Simcoe County District School Board

Grade 4: 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

Simcoe County District School Board

Grade 4: 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.

Simcoe County District School Board

Grade 4: 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 - B1.9, B2.2 - B2.4

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, E2.1, E2.2, 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 of operations, and the relationships between addition, subtraction, multiplication, and division, to solve problems involving whole numbers, including those requiring more than one operation, and check calculations

Math Facts: B2.2 (*Grade 2)* recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 4*) recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

Mental Math: B2.3 (*Grade 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; (*Grade 4)* use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used

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Grade 4: 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 **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 **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) **connecting:** make connections among mathematical concepts, procedures, and representations, and relate mathematical ideas to other contexts (e.g., other curriculum areas, daily life, sports) **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 **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 **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 addition, subtraction, multiplication, and division, to solve problems involving whole numbers, including those requiring more than one operation, and check calculations

Math Facts: B2.2 (*Grade 2)* recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 4*) recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

Mental Math: B2.3 (*Grade 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; (*Grade 4)* use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used

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Grade 4: Unit 2 - Number (20+ days)

Specific Expectations:

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

Whole Numbers: B1.2 compare and order whole numbers up to and including 10 000, in various contexts

Whole Numbers: B1.3 round whole numbers to the nearest ten, hundred, or thousand, in various contexts

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

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

Fractions and Decimals: B1.6 count to 10 by halves, thirds, fourths, fifths, sixths, eighths, and tenths, with and without the use of tools

Fractions and Decimals: B1.7 read, represent, compare, and order decimal tenths, in various contexts

Fractions and Decimals: B1.8 round decimal numbers to the nearest whole number, in various contexts

Fractions and Decimals B1.9 describe relationships and show equivalences among fractions and decimal tenths, in various contexts

Math Facts B2.2 recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

Mental Math B2.3 use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used

Addition and Subtraction B2.4 represent and solve problems involving the addition and subtraction of whole numbers that add up to no more than 10 000 and of decimal tenths, using appropriate tools and strategies, including algorithms

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 and growing patterns

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

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

Area: E2.6 apply the formula for the area of a rectangle to find the unknown measurement when given two of the three

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 addition, subtraction, multiplication, and division, to solve problems involving whole numbers, including those requiring more than one operation, and check calculations

Math Facts: B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 4*) recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

Mental Math: B2.3 (*Grade 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; (*Grade 4*) use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used

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Grade 4: Unit 3 - Geometric Reasoning (15+ days)

Specific Expectations:

Geometric Reasoning: E1.1 identify geometric properties of rectangles, including the number of right angles, parallel and perpendicular sides, and lines of symmetry

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

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

Time: E2.3 solve problems involving elapsed time by applying the relationships between different units of time

Cross-Strand Connections:

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

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

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

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 addition, subtraction, multiplication, and division, to solve problems involving whole numbers, including those requiring more than one operation, and check calculations

Math Facts: B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 4*) recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

Mental Math: B2.3 (*Grade 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; (*Grade 4)* use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used

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

Specific Expectations:

Patterns: C1.1 identify and describe repeating and growing patterns, including patterns found in real-life contexts

Patterns: C1.2 create and translate repeating and growing patterns using various representations, including tables of values and graphs

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

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

Cross-Strand Connections:

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

Math Facts: B2.2 recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

Mental Math: B2.3 use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used

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 addition, subtraction, multiplication, and division, to solve problems involving whole numbers, including those requiring more than one operation, and check calculations

Math Facts: B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 4*) recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

Mental Math: B2.3 (*Grade 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; - (*Grade 4)* use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used

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Grade 4: 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

B2.5 - B2.8

F1.1, F1.2

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 - C2.3; 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

E1.2, E1.3

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

Math Facts: B2.2 (*Grade 2)* recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 4*) recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

Mental Math: B2.3 (*Grade 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; (*Grade 4)* use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used

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Grade 4: Unit 5 - Number (15+ days)

Specific Expectations:

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

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

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

Multiplication and Division: B2.8 show simple multiplicative relationships involving whole number rates, using various tools and drawings

Money Concepts: F1.1 identify various methods of payment that can be used to purchase goods and services

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

Cross-Strand Connections:

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

Whole Numbers: B1.3 round whole numbers to the nearest ten, hundred, or thousand, in various contexts

Equalities and Inequalities: C2.2 solve equations that involve whole numbers up to 50 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 addition, subtraction, multiplication, and division, to solve problems involving whole numbers, including those requiring more than one operation, and check calculations

Math Facts: B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 4*) recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

Mental Math: B2.3 (*Grade 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; (*Grade 4)* use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used

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Grade 4: Unit 6 - Algebra and Coding (15+ days)

Specific Expectations:

Variables: C2.1 identify and use symbols as variables in expressions and equations

Equalities and Inequalities: C2.2 solve equations that involve whole numbers up to 50 in various contexts, and verify solutions

Equalities and Inequalities: C2.3 solve inequalities that involve addition and subtraction of whole numbers up to 20, and verify and graph the solutions

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

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

Cross-Strand Connections:

Math Facts: B2.2 recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

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

Location and Movement: E1.3 describe and perform translations and reflections 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 addition, subtraction, multiplication, and division, to solve problems involving whole numbers, including those requiring more than one operation, and check calculations

Math Facts: B2.2 (*Grade 2)* recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 4*) recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

Mental Math: B2.3 (*Grade 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; (*Grade 4)* use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used

Simcoe County District School Board

Grade 4: Unit 7 - Location and Movement (10+ days)

Specific Expectations:

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

Location and Movement: E1.3 describe and perform translations and reflections 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 code, including code that involves sequential, concurrent, repeating, and nested events*

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*

Cross-Strand Connections:

Math Facts: B2.2 recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

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 addition, subtraction, multiplication, and division, to solve problems involving whole numbers, including those requiring more than one operation, and check calculations

Math Facts: B2.2 (*Grade 2)* recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 4*) recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

Mental Math: B2.3 (*Grade 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; (*Grade 4)* use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used

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Grade 4: Block 3 Overview

8 Financial Lit/Number

15+ days

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

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

F1.1 - F1.5

B2.4, B2.8

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, E2.2, E2.4, E2.5, E2.6

B2.4, B2.5

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

Math Facts: B2.2 (*Grade 2*) recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 4*) recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

Mental Math: B2.3 (*Grade 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; (*Grade 4)* use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used

Simcoe County District School Board

Grade 4: Unit 8 - Number (10+ days)

Specific Expectations:

Money Concepts: F1.1 identify various methods of payment that can be used to purchase goods and services

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

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

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

Consumer and Civic Awareness: F1.5 describe some ways of determining whether something is reasonably priced and therefore a good purchase

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*

Multiplication and Division B2.8 show simple multiplicative relationships involving whole number rates, using various tools and drawings*

Cross-Strand Connections:

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

Whole Numbers: B1.2 compare and order whole numbers up to and including 10 000, in various contexts

Whole Numbers: B1.3 round whole numbers to the nearest ten, hundred, or thousand, in various contexts

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

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 addition, subtraction, multiplication, and division, to solve problems involving whole numbers, including those requiring more than one operation, and check calculations

Math Facts: B2.2 (*Grade 2)* recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 4*) recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

Mental Math: B2.3 (*Grade 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; (*Grade 4)* use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used

Simcoe County District School Board

Grade 4: Unit 9 - Data and Probability (15+ days)

Specific Expectations:

Data Collection and Organization: D1.1 describe the difference between qualitative and quantitative data, and describe situations where each would be used

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

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

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

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 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

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

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

Cross-Strand Connections:

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

Multiplication and Division: B2.8 show simple multiplicative relationships involving whole number rates, using various tools and drawings

Equalities and Inequalities: C2.3 solve inequalities that involve addition and subtraction of whole numbers up to 20, and verify and graph the 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 addition, subtraction, multiplication, and division, to solve problems involving whole numbers, including those requiring more than one operation, and check calculations

Math Facts: B2.2 (*Grade 2)* recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 4*) recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

Mental Math: B2.3 (*Grade 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; (*Grade 4)* use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used

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Grade 4: Unit 10 - Measurement (20+ days)

Specific Expectations:

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*

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*

Angles: E2.4 identify angles and classify them as right, straight, acute, or obtuse

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

Area: E2.6 apply the formula for the area of a rectangle to find the unknown measurement when given two of the three

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*

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*

Cross-Strand Connections:

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

Whole Numbers: B1.2 compare and order whole numbers up to and including 10 000, in various contexts

Whole Numbers: B1.3 round whole numbers to the nearest ten, hundred, or thousand, in various contexts

Equalities and Inequalities: C2.2 solve equations that involve whole numbers up to 50 in various contexts, and verify solutions

Equalities and Inequalities: C2.3 solve inequalities that involve addition and subtraction of whole numbers up to 20, and verify and graph the 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 addition, subtraction, multiplication, and division, to solve problems involving whole numbers, including those requiring more than one operation, and check calculations

Math Facts: B2.2 (*Grade 2)* recall and demonstrate addition facts for numbers up to 20, and related subtraction facts; (*Grade 4*) recall and demonstrate multiplication facts for 1 × 1 to 10 × 10, and related division facts

Mental Math: B2.3 (*Grade 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; (*Grade 4)* use mental math strategies to multiply whole numbers by 10, 100, and 1000, divide whole numbers by 10, and add and subtract decimal tenths, and explain the strategies used

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Grade 4: Unit 11 - Last 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 **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 **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) **connecting:** make connections among mathematical concepts, procedures, and representations, and relate mathematical ideas to other contexts (e.g., other curriculum areas, daily life, sports) **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 **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 **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 addition, subtraction, multiplication, and division, to solve problems involving whole numbers, including those requiring more than one operation, and check calculations

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