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| **Science 2** (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** *(\*Cycles are sequences or series of events that repeat/reoccur over time.  A subset of pattern, cycles are looping or circular (cyclical) in nature. Cycles help scientists make predictions and hypotheses about the cyclical nature of the observable patterns. Key questions about cycles: How do First Peoples use their knowledge of life cycles to ensure sustainability in their local environments? How does the water cycle impact weather?)*   * Demonstrate curiosity and a sense of wonder about the world * Observe objects and events in familiar contexts * Ask questions about familiar objects and events * Make simple predictions about familiar objects and events   **Planning and conducting**   * Make and record observations * Safely manipulate materials to test ideas and predictions * Make and record simple measurements using informal or non-standard methods   **Processing and analyzing data and information**   * Experience and interpret the local environment * Recognize First Peoples stories (oral and written narratives), songs, and art as ways to share knowledge * Sort and classify data and information using drawings, pictographs and provided tables * Compare observations with predictions through discussion * Identify simple patterns and connections   **Evaluating**   * Compare observations with those of others * Consider some environmental consequences of their actions   **Applying and innovating**   * Take part in caring for self, family, classroom and school through personal approaches * Transfer and apply learning to new situations * Generate and introduce new or refined ideas when problem solving   **Communicating**   * Communicate observations and ideas using oral or written language, drawing, or role-play * Express and reflect on personal 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: What is place? What are some ways in which people experience place? How can you gain a sense of place in your local environment? How can you share your observations and ideas about living things in your local environment to help someone else learn about place?)* | Living things have life cycles adapted to their environment. | *Questions to support inquiry with students:*   * Why are life cycles important? * How are the life cycles of local plants and animals similar and different? * How do offspring compare to their parents?   *Key questions about cycles:*   * How do First Peoples use their knowledge of life cycles to ensure sustainability in their local environments? | **Core Focus: Biology**   * metamorphic *(metamorphic life cycles: body structure changes (e.g., caterpillar to butterfly, mealworm transformation, tadpoles to frog))* and non-metamorphic *(non-metamorphic life cycles: organism keeps same body structure through life but size changes* *(e.g., humans))* life cycles of different organisms * similarities and differences between offspring and parent  *(kitten looks like cat and a puppy looks like dog but they do change as they grow; salmon change a great deal as they grow and need fresh and salt water environments to survive)* * First Peoples use of their knowledge *(stewardship: sustainably gathering plants and hunting/fishing in response to seasons and animal migration patterns; sustainable fish hatchery programs run by local First People)* of life cycles | |
| **Evidence of Experience (Show)** | | | |
| **BIG IDEA (Understand…)** | **What do we want students to DO?**  **(Activities, lessons…)** | **Content (& Elaborations)**  **(Know)** | |
| Materials can be changed through physical and  chemical processes. | *Sample questions to support inquiry with students:*   * Why would we want to change the physical properties of an object? * What are some natural processes that involve chemical and physical changes? | **Core Focus: Chemistry**   * physical (*physical ways of changing materials: warming, cooling, cutting, bending, stirring, mixing; materials may be combined or physically changed to be used in different ways (e.g., plants can be ground up and combined with other materials to make dyes))* ways of changing materials * chemical (*chemical ways of changing materials: cooking, burning, etc.)* ways of changing materials | |
| **Evidence of Experience (Show)** | | | |
| **BIG IDEA (Understand…)** | **What do we want students to DO?**  **(Activities, lessons…)** | **Content (& Elaborations)**  **(Know)** | |
| Forces influence  the motion of an object | *Questions to support inquiry with students:*   * What are different ways that objects can be moved? * How do different materials influence the motion of an object? | **Core Focus: Physics**   * Types of forces (*contact forces and at-a-distance forces: different types of magnets; static electricity. Balanced and unbalanced forces: the way different objects fall depending on their shape (air resistance);* the way objects move over/in different materials *(water, air, ice, snow); the motion caused by different strengths of forces)* | |
| **Evidence of Experience (Show)** | | | |
| **BIG IDEA (Understand…)** | **What do we want students to DO?**  **(Activities, lessons…)** | **Content (& Elaborations)**  **(Know)** | |
| Water is essential to all living things, and it cycles through the environment | *Questions to support inquiry with students:*   * Why is water important for all living things? * How does water cycle through the environment? * What is your role in conservation of water?   *Key questions about cycles:*   * How do First Peoples use their knowledge of life cycles to ensure sustainability in their local environments? | **Core Focus: Earth/Space**   * water sources *(oceans, lakes, rivers, wells, springs; the majority of fresh water is stored underground and in glaciers), including local watersheds* * water conservation *(fresh water is a limited resource and is not being replaced at the same rate as it is being used)* * Water cycle (*cycle is driven by the sun and includes evaporation, condensation, precipitation, and runoff. The water cycle is also a major component of weather (e.g., precipitation, clouds).)* * Local First Peoples’ knowledge of water:   + Water cycles;   + Conservation   + Connection to other systems *(cultural significance of water (i.e., water is essential for all interconnected forms of life)* | |
| **Evidence of Experience (Show)** | | | |