LONG-RANGE PLAN

Grade 2, Mathematics

ORGANIZED BY QUESTIONS

What is a long-range plan and why is it important?

A long-range plan outlines a year-long plan for learning mathematics. It is a living document that is revised as educators become increasingly aware of the abilities, strengths, needs, and interests of their students. A thoughtfully developed long-range plan:

- ensures that instruction is sequenced in a manner that aligns with research about learning mathematics;
- allocates the appropriate time for concepts and skills so that students have multiple opportunities to focus on the overall expectations within the grade;
- ensures that all specific expectations are addressed at least once within the school year; and
- recognizes that some expectations need to be revisited several times throughout the year.

Note: These sample long-range plans outline possible sequences of instruction for the school year. There are many ways to structure an effective plan for learning.

How are these long-range plans structured?

Deep learning occurs when specific expectations are connected, are continuously expanded upon, and are revisited in a variety of contexts throughout the year.

This long-range plan is organized around ten unifying questions. Each question typically involves several strands and draws on big mathematical themes such as quantity, change, equivalence, dimension, pattern, and uncertainty. Often the same question spans several grades.

These ten questions can be sequenced throughout the year as ten blocks of time, as presented here in this long-range plan. Alternatively, the questions could be split into smaller, shorter blocks, with the embedded strands and topics serving as different contexts that would spiral the ten questions throughout the year.

While the long-range plan is presented as month-long blocks, this timing should be held loosely, and adjusted according to the learning readiness of students. The following are other considerations when using this long-range plan.

Considerations

- Sample long-range plans for each grade level include all overall and specific expectations from strands B through F.
- The overall expectation from Strand A (Social-Emotional Learning Skills and the Mathematical Processes) is integrated and taught in connection with the other strands throughout the school year.
- In developing long-range and daily plans, consider opportunities to teach and reinforce social-emotional learning skills and mathematical processes, as well as transferable skills, in order to help students develop confidence, cope with challenges, think critically and creatively, and develop a positive identity as a math learner.
- Mathematical modelling (Algebra, C4) provides opportunities for students to authentically engage in learning with everyday situations that involve mathematics. Tasks that require the process of mathematical modelling can be strategically situated throughout the year to support students in making connections among mathematical concepts, strands, and disciplines, and to provide opportunities for assessing the integration and application of learning.
- Coding (Algebra, C3) can be used to solve problems and help deepen students' understanding of mathematical concepts; it should be strategically addressed and assessed throughout the year, as appropriate.
- Some concepts and skills require ongoing attention so that students can develop proficiency and deep, lasting learning. Number Talks, Number Strings, and other math talk prompts can be used at the beginning of math classes to reinforce and strengthen number relationships, spatial relationships, math facts, mental math strategies, and problem-solving skills.

Reflective questions when planning

- What key concepts, models, and strategies do students need more time to develop?
- Does the long-range plan revisit expectations later? If not, how might I adjust the plan so it does? What prior learning is assumed in order for other expectations to be addressed?
- How can I create opportunities for students to continue to practise and consolidate learning when they are engaged in new learning?

Long-Range Plan: Grade 2

- Each month is organized around a unifying question. Strands connected to each question are listed below. The Social-Emotional Learning (SEL) Skills and the Mathematical Processes are to be integrated throughout each of the topics below as appropriate.

	Grade 1	Grade 2	Grade 3
Sep	**Who are we?** Number, Data, Spatial Sense	**Who are we?** Number, Data, Spatial Sense	**Who are we?** Number, Data, Spatial Sense
Oct	**How are numbers used in our world?** Number, Algebra, Data, Spatial Sense	**How much is that?** Number, Algebra, Data, Spatial Sense	**How much is 1000?** Number, Algebra, Data, Spatial Sense
Nov	**What comes first? What comes next?** Number, Algebra, Data, Spatial Sense	**What comes first? What comes next?** Number, Algebra, Data, Spatial Sense	**What comes first? What comes next?** Number, Algebra, Data, Spatial Sense
Dec	**Joining and separating: What do we have now?** Number, Algebra. Spatial Sense	**Joining and separating: What do we have now?** Number, Algebra. Spatial Sense	**When is addition and subtraction useful?** Number, Algebra, Spatial Sense, Financial Literacy
Jan	**What shapes are in our world?** Number, Algebra, Data, Spatial Sense	**How can we describe 2D shapes?** Number, Algebra, Data, Spatial Sense	**How can we describe 3D objects and space?** Data, Spatial Sense
Feb	**What is a pattern?** Number, Algebra, Spatial Sense	**Are they the same?** Number, Algebra, Spatial Sense	**Are they the same?** Number, Algebra, Spatial Sense

Mar	**How much is 50?** Number, Algebra, Data, Financial Literacy	**How much more?** Number, Algebra, Data, Spatial Sense, Financial Literacy	**How can we describe things that repeat?** Number, Algebra, Spatial Sense, Financial Literacy
Apr	**What's the difference?** Number, Algebra, Data, Spatial Sense, Financial Literacy	**What are different ways to get there?** Number, Algebra, Data, Spatial Sense, Financial Literacy	**What are different ways to get there?** Number, Algebra, Data, Spatial Sense, Financial Literacy
May	**How can we share things equally?** Number, Algebra, Spatial Sense	**How can we share things equally?** Number, Algebra	**How can we share things equally?** Number, Algebra, Data
Jun	**How much is that?** Number, Algebra, Data, Financial Literacy	**Equal groups: How much is that?** Number, Algebra, Financial Literacy	**Equal groups: How much is that?** Number, Algebra

September	QUESTION: Who are we?	
	Topics and Expectations	**Connecting the Learning**
	D: Data collection & 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 **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 **D: 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 **D: Data analysis (mode)** **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 **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 **D: Likelihood** **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 **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 **B: Amounts to 100** **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 **B1.2** compare and order whole numbers up to and including 200, in various contexts **B1.4** count to 200, including by 20s, 25s, and 50s, using a variety of tools and strategies **E: Maps & movement** **E1.4** create and interpret simple maps of familiar places **E1.5** describe the relative positions of several objects and the movements needed to get from one object to another --- **Number: B1.1; B1.2; B1.4** **Data: D1.1; D1.2; D1.3; D1.4; 1.5; D2.1; D2.2** **Spatial Sense: E 1.4, E1.5**	Students learn about their class and their classmates. They ask questions that focus on two pieces of information and sort, organize, represent, and analyze the data in ways appropriate for grade 2. They work with numbers to approximately 100 as they count the number of people or objects and match the count of tallies to the amounts in the graph. They identify the mode and use the language of likelihood to make predictions about another class. They test their predictions by surveying another class. They also create simple maps of their classroom and other places that are familiar to them. They describe the relative position of several objects in the class and explain how to get from one object to the next.

October	QUESTION: How much is that?	
	Topics and Expectations	**Connecting the Learning**
	B: Compose & decompose amounts to 100 **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 **B1.2** compare and order whole numbers up to and including 200, in various contexts **B1.3** estimate the number of objects in collections of up to 200 and verify their estimates by counting **B1.4** count to 200, including by 20s, 25s, and 50s, using a variety of tools and strategies **B1.5** describe what makes a number even or odd **C: Number relationships** **C1.4** create and describe patterns to illustrate relationships among whole numbers up to 100 **D: Data visualization & analysis** **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 **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 **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 **E: Non-standard units (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 **B: Math facts (+/−)** **B2.2** recall and demonstrate addition facts for numbers up to 20, and related subtraction facts **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 **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 **C: Coding** **C3.1** solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential and concurrent events **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 **E: Maps & movement** **E1.4** create and interpret simple maps of familiar places **E1.5** describe the relative positions of several objects and the movements needed to get from one object to another --- **Number: B1.1; B1.2; B1.3; B1.4; B1.5; B2.2; B2.3; B2.4** **Algebra: C1.4; C3.1; C3.2** **Data: D1.3; D1.4; D1.5** **Spatial Sense: E1.4; E1.5; E2.1**	Students consider how numbers are used to describe "how much". They continue to strengthen their subitizing abilities and use number relationships to build their mental addition and subtraction strategies and math facts. They compose and decompose amounts to 100 and record their findings as number sentences. They analyze sets of data and graphs and draw conclusions based on quantities represented by the graphs. They use numbers and non-standard units to describe how much length an object has, and move from answering comparison questions (Which is longer?) to measurement questions (How long? How much longer?). Lastly, they write code that programs a bot to travel a certain distance, in a certain direction.

November	Question: What comes first? What comes next?	
	Topics and Expectations	**Connecting the Learning**
	C: Spatial patterns & rules **C1.1** identify and describe a variety of patterns involving geometric designs, including patterns found in real-life contexts **C1.2** create and translate patterns using various representations, including shapes and numbers **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 **C: Code concurrent & sequential events** **C3.1** solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential and concurrent events **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 **E: Order by length (distance)** **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 **E: Order by duration (time)** **E2.4** use units of time, including seconds, minutes, hours, and nonstandard units, to describe the duration of various events **B: Number sequences to 200** **B1.2** compare and order whole numbers up to and including 200, in various contexts **B1.3** estimate the number of objects in collections of up to 200 and verify their estimates by counting **B1.4** count to 200, including by 20s, 25s, and 50s, using a variety of tools and strategies **C: Number relationships** **C1.4** create and describe patterns to illustrate relationships among whole numbers up to 100 **D: Data analysis** **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 **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 **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 **D: Likelihood** **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 **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 --- **Number: B1.2; 1.3; B1.4** **Algebra: C1.1; C1.2; C1.3; C1.4; C3.1; C3.2** **Data: D1.3; D1.4; D:1.5; D2.1; D2.2** **Spatial Sense: E2.1; E2.4**	Students explain how things are ordered and sequenced. They describe patterns in geometric designs and explain “what comes next” based on pattern rules. They look at number sequences to 200, and use place value and other patterns to order numbers. They put code in the right order so as to reach a desired destination or result. They compare objects by their measuring lengths, and order events by duration, as they engage in simple tasks and contests that can be timed (e.g., the amount of time it takes for an object to roll a given distance along a ramp at different heights). They present the data in tables and graphs. Based on results of these tasks and contests, they predict the likely order of future events.

December	QUESTION: Joining and separating: What do we have now?	
	Topics and Expectations	**Connecting the Learning**
	B: Change situations (+/−) and Part-whole situations (+/−) **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 **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 **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 **B: Mental math to 50** **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 **B: Math facts to 20** **B2.2** recall and demonstrate addition facts for numbers up to 20, and related subtraction facts **C: Symbols as variables** **C2.1** identify when symbols are being used as variables, and describe how they are being used **C: Equivalence (+/−)** **C2.2** determine what needs to be added to or subtracted from addition and subtraction expressions to make them equivalent **C2.3** identify and use equivalent relationships for whole numbers up to 100, in various context **E: Compose-decompose area** **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 --- **Number: B1.1; B2.1; B2.2; B2.3; B2.4** **Algebra: C2.1; C2.2; C2.3** **Spatial Sense: E1.2**	Students describe what happens when things are joined, separated, and combined. They represent these problem types with part-whole models, and use direct modeling, counting strategies, their math facts and mental math strategies to solve for unknown quantities. They represent their thinking with number sentences and use symbols to show variables. They also join, separate and combine 2D areas (compose and decompose) and demonstrate that the area of a shape remains constant regardless of how the parts are arranged.
C4: Integrated Modelling Task		

January	QUESTION: How can we describe 2D shapes?	
	Topics and Expectations	**Connecting the Learning**
	E: Compare, describe, & identify 2D shapes **E1.1** sort and identify two-dimensional shapes by comparing number of sides, side lengths, angles, and number of lines of symmetry **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 **E1.3** identify congruent lengths and angles in two-dimensional shapes by mentally and physically matching them, and determine if the shapes are congruent **E: Measure & draw lengths** **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 **E2.2** explain the relationship between centimetres and metres as units of length, and use benchmarks for these units to estimate lengths **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 **D: Venn & Carroll diagrams** **D1.1** sort sets of data about people or things according to two attributes, using tables and logic diagrams, including Venn and Carroll diagrams **B: Fractions of shapes (part-whole)** **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 **B1.7** recognize that one third and two sixths of the same whole are equal, in fair-sharing contexts **C: Patterns with shapes** **C1.1** identify and describe a variety of patterns involving geometric designs, including patterns found in real-life contexts **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 **C: Coding to make shapes** **C1.2** create and translate patterns using various representations, including shapes and numbers --- **Number: B1.6; B1.7** **Algebra: C1.1; C1.2; C1.3** **Data: D1.1** **Spatial Sense: E1.1; E1.2; E1.3; E2.1; E2.2; E2.3**	Students compare, describe, identify and measure 2D shapes. They use Venn and Carrol diagrams to show relationships between shapes and their attributes. They are introduced to centimetres and metres as standard units for measuring length. They understand that measuring tools, such as rulers, represent the repetition and count of units. They use rulers, as well as other strategies and tools, to measure and draw various lengths, distances, and shapes. Students also construct 2D shapes using code, and create spatial patterns based on the attributes of shapes. They compose and decompose the areas of 2D shapes and recognize, for example, that there are many ways to show a half of a rectangle. They continue to split 2D shapes into smaller equal parts and use fractions to describe the resulting shapes.

February	QUESTION: Are they the same?	
	Topics and Expectations	**Connecting the Learning**
	C: Pattern types & rules **C1.1** identify and describe a variety of patterns involving geometric designs, including patterns found in real-life contexts **C1.4** create and describe patterns to illustrate relationships among whole numbers up to 100 **C: Translate & represent patterns** **C1.2** create and translate patterns using various representations, including shapes and numbers **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 **E: Congruency** **E1.3** identify congruent lengths and angles in two-dimensional shapes by mentally and physically matching them, and determine if the shapes are congruent **E: Different units of length, including centimetres & metres** **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 **E2.2** explain the relationship between centimetres and metres as units of length, and use benchmarks for these units to estimate lengths **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 **E: Conservation of area** **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 **C: Equivalent relationships** **C2.1** identify when symbols are being used as variables, and describe how they are being used **C2.2** determine what needs to be added to or subtracted from addition and subtraction expressions to make them equivalent **C2.3** identify and use equivalent relationships for whole numbers up to 100, in various contexts **C: Coding events** **C3.1** solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential and concurrent events **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 **B: Fractions as equal parts & equal shares** **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 **B1.3** estimate the number of objects in collections of up to 200 and verify their estimates by counting **B1.7** recognize that one third and two sixths of the same whole are equal, in fair-sharing contexts **B: Equivalent 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 --- **Number: B1.1; B1.3; B1.6; B1.7** **Algebra: C1.1; C1.2; C1.3; C1.4; C2.1; C2.2; C2.3; C3.1; C3.2** **Spatial Sense: E1.2; E1.3; E2.1; E2.2; E2.3**	Students determine if quantities, shapes, patterns, and movements are the same. They decide if patterns, translated into different forms, represent the same pattern rule. They measure lengths and match angles to identify congruent elements in 2D shapes and determine if the shapes themselves are congruent. They compare lengths measured in centimetres, metres, or familiar non-standard units, and decide if the lengths are the same even though the number of units may differ. They examine silhouettes of shapes that have been rearranged to form other shapes, and determine if the areas are the same. They look at both sides of an equal sign to determine if they represent the same amount. They examine two sets of code and predict whether they both lead to the same destination or result. And they look at different ways of representing fractions, both as equal parts of a whole and as equal shares, and notice that the same fraction can represent different situations. In doing so, they also notice that the same quantity can be described by different but equivalent fractions.

March	QUESTION: How much more?	
	Topics and Expectations	**Connecting the Learning**
	B: Compare situations (+/−) **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 **B1.2** compare and order whole numbers up to and including 200, in various context **B1.3** estimate the number of objects in collections of up to 200 and verify their estimates by counting **B1.4** count to 200, including by 20s, 25s, and 50s, using a variety of tools and strategies **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 **B2.2** recall and demonstrate addition facts for numbers up to 20, and related subtraction facts **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 **C: Equalize expressions** **C1.4** create and describe patterns to illustrate relationships among whole numbers up to 100 **C2.1** identify when symbols are being used as variables, and describe how they are being used **C2.2** determine what needs to be added to or subtracted from addition and subtraction expressions to make them equivalent **C2.3** identify and use equivalent relationships for whole numbers up to 100, in various contexts **E: Measure length (cm, m)** **E2.2** explain the relationship between centimetres and metres as units of length, and use benchmarks for these units to estimate lengths **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 **E: Measure duration (time)** **E2.4** use units of time, including seconds, minutes, hours, and nonstandard units, to describe the duration of various events **B: Mental math to 50** **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 **F: Coins & bills to 200** **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 **D: Data analysis (frequency)** **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 **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 **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 **D: Likelihood (complement)** **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 --- **Number: B1.1; B1.2; B1.3; B1.4; B2.1; B2.2; B2.3; B2.4;** **Algebra: C1.4; C2.1; C2.2; C2.3** **Data: D1.3: D1.4; D1.5; D2.1** **Spatial Sense: E2.2; E2.3; E2.4** **Financial Literacy: F1.1**	Students answer the question “How much more?” as they consider comparison situations where the difference, the larger amount, or the smaller amount is unknown, including situations that involve money. They determine what amount is needed to equalize and balance expressions. They measure and compare times and length measurements and use the count of units to describe how much more. They look at graphs and tally charts and determine how much more frequently one response occurs than another. As they compare two amounts, they recognize that one amount and its complement create a whole. In all these contexts, they explain how addition and subtraction can be used to describe, represent and answer the question how much more.

April	QUESTION: What are different ways to get there?	
	Topics and Expectations	**Connecting the Learning**
	E: Maps & movement **E1.4** create and interpret simple maps of familiar places **E1.5** describe the relative positions of several objects and the movements needed to get from one object to another **E: Compare distances** **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 **E: Compare times** **E2.4** use units of time, including seconds, minutes, hours, and nonstandard units, to describe the duration of various event **B: Estimation & counting strategies** **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 **B1.3** estimate the number of objects in collections of up to 200 and verify their estimates by counting **B1.4** count to 200, including by 20s, 25s, and 50s, using a variety of tools and strategies **B: Compose & decompose numbers to 200** **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 **B2.2** recall and demonstrate addition facts for numbers up to 20, and related subtraction facts **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 **B: Mental Math to 50** **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 **F: Money amounts to 200** **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 **C: Coding routes** **C2.1** identify when symbols are being used as variables, and describe how they are being used **C2.2** determine what needs to be added to or subtracted from addition and subtraction expressions to make them equivalent **C2.3** identify and use equivalent relationships for whole numbers up to 100, in various context **C3.1** solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential and concurrent events **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 **D: Logic diagrams (flowchart)** **D1.1** sort sets of data about people or things according to two attributes, using tables and logic diagrams, including Venn and Carroll diagrams --- **Number: B1.1; B1.3; B1.4; B2.1; B2.2; B2.3; B2.4** **Algebra: C2.1; C2.2; C2.3; C3.1; C3.2** **Data: D1.1** **Spatial Sense: E1.4; E1.5; E2.3; E2.4** **Financial Literacy: F1.1**	Students use and describe different strategies and paths to arrive at a common destination, whether that be spatial or numerical. They create maps of different areas and describe, measure, and compare routes to arrive at a common destination. They do similar things as they create concurrent code and determine which is the most efficient path. They measure and compare the time it takes to do a task using different approaches, and use logic diagrams and flowcharts to describe sequences. They also compare different ways to get to a numerical calculation, or ways that an amount might be composed or decomposed. They model number relationships with number lines, describe and compare mental math strategies, and apply their math facts.
	C4: Integrated Modelling Task	

May	QUESTION: How can we share things equally?	
	Topics and Expectations	**Connecting the Learning**
	B: 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 **B1.7** recognize that one third and two sixths of the same whole are equal, in fair-sharing context **B: Partitive 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 **B: Relationships among the operations** **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 **C: Equivalent expressions** **C2.2** determine what needs to be added to or subtracted from addition and subtraction expressions to make them equivalent --- **Number: B1.6; B1.7; B2.1; B2.6** **Algebra: C2.2**	Students engage in situations where they must share amounts equally. They share amounts where the portions are whole number amounts, where the portions are fractional amounts, and where the portions are amounts greater than 1. They share their drawings and strategies, and use a combination of words and numbers to describe the fractional size of the portion. They compare two different equal sharing situations, and recognize that if the amount to be shared is the same, the number of sharers determines who gets more, and if the number of sharers is the same, the amount to be shared is the deciding factor. They represent their strategies with drawings and addition and subtraction number sentences. They come to see that the operation of division can also be used to describe the sharing of an amount equally.

June	QUESTION: Equal groups: How much is that?	
	Topics and Expectations	**Connecting the Learning**
	B: Skip count **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 **B1.4** count to 200, including by 20s, 25s, and 50s, using a variety of tools and strategies **B: Even & odd numbers** **B1.5** describe what makes a number even or odd **B: Multiplication** **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 **B: Quotative 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 **F: Coins & bills to 50** **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 **C: Equivalent expressions** **C2.2** determine what needs to be added to or subtracted from addition and subtraction expressions to make them equivalent --- **Number: B1.1; B1.4; B1.5; B2.1; B2.5** **Algebra: C2.2** **Financial Literacy: F1.1**	Students work with equal groups and use skip counting to determine the total. They come to see that numbers that can be split into equal whole number groups are called even and ones that cannot are called odd. They represent and solve problems involving repeated groups, including those with fractional amounts, and learn that multiplication can be used to represent the total product. Likewise, they represent and solve problems where they must split amounts into equal groups, and find out how many are in each group. They come to see that division can also represent grouping situations as well as sharing situations. They show how the same equal group situation can be modeled using addition, subtraction, multiplication, and division.