.4 represent and solve problems involving the addition and subtraction of whole numbers and decimal numbers, using estimation and algorithms*

**Multiplication and Division** B2.7 represent and solve problems involving the multiplication of three-digit whole numbers by decimal tenths, using algorithms*

**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*

## Cross-Strand Connections:

**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

**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

**Equalities and Inequalities** C2.3 solve equations that involve multiple terms and whole numbers in various contexts, and verify solutions*

**Equalities and Inequalities** C2.4 solve inequalities that involve two operations and whole numbers up to 100, and verify and graph the solutions*

## Ongoing Focus:

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Simcoe County District School Board

# Grade 6: Unit 11 - Last 20 Days (15+ days)

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| To the best of their ability, students will learn to: | … as they apply the mathematical processes: | … so they can: |
|---|---|---|
| 1. identify and manage emotions | **problem solving:** develop, select, and apply problem-solving strategies<br>**reasoning and proving:** develop and apply reasoning skills (e.g., classification, recognition of relationships, use of counter-examples) to justify thinking, make and investigate conjectures, and construct and defend arguments<br>**reflecting:** demonstrate that as they solve problems, they are pausing, looking back, and monitoring their thinking to help clarify their understanding (e.g., by comparing and adjusting strategies used, by explaining why they think their results are reasonable, by recording their thinking in a math journal)<br>**connecting:** make connections among mathematical concepts, procedures, and representations, and relate mathematical ideas to other contexts (e.g., other curriculum areas, daily life, sports)<br>**communicating:** express and understand mathematical thinking, and engage in mathematical arguments using everyday language, language resources as necessary, appropriate mathematical terminology, a variety of representations, and mathematical conventions<br>**representing:** select from and create a variety of representations of mathematical ideas (e.g., representations involving physical models, pictures, numbers, variables, graphs), and apply them to solve problems<br>**selecting tools and strategies:** select and use a variety of concrete, visual, and electronic learning tools and appropriate strategies to investigate mathematical ideas and to solve problems | 1. express and manage their feelings, and show understanding of the feelings of others, as they engage positively in mathematics activities |
| 2. recognize sources of stress and cope with challenges | | 2. work through challenging math problems, understanding that their resourcefulness in using various strategies to respond to stress is helping them build personal resilience |
| 3. maintain positive motivation and perseverance | | 3. recognize that testing out different approaches to problems and learning from mistakes is an important part of the learning process, and is aided by a sense of optimism and hope |
| 4. build relationships and communicate effectively | | 4. work collaboratively on math problems – expressing their thinking, listening to the thinking of others, and practising inclusivity – and in that way fostering healthy relationships |
| 5. develop self-awareness and sense of identity | | 5. see themselves as capable math learners, and strengthen their sense of ownership of their learning, as part of their emerging sense of identity and belonging |
| 6. think critically and creatively | | 6. make connections between math and everyday contexts to help them make informed judgements and decisions |

## Ongoing Focus:

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