Grade 8 Science

Curricular Competencies

Big Ideas

*Life processes are performed at the cellular level.

The behaviour of matter can be explained by the kinetic molecular theory and atomic theory.

*Energy can be transferred as both a particle and a wave.

*The theory of plate tectonics is the unifying theory that explains Earth's geological processes.

Content

		Questioning & Predicting					Planning & Conduting					Processing & Analyzing Data & Info					Evaluating						Applying & Innovating				Communicating	
		Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest	Make observations aimed at identifying their own questions about the natural world	Identify a question to answer or a problem to solve through scientific inquiry	Formulate alternative "If…then…" hypotheses based on their questions	Make predictions about the findings of their inquiry	Collaboratively plan a range of investigation types, including field work and experiments, to answer their questions or solve problems they have identified	Measure and control variables through fair tests	Observe, measure, and record data (qualitative and quantitative), using equipment, including digital technologies, with accuracy and precision	Use appropriate SI units and perform simple unit conversions	Ensure that safety and ethical guidelines are followed in their investigations	Experience and interpret the local environment	Apply First Peoples perspectives and knowledge, other ways of knowing, and local knowledge as sources of	Construct and use a range of methods to represent patterns or relationships in data, including tables, graphs, key, scale models, and digital technologies as appropriate	Seek patterns and connections in data from their own investigations and secondary sources	Use scientific understandings to identify relationships and draw conclusions	Reflect on their investigation methods, including the adequacy of controls on variables (dependent and	Identify possible sources of error and suggest improvements to their investigation methods	Demonstrate an awareness of assumptions and bias in their own work and secondary sources	Demonstrate an understanding and appreciation of evidence (qualitative and quantitative)	Exercise a healthy, informed skepticism and use scientific knowledge and findings for their own investigations to evaluate claims in secondary sources	Consider social, ethical, and environmental implications of the findings from their own and others' investigations	Contribute to care for self, others, community, and world through personal or collaborative approaches	Co-operatively design projects	Transfer and apply learning to new situations	Generate and introduce new or refined ideas when problem solving	Communicate ideas, findings, and solutions to problems, using scientific language, representations, and digital technologies as appropriate	Express and reflect on personal, shared, or others' experiences of place
	characteristics of life																											
	cell theory and types of cells																											
	photosynthesis and cellular respiration																											
the relationship of micro-organisms with living things:	basic functions of the immune system																											
	vaccination and antibiotics																											
	impacts of epidemics and pandemics on human populations																											
	kinetic molecular theory																											
	atomic theory and models																											
	protons, neutrons, and quarks																											
	electrons and leptons																											
	types and effects of electromagnetic radiation																											
light:	properties																											
	behaviours																											
	ways of sensing																											
	major geological events of local significance																											
First Peoples knowledge of:	local geological formations																											
	significant local geological events																											
	layers in Earth																											