Interactive Vocabulary Sample Year Plan (June 25, 2022)

Kindergarten

Interactive Vocabulary Sample Year Plan Mathematics Kindergarten

This resource has been created by Jackie Ratkovic (LNES), Wanda Dechant (CRC) and Chris Zarski (CARC) to support teachers in accessing terminology associated with the new Mathematics Curriculum. This document is a living document and will continue to be enhanced with additional links overtime.

What is Mathematics?

Mathematics is a subject in which students study patterns and relationships to understand various aspects of the world. Mathematical understanding is connected to many branches of mathematics, including arithmetic, algebra, geometry, data, statistics, and probability. The procedures associated with mathematics range from counting, calculating, and measuring to analyzing, modelling, and generalizing. Communication is also fundamental to mathematics. The language of mathematics has its own system of symbolic notation and a specific vocabulary with which to communicate mathematical thinking concisely.

Mathematical skills and knowledge support the interpretation of diverse quantitative and spatial information and can be applied to solving both theoretical and practical problems. With mathematics, abstract ideas can be visualized, represented, and explained. Mathematics is a powerful tool that can be used to simplify and solve complicated real-life problems.

Numeracy, Quantitative Information and Spatial Information

Numeracy is a foundational building block of learning and is developed in all subjects in different ways. Central to the development of numeracy, the mathematics curriculum helps students acquire and apply the knowledge and skills necessary to interact with quantitative and spatial information in a variety of situations. Foundational numeracy focuses on counting, comparing, and calculating* with numbers; describing, representing, and measuring shapes and objects; collecting, organizing, and interpreting data; and creating and interpreting diagrams, graphs, and tables. Numeracy skills support real-life pursuits, including telling time, using and managing money, following instructions, finding an address, and reading a schedule. With a focus on numeracy, the mathematics curriculum provides all students with a solid foundation of mathematical knowledge, understanding, and skills to set them up for future success.

Mathematics education is an ongoing process of connecting students' concrete experiences to their comprehension of abstract concepts. A recognition of numbers and their application to counting and comparing form foundational knowledge and skills for students as they encounter a variety of quantitative information in their lives. The development of these skills supports students as they participate in family, community, and cultural activities. As their experiences broaden, students also learn that operations with numbers provide reliable and efficient options to counting and comparing. Students acquire knowledge of basic number facts that can be applied to addition, subtraction, multiplication, and division of larger numbers using commonly recognized algorithms. Students also communicate using conventional mathematical symbols and vocabulary. As students are exposed to more and varied quantitative information, they learn about different number systems and their applications to various situations, such as decimals for money and integers for temperature. In developing algebraic thinking skills, students transfer their understandings of properties of numbers to new or abstract problems.

Although mathematics is often considered the study of numbers, it also provides the tools to interpret spatial information in the world. The earliest mathematical experiences of children involve exploration of the space and objects around them. Mathematics provides the foundations for precisely describing, defining, and measuring spatial information. Students will learn geometric properties that relate to and distinguish shapes. They will also develop an understanding of measurement, progressing from direct comparison, to the use of non-standard units of measure, to accurately measuring with various standard units and tools. Examining shapes through measures and calculations of length, area, volume, and angle will allow students to build a broad

understanding of spatial information. Students will extend their application of spatial knowledge and skills from concrete to abstract situations, precisely describing location and movement of shapes in a plane. They will develop knowledge of geometric properties, theorems, and formulas to appreciate complex patterns within traditional cultural designs, to solve immediate real-life problems, and to propose innovations.

Throughout the study of mathematics, students apply their foundational knowledge, understandings, skills, and procedures to solve problems. They visualize and reason to move from what is known to what is sought. Thinking logically about a problem, choosing a strategy, reaching a conclusion, and justifying the solution helps students develop confidence in their mathematical thinking and decision making. These processes are reinforced by both literacy and numeracy skills and continue to develop throughout students' lives to support a wide variety of needs, such as financial literacy.

The foundational knowledge and skills provided by the mathematics curriculum are important contributions to the future success of students. Students will apply abilities in computation, managing information, reasoning, and problem solving in daily life and in future educational pursuits and careers. Mathematics will help students interact in society with confidence and intellectual curiosity. Students will rely on their mathematical knowledge and skills as they continue into adulthood in our interconnected and ever changing world. *Note: Learning outcomes in the Mathematics Kindergarten to Grade 6 Curriculum are intended to be achieved without the support of calculators.

source: *Final Curriculum: Kindergarten to Grade 3 will be implemented starting September 2022. Grades 4 to 6 are available for optional implementation starting September 2022, Introduction, page 1.*

September 2022 ---------- November 2022

September	October	November
SpecificNumber: Quantity is measured with numbers that enable counting, labelling, comparing and operating.		
KN1.2a. Children investigate quantities to 10.(to 5) • A quantity is always counted using the same sequence of words (counting principle: stable order) KN1.1 Children investigate quantities to 10.(to 5) • Quantity can be the number of objects in a set. KN1.4 Children investigate quantities to 10.(to 5) • A quantity can be described in relation to a purpose or need.	KN1.2a. Children investigate quantities to 10.(to 5) • A quantity is always counted using the same sequence of words (counting principle: stable order) KN1.1 Children investigate quantities to 10.(to 5) • Quantity can be the number of objects in a set. KN1.4 Children investigate quantities to 10.(to 5) • A quantity can be described relative to another quantity. • A quantity can be described in relation to a purpose or need. **Subitizing begins and carries forward.**	KN1.2a. Children investigate quantities to 10.(to 5 • A quantity is always counted using the same sequence of words (counting principle: stable order) KN1.1 Children investigate quantities to 10.(to 5 • Quantity can be the number of objects in a set. KN1.4 Children investigate quantities to 10.(to 5 • A quantity can be described relative to another quantity. • A quantity can be described in relation to a purpose or need.
Exposure and Intro to Patterns		**Patterns: Awareness of patterns supports problem solving in various situations.**
		KP1. Children identify and create repeating patterns. • Pattern is characterized by how the elements change or remain the same. **copy - extending - creating(including as Vocabulary)**

September 2022 ---------- November 2022		
September	**October**	**November**
Time: Duration is described and quantified with time.		
KT1. Children interpret time as a sequence of events. ● Time can be perceived as a sequence. **Agenda's & Calendars right from day 1!**	KT1. Children interpret time as a sequence of events. ● Time can be perceived as a sequence. **Agenda's & Calendars right from day 1!**	KT1. Children interpret time as a sequence of events. ● Time can be perceived as a sequence. **Agenda's & Calendars right from day 1!**
Geometry: Shapes are defined and related by geometric attributes.		
KG 1. Children acquire an understanding of shape. ● Shape is structured two-dimensional or three-dimensional space. (focus on 2D)	KG 1. Children acquire an understanding of shape. ● Shape is structured two-dimensional or three-dimensional space. (focus on 2D)	KG 1. Children investigate shape. ● Shape is structured two-dimensional or three-dimensional space. (2D & 3D)(focus on 2D)

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December 2022 ---------- March 2023

December	January	February	March
Number: Quantity is measured with numbers that enable counting, labelling, comparing and operating.			
KN1.2a. Children investigate quantities to 10...(to 5) perhaps 6 to use dice • A quantity is always counted using the same sequence of words (counting principle: stable order) KN1.1 Children investigate quantities to 10.(to 5) perhaps 6 to use dice • Quantity can be the number of objects in a set. KN1.4 Children investigate quantities to 10.(to 5) perhaps 6 to use dice • A quantity can be described relative to another quantity. • A quantity can be described in relation to a purpose or need.	KN1.1 Children investigate quantities to 10. • Quantity can be the number of objects in a set. KN1.4 Children investigate quantities to 10. • A quantity can be described relative to another quantity. • A quantity can be described in relation to a purpose or need. KN1.2 Children investigate quantities to 10. • A quantity is always counted using the same sequence of words (counting principle: stable order) • A quantity remains the same no matter the order in which the objects are counted (counting principle: order irrelevance). • A quantity can be determined by counting each object in a set once and only once (counting principle: one-to-one correspondence). • The last number used to count represents the quantity (counting principle: cardinality).	KN1.2 Children investigate quantities to 10. • A quantity is always counted using the same sequence of words (counting principle: stable order) • A quantity remains the same no matter the order in which the objects are counted (counting principle: order irrelevance). • A quantity can be determined by counting each object in a set once and only once (counting principle: one-to-one correspondence). • The last number used to count represents the quantity (counting principle: cardinality). • Any quantity of like or unlike objects can be counted as a set (counting principle: abstraction). KN1.3 Children investigate quantities to 10. • Quantity can be determined without counting. KN1.1 Children investigate quantity to 10. • Quantity can be the number of objects in a set. KN1.4 Children investigate quantity to 10.	KN1.1 Children investigate quantities to 10. • Quantity can be the number of objects in a set. KN1.2 b-e. Children investigate quantities to 10. • Any quantity of like or unlike objects can be counted as a set (counting principle: abstraction). KN1.3 Children investigate quantities to 10. • Quantity can be determined without counting.

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December 2022 ---------- March 2023

December	January	February	March
	• Any quantity of like or unlike objects can be counted as a set (counting principle: abstraction)	• A quantity can be described relative to another quantity. • A quantity can be described in relation to a purpose or need.	
Patterns: Awareness of patterns supports problem solving in various situations.			
KP1. Children identify and create repeating patterns. • Pattern is characterized by how the elements change or remain the same.	KP1. Children identify and create repeating patterns. • Pattern is characterized by how the elements change or remain the same.		
	Geometry: Shapes are defined and related by geometric attributes.		
	KG 1. Children investigate shape. • Shape is structured two-dimensional or three-dimensional space. (2D & 3D)	KG 1. Children investigate shape. • Shape is structured two-dimensional or three-dimensional space. (2D & 3D)	
Time: Duration is described and quantified with time.			
KT1 Children interpret time as a sequence of events. • Time can be perceived as a sequence. **Ongoing**	KT1 Children interpret time as a sequence of events. • Time can be perceived as a sequence. **Ongoing**	KT1 Children interpret time as a sequence of events. • Time can be perceived as a sequence. **Ongoing**	KT1 Children interpret time as a sequence of events. • Time can be perceived as a sequence. **Ongoing**

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December 2022 ---------- March 2023

December	January	February	March
			Measurement: Attributes such as length, area, volume and angle are quantified by measurement. KM1.1 Children explore size through direct comparison. ● Size describes the amount of one measurable attribute of an object or a space. KM1.2 Children explore size through direct comparison.. ● Size may refer to only one measurable attribute at a time. ● The size of two objects can be compared directly. ● The size of an object can be described in relation to a purpose or need.

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April 2023 ---------- June 2023

April	May	June
Number: Quantity is measured with numbers that enable counting, labelling, comparing and operating.		
KN1.3 Children acquire an understanding of quantity to 10 ● Quantity can be determined without counting. KN1.1 Children acquire an understanding of quantity to 10A quantity can be described relative to another quantity. ● Quantity can be the number of objects in a set. KN1.4 Children acquire an understanding of quantity to 10 ● A quantity can be described relative to another quantity. ● A quantity can be described in relation to a purpose or need.	KN1.4 Children acquire an understanding of quantity to 10 ● A quantity can be described relative to another quantity. ● A quantity can be described in relation to a purpose or need. KN2 Children interpret compositions of quantities within 10. ● A quantity remains the same no matter how the objects are grouped or arranged (counting principle: conservation).	
Patterns: Awareness of patterns supports problem solving in various situations.		
KP1. Children identify and create repeating patterns. ● Pattern is characterized by how the elements change or remain the same.	KP1. Children identify and create repeating patterns. ● Pattern is characterized by how the elements change or remain the same.	.
Measurement: Attributes such as length, area, volume and angle are quantified by measurement.		
KM1.2 Children explore size through direct comparison.. ● Size may refer to only one measurable attribute at a time. ● The size of two objects can be compared directly.	KM1.2 Children explore size through direct comparison.. ● Size may refer to only one measurable attribute at a time. ● The size of two objects can be compared directly..	

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April 2023 ---------- June 2023

April	May	June
● The size of an object can be described in relation to a purpose or need.	● The size of an object can be described in relation to a purpose or need.	

Time: Duration is described and quantified with time.		
KT1. Children interpret time as a sequence of events. ● Time can be perceived as a sequence. **Ongoing**	KT1. Children interpret time as a sequence of events. ● Time can be perceived as a sequence. **Ongoing**	KT1. Children interpret time as a sequence of events. ● Time can be perceived as a sequence. **Ongoing**