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| **Science 5** (Planning KDU)  |
| **CORE COMPETENCIES** **COMMUNICATION**  | **CORE COMPETENCIES** **THINKING (CRITICAL/CREATIVE)** | **CORE COMPETENCIES****(PERSONAL/SOCIAL)** |
| **CURRICULAR COMPETENCIES** | **BIG IDEA (Understand…)** | **What do we want students to DO?****(Activities, lessons…)**  | **Content (& Elaborations)****(Know)** |
| **Questioning and predicting** *(A system is a set of interacting or interdependent pieces or components that come together to form a whole. A system occupies a physical or a temporal space within a set environment, has a representative form, and possesses a purpose or function.Key questions about systems: How do the systems of the human body work together? How can you observe the concept of interconnectedness within ecosystems in your local area?)** Demonstrate a sustained curiosity about a scientific topic or problem of personal interest
* Make observations in familiar or unfamiliar contexts
* Identify questions to answer or problems to solve through scientific inquiry
* Make predictions about the findings of their inquiry

**Planning and conducting*** With support, plan appropriate investigations to answer their questions or solve problems they have identified
* Decide which variable should be changed and measured for a fair test
* Choose appropriate data to collect to answer their questions
* Observe, measure, and record data, using appropriate tools, including digital technologies
* Use equipment and materials safely, identifying potential risks

**Processing and analyzing data and information*** Experience and interpret the local environment
* Identify First Peoples perspectives and knowledge as sources of information
* Construct and use a variety of methods, including tables, graphs, and digital technologies, as appropriate, to represent patterns or relationships in data
* Identify patterns and connections in data
* Compare data with predictions and develop explanations for results
* Demonstrate an openness to new ideas and consideration of alternatives

**Evaluating*** Evaluate whether their investigations were fair tests
* Identify possible sources of error
* Suggest improvements to their investigation methods
* Identify some of the assumptions in secondary sources *(secondary sources of evidence could include anthropological and contemporary accounts of First Peoples of BC, news media, archives, journals, etc.)*
* Demonstrate an understanding and appreciation of evidence
* Identify some of the social, ethical, and environmental implications of the findings from their own and others’ investigations

**Applying and innovating*** Contribute to care for self, others, and community 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

**Communicating*** Communicate ideas, explanations, and processes in a variety of ways
* Express and reflect on personal, shared, or others’ experiences of place *(Place is any environment, locality, or context with which people interact to learn, create memory, reflect on history, connect with culture, and establish identity. The connection between people and place is foundational to First Peoples perspectives of the world. Key questions about place: How does place influence your ability to plan and conduct an inquiry? How does your understanding of place affect the ways in which you collect evidence and evaluate it? How do the place-based experiences and stories of others affect the ways in which you communicate your findings and other information? Ways of knowing refers to the various beliefs about the nature of knowledge that people have; they can include, but are not limited to, Aboriginal, gender-related, subject/discipline specific, cultural, embodied and intuitive beliefs about knowledge. What are the connections between ways of knowing and place?)*
 | Multicellular organisms have organ systems that enable them to survive and interact within their environment | *Questions to support inquiry with students:* * How do organ systems interact with one another?
* How do organ systems interact with their environment to meet basic needs?

*Key questions about systems:* * How do the systems of the human body work together?
 | **Core Focus: BIOLOGY*** basic structures and functions of body systems:
* Digestive *(mouth, stomach, intestines, etc.)*
* Musculo-skeletal *(muscles, skeleton)*
* respiratory *(trachea, lungs, diaphragm)*
* Circulatory *(heart, blood, blood vessels)*
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| **Evidence of Experience (Show)** |
| **BIG IDEA (Understand…)** | **What do we want students to DO?****(Activities, lessons…)**  | **Content (& Elaborations)****(Know)** |
| Solutions are homogeneous | *Questions to support inquiry with students:* * What are homogeneous solutions?
* What are their uses?
 | **Core Focus: CHEMISTRY*** solutions and solubility *(solutions (e.g., apple juice, coffee) that can be separated through distillation, evaporation, and crystallization; solubility of solids, liquids, and gases (e.g., salt [solid], honey [liquid], carbon dioxide [gas in water makes pop]); properties of solutions: concentration, pH, etc.; dissolving: process of forming a solution)*
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| **Evidence of Experience (Show)** |
| **BIG IDEA (Understand…)** | **What do we want students to DO?****(Activities, lessons…)**  | **Content (& Elaborations)****(Know)** |
| Machines are devices that transfer force and energy. | *Questions to support inquiry with students:* * How do machines (natural and human-made) transfer force and energy?
* What natural machines can you identify in your local environment?
 | **Core Focus: PHYSICS*** properties of simple machines *(levers, wedge, inclined plane, wheel and axle, pulley, and screw)* and their force effects *(changing direction and multiplying force)*
* machines:
	+ constructed *(combinations of simple machines form complex machines)*
	+ found in nature (*the lever is the basis of nearly every aspect of the musculoskeletal system)*
* power (*eg.: students racing up a hill, machine power ratings, motors)* the rate at which energy is transformed
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| **Evidence of Experience (Show)** |
| **BIG IDEA (Understand…)** | **What do we want students to DO?****(Activities, lessons…)**  | **Content (& Elaborations)****(Know)** |
| Earth materials change as they move through the rock cycle and can be used as natural resources.  | *Questions to support inquiry with students:* * How do we interact with water, rocks, minerals, soils, and plants?
* How can Earth be considered a closed material system?
* How can we act as stewards of our environment?
 | **Core Focus: EARTH/SPACE*** the rock cycle
* local types of earth materials *(include mineral, rock, clay, boulder, gravel, sand, soil)*
* First Peoples’ concept of interconnectedness (*everything in the environment is one/connected (e.g., sun, sky, plants and animals) and we have a responsibility to care for them))* in the environment
* Nature of sustainable practices around BC’s resources
* First Peoples knowledge of sustainable practices
* fdsaf
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| **Evidence of Experience (Show)** |