Calgary Board of Education

Grade 8 Science | CBE Scope and Sequence September 2020 – June 2021

This scope and sequence has been created to ensure alignment between Hub Learning and in-class programming, and smooth transitions following potential staff/student absence. It is intended to support teachers and teams in engaging in collaborative planning for instruction.

Each reporting period has been divided into two segments, defining four quarters across the school year. Each quarter lists the outcomes to be addressed in that approximate time period. Outcomes within a quarter are identified for concentrated teaching and learning, though it is acknowledged that providing opportunities for students to make connections across topics and engage in explorations that span the school year for scientific phenomena that change over time allow students to deepen their understanding. Although there is a suggested order shown within each quarter, teachers will design teaching and learning according to their context. Please note that this resource identifies only the bolded specific outcomes and must be used in conjunction with the questions and issues identified within the Program of Studies.

First Reporting Period		Second Reporting Period	
Skill Outcomes: Initiating and Planning Performing and Recording Analyzing and Interpreting Communication and Teamwork **Attitude Outcomes**: Interest in Science Mutual Respect Scientific Inquiry Collaboration Stewardship Safety			
Unit A: Mix and Flow of Matter 1. Investigate and describe fluids used in technological devices and everyday materials 2. Investigate and describe the composition of fluids, and interpret the behaviour of materials in solution 3. Investigate and compare the properties of gases and liquids; and relate variations in their viscosity, density, buoyancy and compressibility to the particle model of matter 4. Identify, interpret and apply technologies based on properties of fluids	**Topic B: Cells and Systems** 1. Investigate living things; and identify and apply scientific ideas used to interpret their general structure, function and organization 2. Investigate and describe the role of cells within living things 3. Interpret the healthy function of human body systems, and illustrate ways the body reacts to internal and external stimuli 4. Describe areas of scientific investigation leading to new knowledge about body systems and to new medical applications	**Unit C: Light and Optical Systems** 1. Investigate the nature of light and vision; and describe the role of invention, explanation and inquiry in developing our current knowledge 2. Investigate the transmission of light, and describe its behaviour using a geometric ray model 3. Investigate and explain the science of image formation and vision, and interpret related technologies **Topic D: Mechanical Systems** 1. Illustrate the development of science and technology by describing, comparing and interpreting mechanical devices that have been improved over time 2. Analyze machines by describing the structures and functions of the overall system, the subsystems and the component parts	**Topic D: Mechanical Systems** 3. Investigate and describe the transmission of force and energy between parts of a mechanical system 4. Analyze the social and environmental contexts of science and technology, as they apply to the development of mechanical devices **Topic E: Freshwater and Saltwater Systems** 1. Describe the distribution and characteristics of water in local and global environments, and identify the significance of water supply and quality to the needs of humans and other living things 2. Investigate and interpret linkages among landforms, water and climate 3. Analyze factors affecting productivity and species distribution in marine and freshwater environments 4. Analyze human impacts on aquatic systems; and identify the roles of science and technology in addressing related questions, problems and issues