

Mathematics Scope & Sequence Grade 2/3

Strands and topics are sequenced to allow for fundamental skills and concepts to be introduced and built upon throughout the year to deepen understanding and make connections between mathematical concepts. Specific Expectations are noted, as well as any cross-strand connections. (You can create your own path on mathup.ca to match the following scope and sequence.)

Specific Expectations are noted, as well as any cross-strand connections. Please refer to the curriculum teacher supports for further details.

There should be an ongoing focus on the following expectations:

A1: Social and Emotional Learning

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 curriculum

C4: Mathematical Modeling

apply the process of mathematical modelling to represent, analyse, make predictions and provide insight into real-life situations

B2.1 Properties and Relationships

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

B2.2: Math Facts

- Gr. 4: recall and demonstrate multiplication facts for 1×1 to 10×10 , and related division facts
- Gr. 5: recall and demonstrate multiplication facts from 0×0 to 12×12 , and related division facts
- Gr. 6: understand the divisibility rules and use them to determine whether numbers are divisible by 2, 3, 4, 5, 6, 8, 9, and 10
- Gr. 7: understand and recall commonly used percents, fractions, and decimal equivalents
- Gr. 8: understand and recall commonly used square numbers and their square roots

B2.3 Mental Math

- Gr. 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
- Gr. 5: use mental math strategies to multiply whole numbers by 0.1 and 0.01 and estimate sums and differences of decimal numbers up to hundredths, and explain the strategies used
- Gr. 6: use mental math strategies to calculate percents of whole numbers, including 1%, 5%, 10%, 15%, 25%, and 50%, and explain the strategies used
- Gr. 7: use mental math strategies to increase and decrease a whole number by 1%, 5%, 10%, 25%, 50%, and 100%, and explain the strategies used
- Gr. 8: use mental math strategies to multiply and divide whole numbers and decimal numbers up to thousandths by powers of ten, and explain the strategies used
- Number Talks by Shari Parish should be used 3 times a week to reinforce math facts and fluency ([Click Here](#))

*If you see a grey box, you can make note of areas to return to if students are struggling. If you do not have a combined grade you can simply move on to the next topic

Resources & Tools for Creating a Balanced Mathematics Program							
Engaging Math Tasks	Ministry Supports	Math @ Home	Math Skills Practice	Digital Manipulatives	Videos: Teaching with MathUp	MathUP Masters	Assessment
youcubed	High-Impact Instructional Practices	PVNCCDSB Math	Knowledgehook	Polypad Intro to Polypad Video	Part 1: Minds On Part 2: Action Part 3: Consolidate Part 4: Your Turn	Math Printable Masters	Math Assessment & Evaluation (It's more than a mark)
3-Act-Math Tasks	Math Curriculum Documents	Free Math Tutoring	IXL Ontario Curriculum	Toy Theatre		Teaching Combined Grades	EQAO Assessments
Learning Progression Documents: Number Sense and Numeration Kindergarten Grade 1 Grade 2 Grade 3 Grade 4 Grade 5 Grade 6 Grade 7 Grade 8							

PVNCCDSB Scope & Sequence has been adapted from Northeastern Catholic District School Boards Fall 2022 Document:
[https://www.ncdsb.on.ca/2022%20Mathematics%20Scope%20&%20Sequence%20\(4-8\).pdf](https://www.ncdsb.on.ca/2022%20Mathematics%20Scope%20&%20Sequence%20(4-8).pdf)

		
PVNCCDSB Gr. 2/3 Mathematics Scope and Sequence 2025		
Mathematical High Impact Practices include: Learning Goals, Success Criteria & Descriptive Feedback Direct Instruction Math Conversations Flexible Groupings Problem-Solving Tasks Small-Group Instruction Tools & Representation Deliberate Practice		
Effective math instruction begins when educators have high expectations of students and believe that all students have the potential to learn and do math. It uses culturally relevant practices and differentiated learning experiences to meet individual students' learning needs. It focuses on the development of conceptual understanding and procedural fluency, skill development, communication, and problem-solving skills. And it involves educators choosing from and using a variety of high-impact instructional practices (Hattie, 2009; National Council of Teachers of Mathematics, 2014).		
Time Frame	Strands	Grade 2/3
TERM 1 - PROGRESS REPORT		
 The First 20 Days of MathUP		
About 20 days	Social-Emotional Learning Skills First 20 Days Gr. 2 First 20 days Gr. 3 A1 *Embed throughout	PURPOSE: Foster well-being Support math learning to high levels for all learners Develop SEL skills and the mathematical processes Contribute to equitable opportunities and outcomes Think critically and creatively EXPECTATIONS: Build relationships and communicate effectively Maintain positive motivation and perseverance Recognize sources of stress and cope with challenges Identify and manage emotions

Time Frame	Strands	Grade 2	Grade 3
About 13 days	Grade 2: Number B1	<u>COUNTING</u> Counting forward to 200, including by 20s, 25s, and 50s	<u>SKIP COUNTING</u> - Skip Count to 1000, including by 50s - Skip count backwards by 1s, 2s, 5s, 10s, and 20s starting from numbers up to 200 - Recognize counting patterns
	Grade 3: Number B1		
	Grade 2: Number B1	<u>REPRESENTING WHOLE NUMBERS</u> - Read, represent, compose and decompose whole numbers up to and including 200 - Describe what makes a number even or odd	<u>REPRESENTING WHOLE NUMBERS</u> - Read, represent, compose and decompose whole numbers up to and including 1000 - Use place value when describing and representing multi-digit numbers in a variety of ways, including with base ten materials - Create and describe patterns to illustrate relationships among whole numbers up to 1000 - Use math to model real-life situations so they can understand them better, make predictions, and find solutions
	Grade 3: Number B1, B2 Algebra C1, C4		
About 7 days	Grade 2: Number B1	<u>ESTIMATING & COMPARING WHOLE NUMBERS</u> - Compare and order whole numbers up to and including 200: - locate numbers on a number line & use place value - Estimate the number of objects in collections of up to 200 and verify their estimates by counting	<u>ESTIMATING & COMPARING WHOLE NUMBERS</u> - Compare and order whole numbers up to and including 1000 - Rebound whole numbers to the nearest ten or hundred - Count to 1000, including 50s, 100s, and 200s (building a number line using a scale)
	Grade 3: Number B1		
About 7 days	Grade 2: Algebra C1	<u>PATTERNS</u> - Identify and describe a variety of patterns involving geometric designs - Create and translate patterns using shapes and numbers - Determine pattern rules and use them to extend patterns - Make and justify predictions - Identify missing elements in patterns - Create and describe patterns to illustrate relationships among whole numbers up to 100	<u>PATTERNS</u> - Identify and describe repeating elements and operations in patterns on charts and number lines - Create and translate patterns with shapes, numbers and tables of values - Determine pattern rules and use them to extend patterns - Make and justify predictions - Identify missing elements in patterns
	Grade 3: Algebra C1		
TERM 1 - AFTER PROGRESS REPORTS			
About 7 days	Grade 2: Number B2	<u>MEANINGS OF ADDITION AND SUBTRACTION</u> - Solve problems using addition and subtraction - Recognize the relationship between addition and subtraction - 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 - Use math models to represent real-life situations	<u>ADDING & SUBTRACTING NUMBERS LESS THAN 100</u> - Relationship between addition and subtraction - Use mental math strategies, including estimation, to add and subtract whole numbers that add up to no more than 1000 - Represent and solve problems involving addition and subtraction of whole numbers that add up to no more than 1000 - Use math models to represent real-life situations
	Algebra C4		
	Grade 3: Number B2		
	Algebra C4		
About 7 days	Grade 2: Spatial Sense E2	<u>LENGTH</u> - Measure length using non-standard units - Measure and draw lengths in cm and m and use benchmarks - Estimate lengths using standard units	<u>LENGTH & TIME</u> - Relationship between mm, cm, m, and km - Use benchmarks of units to estimate lengths - Measure using various units of different sizes and recognize that different sized units produce a different count - Use analog & digital clocks and timers to tell time in hours, minutes, and Seconds - Use math models to represent real-life situations
	Grade 3: Spatial Sense E2		
	Algebra C4		
About 6 days	Grade 2: Data D1	<u>COLLECTING & ORGANIZING DATA</u> - Sort sets of data according to two attributes, using tables and diagrams - Collect data to answer questions that focus on two pieces of information - Display data using concrete graphs, simple bar graphs, pictographs and line plots - Identify the mode(s)	<u>COLLECTING, ORGANIZING & DESCRIBING DATA</u> - Sort sets of data according to 2 or 3 attributes using tables and diagrams: venn, carroll, tree - Collect data to answer questions on qualitative and quantitative data - Use frequency tables - Determine the mean and mode(s) - Make and test predictions about the likelihood of the mean and mode(s) - Multiplication facts of 2, 5, and 10 and related division facts - Mental math strategies to add and subtract up to 1000
	Grade 3: Data D1, D2 Number B2		

About 5 days	Grade 2: Financial Literacy F1 Grade 3: Financial Literacy F1	<u>MONEY</u> Represent money up to 200¢ or \$200 with dollar amounts using various combinations of coins and bills	<u>FINANCIAL LITERACY</u> - Estimate and calculate change for transactions involving whole dollar amounts of less than \$1 - Represent money amounts - Link to B1: - Skip counting - Subtracting and rounding
About 7 days	Grade 2: Number B2 Grade 3: Number B2 Algebra C4	<u>ADDING & SUBTRACTING SMALL NUMBERS</u> - Recall and demonstrate addition facts for numbers up to 20, and related subtraction facts: - Doubles - Doubles +1 or -1 - Making 10	<u>ADDING & SUBTRACTING GREATER NUMBERS</u> - Mental math strategies: estimating and adding/subtracting - Understand algorithms to add 3-digit numbers - Represent and solve problems - Model real life situations so they can understand them better, make predictions and find solutions
About 5 days	Grade 2: Data D1 Grade 3: Number B2	<u>INTERPRETING DATA</u> - Read and interpret concrete graphs, pictographs, line plots, and bar graphs - Pose and answer questions about and draw conclusions from data	<u>DISPLAYING & INTERPRETING DATA</u> - Collect data to answer questions that focus on qualitative and quantitative data - Organize data into frequency tables - Display data in pictographs and bar graphs, using titles, labels, and scales - Analyze sets of data in various ways - Use the ratios of 1:2, 1:5, 1:10 to scale up numbers and to solve problems
TERM 2			
About 6 days	Grade 2: Algebra C3 Spatial Sense E1, E2 Grade 3: Spatial Sense E1	<u>LOCATION & MOVEMENT & CODING</u> - Create and interpret simple maps of familiar places (Lesson 1- Coding) - Describe the relative positions of several objects and the movements need to get from one object to another	<u>LOCATION & MOVEMENT</u> - Give and follow multi-step instructions involving movement from one location to another - Include distances and $\frac{1}{2}$ and $\frac{1}{4}$ turns
About 5 days	Grade 2: Spatial Sense E1 Grade 3: Spatial Sense E2	<u>DESCRIBING & SORTING SHAPES</u> - Sort and identify 2D shapes by comparing number of sides, side lengths, angles, and number of lines of symmetry - Identify congruent lengths and angles in 2D shapes - Determine if shapes are congruent	<u>PERIMETER</u> - Use units of length to estimate, measure and compare the perimeters of polygons and curved shapes - Construct polygons with a given perimeter - Recognize that shapes can have the same perimeter but look different
About 8 days	Grade 2: Number B2 Grade 3: Number B2 Algebra C1	<u>INTRODUCING MULTIPLICATION & DIVISION</u> - Represent multiplication as repeated equal groups - Represent division of up to 12 items as the equal sharing of a quantity - Solve problems	<u>REPRESENTING MULTIPLICATION & DIVISION</u> - Relationship between multiplication and division to solve and check problems - Represent multiplication of numbers up to 10×10 and divisions up to $100 \div 10$ - Use of arrays and repeating addition - Solving problems that involve $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{5}$, using tools and drawings - Recognize patterns in multiplying and dividing - Describe patterns among whole numbers up to 1000
About 4 days	Grade 2: Data D2 Grade 3: Data D2	<u>PROBABILITY</u> - Likelihood of an event: impossible, possible, and certain - Make and test predictions about the likelihood that the mode will be the same for data from a different population	<u>PROBABILITY</u> - Likelihood of an event: impossible, unlikely, equally likely, likely and certain - Make predictions and informed decisions - Relate fairness
About 13 days	Grade 2: Grade 3: Spatial Sense E2	Return to areas students may be struggling with.	<u>AREA: NON-STANDARD UNITS & STANDARD UNITS</u> - Estimate and measure area using units of different shapes - Compare the area of 2D shapes by matching, covering, or decomposing and recomposing the shapes - Demonstrate that different shapes can have the same area - Use cm² and m² to estimate, measure and compare the area of 2D shapes, including those with curved sides
About 7 days	Grade 2: Spatial Sense E2 Algebra C4	<u>TIME</u> - Measure time using non-standard units - Measure time in seconds and minutes - Relate seconds, minutes and hours - Use math models to represent real-life situations	<u>MASS & CAPACITY</u> - Use non-standard units to estimate, measure and compare capacity and mass - Explain the effect that overfilling or underfilling, and gaps between units, have on accuracy - Use a pan balance for mass - Use various units to measure the same attribute and

	Grade 3: Spatial Sense E2 Algebra C4		demonstrate that the size of the attribute remains the same even though there is a different count Use math models to represent real-life situations
MARCH BREAK			
About 10 days	Grade 2: Number B2 Grade 3: Number B2 Algebra C1, C2	<u>ADDING & SUBTRACTING 2-DIGIT NUMBERS</u> - Use mental math strategies, including estimation, to add and subtract whole numbers up to 50 - Explain strategies used; place value with base ten blocks - Solve addition and subtraction of whole numbers that add up to no more than 100	<u>MULTIPLYING & DIVIDING</u> - Relationship between multiplying and dividing to solve and check calculations - Recall multiplication facts of 2, 5, 10, and related division facts - Represent multiplication of numbers up to 10×10 and divisions up to $100 \div 10$ - Recognize patterns in multiplying and dividing - Create and describe patterns to illustrate relationships among whole numbers up to 1000
About 5 days	Grade 2: Algebra C3 Spatial Sense E1, E2 Grade 3: Algebra C2, C3 Spatial Sense E1, E2	<u>LOCATION, MOVEMENT, AND CODING</u> - Create maps and use them to describe relative position and movement - Create and execute code for sequential and concurrent movements - Solve problems by writing and executing code	<u>CODING</u> - Create and execute code for sequential, concurrent and repeating events - Repeat and alter code - Describe how changes to the code affect the outcomes
About 6 days	Grade 2: Number B1 Grade 3: Number B1, B2 Algebra C1	<u>FRACTIONS</u> - Model and compare fair-share situations (up to 6 sharers) - Represent whole numbers, mixed numbers, and fractional amounts - Recognize that one third and two sixths of the same whole are equal	<u>FRACTIONS</u> - Represent, solve and compare fair-share problems up to 20 items among 2, 3, 4, 5, 6, 8, and 10 sharers - Whole numbers, mixed numbers and fractional amounts - Equivalent fractions that involve halves, fourths, and eighths; thirds and sixths; and fifths and tenths - Represent the connection between the numerator of a fraction and the repeated addition of the unit fraction - Create and describe patterns to illustrate relationships among whole numbers up to 1000
About 6 days	Grade 2: Algebra C2 Grade 3: Algebra C2	<u>ALGEBRA</u> - Symbols as variables - Equality as balance; show that both expressions describe the same amount - Identify and use equivalent relationships for whole numbers up to 100	<u>ALGEBRA</u> - Describe how variables are used and use them in various contexts - Determine whether sets of addition, subtraction, multiplication or division expressions are equivalent or not - Identify and use equivalent relationships for whole numbers up to 1000 - Determine missing values in addition and subtraction equations
About 9 days	Grade 2: Spatial Sense E1 Grade 3: Spatial Sense E1	<u>COMPOSING AND DECOMPOSING SHAPES</u> - Compose and decompose 2D shapes - Show the area of a shape remains constant	<u>WORKING WITH 3D OBJECTS; REPRESENTING 3D OBJECTS</u> - Sort, construct, and identify cubes, prisms, pyramids, cylinders, and cones by comparing faces, edges, vertices, and angles - Compose and decompose structures - Identify 2D shapes and 3D objects in structures - Identify congruent lengths, angles, and faces of 3D objects - Construct skeletons and nets of 3D objects