

Science 8

Unit		Outcomes	Pages for Reference
<i>Unit 1: Earth and Space Science: Water Systems on Earth</i>	1.1 Waves, Tides and Shorelines	Explain how waves and tides are generated and how they interact with shorelines (311-10)	28-29, 30-31 TR 38-44
		Investigate water currents using experimental data, procedures, and conclusions to formulate operational definitions (208-6, 209-5)	28-29 TR 12-18
		Describe processes of erosion and deposition that result from wave action and water flow (311-11)	30-31 TR 31-37
		Summarize and respond to shoreline's science and technology uses to handle damage due to waves and tides (113-2, 211-2)	30-31
	1.2 Oceans: Systems, Distribution, Species	Investigate and describe, with technological examples from various sources, processes that lead to the development of ocean basins and continental drainage systems (311-7)	32-33
		Survey and generalize strengths and weaknesses of science and technologies, including Canadian, that have improved and that support research and development (110-8. 112-5. 210-3. 113-10)	32-33
		Using data, including graphical, analyze and predict factors that affect productivity and species distribution in marine and fresh water environments (311-8, 210-4, 210-6)	34-35
		Apply the concept of systems to describe the interactions of ocean currents, winds and regional climates (111-6, 311-9)	34-35 TR 23-30
	1.3 Glaciers and Polar Icecaps	Describe factors that affect glaciers and polar icecaps, and	38-39 TR 19-22

		describe their consequent effects on the environment (311-12)	
		Identify and examine new questions and problems that arise from all water being connected (210-16)	
<i>Unit 2: Physical Science: Fluids</i>	2.1 Forces in Fluids	Describe qualitatively the difference between mass and weight (309-1)	46-47 TR 75-76
		Explore and compare objects that describe movement in terms of balanced and unbalanced forces (210-13, 210-14, 309-2)	46-47
		Describe and explain qualitatively the relationships among pressure, volume, and temperature of fluids when compressed or heated and quantitatively the relationship of force, area, and pressure (309-3, 309-4)	48-49 TR 9-13, 67-70
		Provide examples and a course of action of how science and technology affect personal and community needs (111-1, 113-2)	TR 48-51
	2.2 Density: Floating and Sinking	Question, investigate, and analyze qualitatively and quantitatively in a laboratory, the relationships among mass, volume, and density of solids, liquids, and gases using the particle model of matter (208-2, 211-3, 307-8)	42-43
		Explain and describe situations where the density of substances are affected by changes in temperature, natural, or intentional (307-9, 307-10)	44-45 TR 27-28
		Perform and analyze quantitatively the density of various substances, demonstrating a knowledge of WHMIS standards by using proper techniques and instruments for collecting data in the laboratory (307-11, 209-7, 209-3)	42-43 TR 36-47
	2.3 Viscosity of Liquids	Design and perform an experiment to test the viscosity of	50-51

		various fluids and identify major variables (208-6)	
		Compare the viscosity of various liquids and describe factors that can modify the viscosity (307-6, 307-7)	50-51 TR 29-35
		Relate personal activities and potential applications to fluids (109-10, 112-7, 210-12)	52-53 TR 60-64
<i>Unit 3: Physical Science: Optics</i>	3.1 Properties of Light	Identify and describe properties of visible light, using tools and apparatus safely (308-8, 209-6)	56-57 TR 21-24, 34-37
	3.2 Reflection and Refraction	Estimate measurements and use tools and apparatus safely in the laboratory (209-2, 209-6)	58-59
		Describe the laws of reflection of visible light and their applications in everyday life (308-9)	58-59 TR 2-7
		State a conclusion, based on experimental data and evidence, of light and describe qualitatively how visible light is refracted (210-11, 308-10)	60-61 TR 31-33
		Describe how optical technologies have developed through systematic trial-and-error processes constrained by the optical properties of the materials and the laws of nature (109-5)	62-63
		Provide examples of optical technologies that enable scientific research and relate personal activities associated with such technologies (109-10, 111-3)	62-63 TR 25-30
		3.3 Electromagnetic Radiation	Describe different types of electromagnetic radiation, including infrared, ultraviolet, x-rays, microwaves, and radio waves (308-11)
		Explain the importance of choosing words that are scientifically or technologically appropriate (109-13)	64-65
		Compare properties of visible light to the properties of other types of electromagnetic radiation,	64-65

		including infrared, ultraviolet, x-rays, microwaves, and radio waves (308-12)	
		Describe, with examples, possible effects of science and technology associated with optics (112-8, 113-2)	64-65 TR 8-20
<i>Unit 4: Life Science: Cells, Tissues, Organs, and Systems</i>	4.1 Cells	Illustrate and explain that the cell is a living system that exhibits the following characteristics of life (304-4)	68-69
		Distinguish between plant and animal cells and use microscopes or micro viewers to produce a clear image of cells (304-5, 209-3)	68-69 TR 8-17, 35-40
		Using an operational question, explain that growth and reproduction depend on cell division (208-1, 304-6)	68-69
	4.2 Relationship among cells, tissues, organs, and systems	Distinguish and evaluate between ideas used in the past and theories used today to explain how cells and organs work (110-2, 211-4)	70-71
		Relate the needs and functions of various cells and organs to the needs and functions of the human organism as a whole (304-8)	70-71
		Explain structural and functional relationships between and among cells, tissues, organs, and systems in the human body (304-7)	70-71
		4.3 Body Systems	Describe the basic factors that affect the functions and efficiency of the human respiratory, circulatory, digestive, excretory, and nervous system (304-9)
		Estimate measurements and organize data for an experiment and explain the results (209-2, 209-4, 210-7)	74-75 TR 23-27
		Describe examples of the interdependence of various systems of the human body (304-10)	74-75 TR 28-34

		Provide examples of careers and applications for informed decisions about science and technology associated with body systems (112-10, 113-8)	74-75 TR 18-22, 41-43
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