Grade 9 Math

Big Ideas

*The principles and processes underlying operations with numbers apply equally to algebraic situations and can be described and analyzed.

*Computational fluency and flexibility with numbers extend to operations with rational numbers.

*Continuous linear relationships can be identified and represented in many connected ways to identify regularities and make generalizations.

*Similar shapes have proportional relationships that can be described, measured, and compared.

*Analyzing the validity, reliability, and representation of data enables us to compare and interpret.

Curricular Competencies

			Reasoning and Analyzing						Understanding and Solving				Communicating and Representing				Connecting and Reflecting			
			Use logic and patterns to solve puzzles and play games	Use reasoning and logic to explore, analyze, and apply mathematical ideas	Estimate reasonably	Demonstrate and apply mental math strategies	Use tools or technology to explore & create patterns & relationships, & test conjectures	Model mathematics in contextualized experiences	Apply multiple strategies to solve problems in both abstract and contextualized situations	Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving	Visualize to explore mathematical concepts	Engage in problem-solving experiences that are connected to place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, & other cultures	Use mathematical vocabulary & language to contribute to mathematical discussions	Explain and justify mathematical ideas and decisions	Communicate mathematical thinking in many ways	Represent mathematical ideas in concrete, pictorial, and symbolic forms	Reflect on mathematical thinking	Connect mathematical concepts to each other and to other areas and personal interests	Use mathematical arguments to support personal choices	Incorporate First Peoples worldviews and perspectives to make connections to mathematical concepts
			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Content	operations with rational numbers (addition, subtraction, multiplication, division, and order of operations)	1																		
	exponents and exponent laws with whole-number exponents	2																		
	operations with polynomials, of degree less than or equal to 2	3																		
	two-variable linear relations, using graphing, interpolation, and extrapolation	4																		
	multi-step one-variable linear equations	5																		
	spatial proportional reasoning	6																		
	statistics in society	7																		
	financial literacy — simple budgets and transactions	8																		