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| **Science 4** (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** (*Order is a pattern that can be recognized as having levels—big to small, simple to complex—or as a process with a sequence of steps. Key questions about order: How is order apparent in the adaptations of forest animals in BC? How does the order of seasons impact local plants and animals?)** 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 and 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?)*
 | All living things sense and respond to their environment | *Questions to support inquiry with students:* * How do living things sense, respond, and adapt to stimuli in their environment?
* How is sense and responding related to interdependence within ecosystems?

*Key questions about order:* * How is order apparent in the adaptations of forest animals in BC?
 | **Core Focus: BIOLOGY*** Sensing and responding:
	+ Humans *(eg. 5 senses)*
	+ Other animals *(e.g., echolocation, UV sensors, magnetoreception, infrared sensing, etc.)*
	+ Plants *(e.g., response to light, touch, water, gravity, etc.)*
* Biomes *(biomes are regions grouped by similar temperature and precipitation (e.g., climate: long-term weather patterns); terrestrial biomes; aquatic/marine biomes)* as large regions with similar environmental features
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| **Evidence of Experience (Show)** |
| **BIG IDEA (Understand…)** | **What do we want students to DO?****(Activities, lessons…)**  | **Content (& Elaborations)****(Know)** |
| Matter has mass, takes up space, and can change phase | *Questions to support inquiry with students:* * How can you explore the phases of matter?
* How does matter change phases?
* How does heating and cooling affect phase changes?
 | **Core Focus: CHEMISTRY*** Phases of matter
* the effect of temperature (*solids, liquids, and gases change with heating (eg., boiling point, melting point [melting chocolate]) and cooling (eg., freezing point [making ice cream]), and these physical changes are reversible)* on particle movement
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| **Evidence of Experience (Show)** |
| **BIG IDEA (Understand…)** | **What do we want students to DO?****(Activities, lessons…)**  | **Content (& Elaborations)****(Know)** |
| Energy can be transferred  | *Questions to support inquiry with students:* * What is energy input and energy output?
* What is energy conservation?
* What is the relationship between energy input, output, and conservation?
 | **Core Focus: PHYSICS*** Energy:
	+ Has various forms *(energy can be described in these ways: the energy of motion (kinetic), light, sound, thermal, elastic, nuclear, chemical, magnetic, gravitational, and electrical)*
	+ Is conserved *(the law of conservation of energy — energy cannot be created or destroyed but can be changed)*
* devices that transform energy*(devices that transform energy change input energy into a different output energy (eg., glow stick [chemical to light], wind-up toy [elastic to mechanical], flashlight [electrical to light]).)*
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| **Evidence of Experience (Show)** |
| **BIG IDEA (Understand…)** | **What do we want students to DO?****(Activities, lessons…)**  | **Content (& Elaborations)****(Know)** |
| The motions of Earth and the moon cause observable patterns that affect living and non-living systems | *Questions to support inquiry with students:* * How do seasons and tides affect living and non-living things?
* What changes are caused by the movements of Earth and the moon?)

*Key questions about order:* * How does the order of seasons impact local plants and animals?
 | **Core Focus: EARTH/SPACE*** local changes caused by Earth’s axis, rotation, and orbit (*Earth’s axis, rotation, and orbit cause changes locally: day and night: animals are nocturnal (active at night) and diurnal (active during day); annual seasons: plants and animals respond to the seasons (drop leaves, change colour))*
* the effects of the relative positions of the sun, moon, and Earth *(phases of the moon, tides, etc.; tides affect living organisms; lunar and solar eclipses)* including local First Peoples perspectives *(* *teachings and stories about the sun and the moon)*
* local fdsfa
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| **Evidence of Experience (Show)** |