Grade 8 Math

Curricular Competencies

		Reasoning and Analyzing			Understanding and Solving			Communicating & Representing				Connecting and Reflecting			
Big Ideas	*Numbers can be represented in many forms and reflect different relationships. *Numeracy helps us to see patterns, communicate ideas, and solve problems. *Patterns allow us to see relationships and develop generalizations. *Geometry and measurement empower us to make meaning of the world. *We can apply mathematics to inquiry questions and use it to communicate information and data. *Data enable us to draw conclusions and make predictions in an unstable world.	Inductively and deductively reason and use logic to explore, make connections, predict, analyze, generalize, and make conclusions	Develop and apply mental math strategies and estimate amounts and outcomes	Use tools or technology to explore and create patterns and relationships, and test conjectures	Implement multiple strategies to solve problems in both abstract and real-life situations using different cultural perspectives	Develop, construct, and apply mathematical understanding through play, inquiry, and problem solving	Engage in problem-solving experiences that are connected to place, story, and cultural practices relevant to the local community	Use mathematical vocabulary and language to contribute to mathematical discussions	Communicate in a variety of ways to explain, clarify, and justify mathematical ideas	Develop mathematical understanding through concrete, pictorial, and symbolic representations	Use technology appropriately to record, communicate, and represent thinking	Visualize and describe mathematical concepts	Explore, apply, and connect concepts to each other, to other disciplines, and to the real world	Use mathematical arguments to support personal choices and anticipate consequences	Apply cultural perspectives of First Peoples to the concepts of locating, measuring, and numbering
Content	logic and patterns to solve games and puzzles														
	percents less than 1 and greater than 100 (decimal and fractional percents)														
	perfect squares and cubes														
	square roots and Pythagorean Theorem														
	rates and proportional reasoning, ratio, proportions, and percent														
	operations with fractions (addition, subtraction, multiplication, division, and order of operations)														
	expressions and equations, writing and evaluating using substitution														
	two-step equations with integer coefficients, constants, and solutions														
	numerical proportional reasoning														
	surface area and volume of regular solids (right prisms, triangular prism, and cylinder)														
	construction, views, and nets of 3D objects														
	theoretical probability with two independent events														
	financial literacy - best buys (e.g., coupons, proportions, unit price, products, and services)														