OVERVIEW

A continuum of proficiency in Numeracy from Kindergarten through Grade 5.

The grade level proficiency descriptors highlight what a thinking or communication skill may look like for a proficient student across all learning areas, emphasizing their **CROSS-CURRICULAR** nature.

		CROSS-CURRICULAR NUMERACY LEARNING PROGRESSIONS – GRADE LEVEL PROFIC							
	ASPECT	SUB-ASPECT	к	1	2	3			
h ASPECT represents a									
of transferrable king or communication		Understands the real- world	Makes a personal connection with one aspect of the problem	Makes personal	Makes personal	Makes personal			
ciont student must		problem		connections with	connections to	connections to			

A proficient student must develop, practice, and demonstrate each aspect to become a Numerate Learner

All aspects are important when building Numeracy skills

Each SUB-ASPECT further defines the transferrable skills within each aspect

The **DESCRIPTOR** is grade specific and describes wha proficient student learning looks like at the end of the year/term

	CROSS-CURRICULAR NUMERACY LEARNING PROGRESSIONS – GRADE LEVEL PROFICIENCY DESCRIPTORS								
	ASPECT	SUB-ASPECT	к	1	2	3	4	5	
	Intorprote	Understands the real- world problem Makes connections to a problem to aid understanding	Makes a personal connection with one aspect of the problem personal connection: experiences and prior knowledge	Makes personal connections with aspects of the problem	Makes personal connections to explore the problem	Makes personal connections to explore the problem	Makes general connections to understand the problem in context general connection: personal, or to similar problems	Makes general connections to understand the problem in context	
]	Accesses and identifies relevant information in order to understand the real-world problem to be	Extracts relevant information Extracts key information, data, facts in order to solve a problem	Identifies a significant fact about the problem	Identifies a significant fact and gathers other information from the problem	Identifies and gathers most of the significant information from the presented problem to assist in solving it	Identifies and gathers most of the significant information from the presented problem to assist in solving it	Gathers relevant information from the presented problem to assist in solving it	Gathers relevant information from the presented problem to assist in solving it	
	solved	Identifies parameters and limitations Recognizes reaso nable factors, conditions, limitations that define the problem	Understands that problems have parameters parameters: factors and conditions that define the problem	Identifies a clearly defined parameter needed to solve the problem	Identifies some of the clearly defined parameters needed to solve the problem	Identifies most of the clearly defined parameters needed to solve the problem	Identifies all clearly defined parameters needed to solve the problem	Identifies all clearly defined parameters needed to solve the problem	

CROSS-CURRICULAR NUMERACY LEARNING PROGRESSIONS – GRADE LEVEL PROFICIENCY DESCRIPTORS									
ASPECT	SUB-ASPECT	к	1	2	3	4	5		
Interprets Accesses and identifies relevant information in order to understand the real-world problem to be solved	Understands the real- world problem Makes connections to a problem to aid understanding	Makes a personal connection with one aspect of the problem personal connection: <i>experiences and prior</i> <i>knowledge</i>	Makes personal connections with aspects of the problem	Makes personal connections to explore the problem	Makes personal connections to explore the problem	Makes general connections to understand the problem in context general connection: personal, or to similar problems	Makes general connections to understand the problem in context		
	Extracts relevant information <i>Extracts key</i> <i>information, data,</i> <i>facts in order to</i> <i>solve a problem</i>	Identifies a significant fact about the problem	Identifies a significant fact and gathers other information from the problem	Identifies and gathers most of the significant information from the presented problem to assist in solving it	Identifies and gathers most of the significant information from the presented problem to assist in solving it	Gathers relevant information from the presented problem to assist in solving it	Gathers relevant information from the presented problem to assist in solving it		
	Identifies parameters and limitations Recognizes reasonable factors, conditions, limitations that define the problem	Understands that problems have parameters parameters: factors and conditions that define the problem	Identifies a clearly defined parameter needed to solve the problem	Identifies some of the clearly defined parameters needed to solve the problem	Identifies most of the clearly defined parameters needed to solve the problem	Identifies all clearly defined parameters needed to solve the problem	Identifies all clearly defined parameters needed to solve the problem		

CROSS-CURRICULAR NUMERACY LEARNING PROGRESSIONS – GRADE LEVEL PROFICIENCY DESCRIPTORS								
ASPECT	SUB-ASPECT	к	1	2	3	4	5	
Applies Applies mathematical vocabulary, tools, and symbols and develops a plan of approach to solve the problem	Translates the scenario into a mathematical problem (mathematizes) Translate a scenario into a problem using mathematical vocabulary	Recognizes the mathematical competencies and content needed to solve the problem content: refer to <u>Math</u> <u>curriculum</u>	Recognizes the mathematical competencies and content needed to solve the problem content: refer to <u>Math</u> <u>curriculum</u>	Identifies the mathematical competencies and content needed to solve the problem content: refer to <u>Math</u> <u>curriculum</u>	Identifies the mathematical competencies and content needed to solve the problem content: refer to <u>Math</u> <u>curriculum</u>	Applies the mathematical understanding needed to partially translate a familiar scenario into a mathematical problem <i>mathematical</i> <i>understanding:</i> refer to <u>Math curriculum</u>	Applies the mathematical understanding needed to partially translate a familiar scenario into a mathematical problem <i>mathematical understanding:</i> refer to <u>Math curriculum</u>	
	Represents the mathematical problem (visualizes) Visually represents a problem with mathematical tools, visual representations, or mathematical symbols	Represents the mathematical problem, using concrete materials and/or pictures	Represents the mathematical problem, using concrete materials and diagrams	Represents the mathematical problem, using concrete materials and diagrams	Represents the mathematical problem, using concrete materials, diagrams, and/or some familiar equations <i>familiar:</i> previously seen or modelled	Represents the mathematical problem, using concrete materials, diagrams, and/or some familiar equations	Represents the mathematical problem, using concrete materials, diagrams, and/or equations	
	Develops a plan of approach Thinks of and outlines various approaches to solve a mathematical problem	Experiments with problem solving using prior knowledge	Develops a straightforward plan of approach, using prior knowledge and mathematical tools and strategies	Develops a basic plan of approach, using familiar mathematical tools and/or strategies basic: could be one step familiar: previously seen or modelled	Develops a basic plan of approach, using familiar mathematical tools and/or strategies	Develops a sequence of steps that applies familiar mathematical tools and/or strategies	Develops a logical sequence of steps that applies familiar mathematical tools and/or strategies	

CROSS-CURRICULAR NUMERACY LEARNING PROGRESSIONS – GRADE LEVEL PROFICIENCY DESCRIPTORS									
ASPECT	SUB-ASPECT	к	1	2	3	4	5		
Solves Implements a plan to solve the mathematical problem and checks their solution	Estimates reasonably in context Uses the information provided to support a best guess solution	Estimates the scope of the answer scope: e.g., range, size, shape, time	Estimates the scope of the answer	Estimates reasonably within known parameters, using benchmarks benchmarks: e.g., 25, 50, 100, distance, colour, rhythm, pattern	Estimates reasonably within identified parameters, using benchmarks and information from the scenario benchmarks: e.g., up to 1000, distance, colour, rhythm, pattern	Estimates reasonably within identified parameters, using benchmarks and relevant information from the scenario benchmarks: e.g., up to 10 000, fractions, decimals, distance, colour, rhythm, pattern	Estimates reasonably within identified parameters, using benchmarks and relevant information from the scenario benchmarks: e.g., up to 1 000 000, fractions, decimals, distance, colour, rhythm, pattern		
	Solves the mathematical problem Uses various approaches to find a solution to the problem	Finds a solution, using play, concrete materials, or models	Finds a solution, using play, concrete materials, or models	Finds a solution, using mathematical tools and/or strategies strategies: e.g., play, concrete materials, models	Finds a solution by applying familiar mathematical tools and/or strategies	Finds a solution by applying familiar mathematical tools and/or strategies strategies: e.g., equations, play, concrete materials, models	Finds a solution by applying familiar mathematical tools and/or strategies		
	Verifies accuracy of the mathematical solution Checks their solution based on similar problems, others' solutions, or their estimate	Compares their solution with those of their teacher and/or peers	Compares their solution with those of their teacher and/or peers	Verifies the accuracy of their solution by comparing it with a variety of proofs/checks, including estimation	Verifies the accuracy of their solution, using familiar mathematical strategies and/or by comparing with their estimate familiar: previously seen or modelled	Verifies the accuracy of their solution, using reasonable estimates and other familiar mathematical strategies	Verifies the accuracy of their solution, using reasonable estimates and other familiar mathematical strategies		

CROSS-CURRICULAR NUMERACY LEARNING PROGRESSIONS – GRADE LEVEL PROFICIENCY DESCRIPTORS										
ASPECT	SUB-ASPECT	к	1	2	3	4	5			
Analyzes Reflects on the reasonablenes s of their solution; evaluates alternative approaches and solutions, and revises approach	Reflects on the reasonableness of the solution in context Looks back on the reasonableness of the solution within the context of the problem (Does this make sense?)	Identifies a reasonable solution in relation to the original problem/scenario	Identifies a reasonable solution in relation to the original problem/scenario	Reflects on the reasonableness of a solution in relation to the original problem/scenario	Reflects on the reasonableness of a solution in relation to the original problem/scenario	Reflects on the reasonableness of their solution in relation to the original problem/scenario	Reflects on the reasonableness of their solution in relation to the original problem/scenario			
	Evaluates alternative approaches Checks on the reasonableness of others' approaches to solve the problem	Identifies an alternative approach approach: own approach, peer- or teacher-driven approach	Identifies an alternative approach	Explores an alternative approach	Explores alternative approaches	Compares and contrasts alternative approaches	Compares and contrasts alternative approaches			
	Revises approach as needed Revises their approach based on checking with others' solution and/or approach	Experiments with a recommended alternative approach to solve the problem	Experiments with a recommended alternative approach to solve the problem	Selects an alternative approach to solve the problem	Selects an alternative approach to solve the problem	Identifies and experiments with an alternative approach to solve the problem	Identifies and experiments with an alternative approach to solve the problem			

	CROSS-CURRICULAR NUMERACY LEARNING PROGRESSIONS – GRADE LEVEL PROFICIENCY DESCRIPTORS									
ASPECT	SUB-ASPECT	к	1	2	3	4	5			
Communicates Represents, explains, and defends their approach and solution within the problem's scenario	Represents processes and solution Effectively communicates the thinking and/or understanding in their approach and/or solution using visual representations or mathematical symbols	Represents the problem-solving process, using numbers, pictures, and/or manipulatives	Represents the problem-solving process, using words, numbers, pictures, symbols, and/or manipulatives	Represents the problem-solving process, using familiar tools familiar tools: e.g., manipulatives, symbols, graphic organizers, charts	Represents processes and solution by selecting and using reasonable tools reasonable tools: e.g., table, manipulative, graphic organizer, array, model	Represents processes and solution by selecting and using reasonable tools reasonable tools: e.g., model, chart, map, table, graph, array	Represents processes and solution by selecting and using reasonable tools			
	Explains the approach taken Clearly explains their problem- solving approach and solution with mathematical vocabulary	Identifies one step of their problem- solving approach	Outlines their problem-solving approach	Outlines their problem-solving approach, using familiar mathematical language familiar: previously seen or modelled mathematical language: refer to <u>Math curriculum</u>	Describes their problem-solving approach, using familiar mathematical language <i>mathematical language:</i> <i>refer to <u>Math curriculum</u></i>	Describes their problem-solving approach, using familiar mathematical language <i>mathematical language:</i> <i>refer to <u>Math curriculum</u></i>	Describes their problem-solving approach, using familiar mathematical language <i>mathematical language:</i> <i>refer to <u>Math curriculum</u></i>			
	Defends decisions and assumptions Clearly justifies and defends the decisions and assumptions made in their approach and/or solution	Identifies one problem-solving decision	Outlines one problem- solving decision	Describes one problem-solving decision and a supporting reason	Describes their problem-solving decisions and supporting reasons	Explains their problem-solving decisions and supporting reasons	Explains their problem-solving decisions and supporting reasons			