

Mathematics Scope & Sequence Grade Kindergarten

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 Document: Number							
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 Kindergarten 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
TERM 1 - PROGRESS REPORT		
 The First 20 Days of MathUP		
About 20 days	Social-Emotional Learning Skills First 20 Days 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

Overall Expectation	Specific Expectations
15 20	<u>COUNTING</u> • A number's position in the counting sequence determines its magnitude (ex. 1 is before 2 because it is a smaller number) • One-to-one correspondence • Stable order: 1 is followed by 2...etc • Order irrelevance (ex. concept that the number of objects in a set will be the same regardless of which object is used to begin the counting) • Estimate the number in a small set • Number relationships from 0-10 • Use, read, and represent numbers to 10 <u>SUBITIZING</u> • Subitize quantities to 5 without having to count • Use, read, and represent whole numbers to 10
15 20	<u>REPRESENTING NUMBERS</u> • Use concrete materials to investigate counting, quantity, and number relationships • Compare sets as more, fewer and equal • Order sets as more, fewer and equal • One-to-one correspondence • Number relationships 0-10 • Use, read and represent numbers to 10
15 20	<u>ESTIMATING QUANTITIES</u> • Use information to estimate the number in a small set (ex. Use 5 or 10 as a benchmark number)
18 20	<u>PATTERNS</u> • Identify and describe informally the repeating nature of patterns in everyday contexts • Recognize, explore, describe, and compare patterns • Extend, translate, and create patterns using the core of a pattern • Identify the smallest unit (the core) of a pattern and describe why it is important • Create and translate patterns • Compose patterns using 2D shapes • Investigate and describe how objects can be collected, grouped, and organized according to similarities and differences
TERM 1 - AFTER PROGRESS REPORTS	
15 20	<u>COMPOSING & DECOMPOSING NUMBERS</u> • Compose and decompose quantities to 10 • Relationships for numbers 0-10 • Use, read, and represent whole numbers to 10
16 20	<u>COMPARING MEASUREMENTS DIRECTLY</u> • Select an attribute / object to measure and determine an appropriate non-standard unit of measure • Measure and compare two or more objects. • Compare objects, materials and spaces in terms of their length, mass, capacity, area and temperature
19 20	<u>SORTING</u> • Sort objects in multiple ways and recognize how objects can be re-sorted in everyday situations • Ask questions that can be answered through data collection • Collect data and make representations of their observations using graphs • Investigate and describe how objects can be collected, grouped, and organized according to similarities and differences
15 20	<u>COMPARING QUANTITIES</u> • A number's position in the counting sequence determines its magnitude (ex. 1 is before 2 because it is a smaller number) • Recognize quantity and equality by identifying and comparing sets with more, fewer, or the same number of objects • One-to-one correspondence in counting and matching groups • Explore different Canadian coins and their value • Demonstrate an understanding of number relationships for numbers from 0 to 10
15 20	<u>WHERE DO WE USE NUMBERS?</u> • Explore and communicate the function of numbers in a variety of contexts • Door #s in school • Bus numbers • House numbers • Candles on a cake • Page numbers • Explore and communicate the function/purpose of numbers in a variety of contexts

19 20	DATA COLLECTION & GRAPHING • Ask questions that can be answered through data collection • Collect data and make representations of their observations using graphs • Interpret data presented in graphs and draw conclusions • Respond to and pose questions about data collection and graphs • Describe how objects can be collected, grouped, and organized according to similarities and differences • Use mathematical language in informal discussions to describe probability in familiar, everyday situations
TERM 2	
17 20	LOCATION & MOVEMENT • Communicate an understanding of basic spatial relationship • Use positional language and vocabulary to describe the location and movement of objects through investigation • Compose pictures, designs, shapes and patterns using 2D shapes
17 20	SIMPLE OBJECTS • Sort, and compare the attributes / properties of traditional and non-traditional 2-D shapes • Sort, and compare the attributes / properties of 3-D figures • Investigate and explain the relationship between 2-D shapes and 3-D figures in objects they have made • Investigate and describe how objects can be collected, grouped, and organized according to similarities and differences
4-8 days	Review previous topics that students may have struggled in.
19 20	PROBABILITY • Ask questions that can be answered through data collection • Respond to and pose questions about data collection • Use mathematical language in informal discussions to describe probability in familiar, everyday situations
13 days	Review previous topics that students may have struggled in.
17 20	SIMPLE SHAPES • Describe, sort, classify, build, and compare 2D shapes through investigation • Explore, sort and compare the attributes and properties of traditional and non-traditional 2D shapes • Predict and explore reflective symmetry in 2D shapes • Investigate and describe how objects can be collected, grouped and organized according to similarities and differences
MARCH BREAK	
15 20	ADDING & SUBTRACTING • Investigate addition in everyday experiences • Investigate subtraction in everyday experiences • Use modelling strategies, manipulatives and counting to add and subtract • Demonstrate an understanding of number relationships for numbers from 0 to 10
17 20	COMPOSING & DECOMPOSING SHAPES & OBJECTS • Explore, sort, and compare the attributes and the properties of traditional and non-traditional 2-D shapes • Explore sort and compare the attributes / properties of 3-D figures • Compose pictures, designs, shapes, and patterns, using 2-D shapes • decompose 2-D shapes into smaller shapes and rearrange the pieces into other shapes, using various tools and materials • Build 3-D structures using a variety of materials and identify the 3-D figures their structure contains
5-7 days	Review previous topics that students may have struggled in.
4-6 days	Review previous topics that students may have struggled in.
16	USING NON-STANDARD UNITS TO MEASURE • Select an attribute / object to measure and determine an appropriate non-standard unit of measure • Measure and compare two or more objects • Investigate strategies and materials used when measuring with non-standard units of measure