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| **Science 3** (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** *(Cause and effect is the basic principle that an action will result in a consequence. In science, this concept is closely related to the concepts of pattern and change. However, cause and effect may or may not have a predictable outcome.Key questions about cause and effect: What are some causes of biodiversity in BC’s wetlands? What is the effect of wind on mountains?)* * Demonstrate curiosity about the natural world
* Observe objects and events in familiar contexts
* Identify questions about familiar objects and events that can be investigated scientifically
* Make predictions based on prior knowledge

**Planning and conducting*** Suggest ways to plan and conduct an inquiry to find answers to their questions
* Consider ethical responsibilities when deciding how to conduct an experiment
* Safely use appropriate tools to make observations and measurements, using formal measurements and digital technology as appropriate
* Make observations about living and non-living things in the local environment
* Collect simple data

**Processing and analyzing data and information*** Experience and interpret the local environment
* Identify First Peoples perspectives and knowledge as sources of information
* Sort and classify data and information using drawings or provided tables
* Use tables, simple bar graphs, or other formats to represent data and show simple patterns and trends
* Compare results with predictions, suggesting possible reasons for findings

**Evaluating*** Make simple inferences based on their results and prior knowledge
* Reflect on whether an investigation was a fair test
* Demonstrate an understanding and appreciation of evidence
* Identify some simple environmental implications of their and others’ actions

**Applying and innovating*** Contribute to care for self, others, school & neighbourhood through personal or collaborative approaches
* Cooperatively design projects
* Transfer and apply learning to new situations
* Generate and introduce new or refined ideas when problem solving

**Communicating*** Represent and communicate ideas and findings in a variety of ways, such as diagrams and simple reports, using digital technologies as appropriate
* Express and reflect on personal or shared 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 what you know about place affect your observations, questions, and predictions? How does understanding place help you analyze information and recognize connections and relationships in your local environment? How does place connect with stewardship? How can you be a steward in your local environment?)*
 | Living things are diverse, can be grouped, and interact in their ecosystems | *Questions to support inquiry with students:* * What is biodiversity?
* Why is biodiversity important in an ecosystem?
* Interconnectedness means that all things are related to and interact with each other in the environment. How does local First Peoples knowledge of living things demonstrate interconnectedness?

*Key questions about cause and effect:* * What are some causes of biodiversity in BC’s wetlands?
 | **Core Focus: BIOLOGY*** Biodiversity *(the variety of different types of living things in an ecosystem; characteristics of local plants, animals and fungi)* in the local environment
* The knowledge of local First Peoples (the interconnection between living and non-living things in the local environment; our shared responsibility to care for the local environment (i.e., stewardship); information shared from the local First Peoples community and Elders) of ecosystems *population: all the members of the same type of living thing (species) in an area communities: different populations in an area living together)*
* Energy is needed for life *(producers (plants), consumers (animals), and decomposers (bacteria and fungi) respond to their environment in energy pyramids (flow of energy in the community from the sun); food chains: the flow of food energy from one organism to another (e.g., grass to rabbit to lynx); food webs: interconnecting food chains (e.g., a rabbit may be eaten by a lynx or a wolf))*
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| **Evidence of Experience (Show)** |
| **BIG IDEA (Understand…)** | **What do we want students to DO?****(Activities, lessons…)**  | **Content (& Elaborations)****(Know)** |
| All matter is made of particles. | *Questions to support inquiry with students:* * Why is matter known as the material of the universe?
* How are matter and energy related?
 | **Core Focus: CHEMISTRY*** Matter is anything that has mass and takes up space
* atoms are the building blocks of matter
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| **Evidence of Experience (Show)** |
| **BIG IDEA (Understand…)** | **What do we want students to DO?****(Activities, lessons…)**  | **Content (& Elaborations)****(Know)** |
| Thermal energy can be produced and transferred. | *Questions to support inquiry with students:* * What can be a source of thermal energy?
* How is thermal energy transferred between objects?
 | **Core Focus: PHYSICS*** Sources *(thermal energy can be produced by chemical reactions (e.g., hand warmers), friction between moving objects, and the sun.)* of thermal energy *(energy that comes from the movement of particles within matter)*
* transfer of thermal energy (*conduction (touching — eg., hold an ice cube); convection (current — why do we hang mittens over a heat source?); radiation (through space by a wave — e.g., heat from the sun))*
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| **Evidence of Experience (Show)** |
| **BIG IDEA (Understand…)** | **What do we want students to DO?****(Activities, lessons…)**  | **Content (& Elaborations)****(Know)** |
| Wind, water, and ice change the shape of the land. | *Questions to support inquiry with students:* * How is the shape of the land changed by environmental factors?
* What are landforms?
* What landforms do you have in your local area?

*Key questions about cause and effect:* * What is the effect of wind on mountains?
 | **Core Focus: EARTH/SPACE*** Major local landforms *(mountains, hills, plateaus, valleys, riverbeds, deltas, glaciers, etc.; oral narrative about landforms)*
* Local First Peoples knowledge of local landforms
* observable changes in the local environment caused by erosion and deposition by wind, water, and ice
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| **Evidence of Experience (Show)** |