**Grades K/1 Biology**

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| **Big Ideas** | **Competencies** | **Content** |
| **Plants and animals have observable features. (K)**   * How do the different features of plants and animals help them meet their basic needs? * What basic needs do plants and animals have in common? * What are your basic needs?   **Living things have features and behaviours that help them survive in their environment. (1)**   * How do local plants and animals depend on their environment? * How do plants and animals use their features to respond to stimuli in their environments? * How do plants and animals adapt when their basic needs are not being met? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * basic needs of plants and animals (K) * adaptations of local plants and animals (K) * First Peoples’ uses of plants and animals (K) * the classification of living or non-living things (1) * names of local plants and animals (1) * structural features of living things in the local environment (1) * behavioural adaptations of animals in the local environment (1) |

**Grades K/1 Chemistry**

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| **Big Ideas** | **Competencies** | **Content** |
| **Humans interact with matter every day through familiar materials.**   * What is matter? * How do you interact with matter? * What qualities do different forms of matter have?   **Matter is useful because of its properties. (1)**   * What makes the properties of matter useful? (1) * How do the properties of materials help connect to the function of materials? (1) | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * properties of familiar materials (K) * specific properties of materials allow us to use them in different ways (1) |

**Grades K/1 Physics**

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| **Big Ideas** | **Competencies** | **Content** |
| **The motion of objects depends on their properties. (K)**   * How can you make objects move? * How does the shape or size of an object effect the object’s movement? * How does the material the object is made of effect the object’s movement? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * effects of pushes/pulls on movement (K) * effects of size, shape, and materials on movement (K) |
| **Light and sound can be produced and their properties can be changed. (1)**   * How can you explore the properties of light and sound? * What discoveries did you make? | * natural and artificial sources of light and sound (1) * properties of light and sound that depend on their source and the objects they interact with (1) |

**Grades K/1 Earth & Space**

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| **Big Ideas** | **Competencies** | **Content** |
| **Daily and seasonal changes affect all living things. (K)**   * What daily and seasonal changes can you see or feel? * How are plants and animals affected by daily and seasonal changes?   **Observable patterns and cycles occur in the local sky and landscape. (1)**   * What kinds of patterns in the sky and landscape are you aware of? * How do patterns and cycles in the sky and landscape affect living things | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * weather changes (K) * seasonal changes (K) * living things make changes to accommodate daily and seasonal cycles (K) * First Peoples knowledge of seasonal change (K) * common objects in the sky (1) * the knowledge of First Peoples: * shared First Peoples knowledge of the sky * local First Peoples knowledge of the local landscape, plants and animals * local First Peoples understanding and use of seasonal rounds (1) * local patterns that occur on Earth and in the sky (1) |

**Grades 1/2 Biology**

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| **Big Ideas** | **Competencies** | **Content** |
| **Living things have features and behaviours that help them survive in their environment. (1)**   * How do local plants and animals depend on their environment? * How do plants and animals use their features to respond to stimuli in their environments? * How do plants and animals adapt when their basic needs are not being met?   **Living things have life cycles adapted to their environment. (2)**   * 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? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * classification of living or non-living things (1) * names of local plants and animals (1) * structural features of living things in the local environment (1) * behavioural adaptations of animals in the local environment (1) * metamorphic and non-metamorphic life cycles of different organisms (2) * similarities and differences between offspring and parent (2) * First Peoples use of their knowledge of life cycles (2) |

**Grades 1/2 Chemistry**

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| **Big Ideas** | **Competencies** | **Content** |
| **Matter is useful  because of its properties. (1)**   * What makes the properties of matter useful? * How do the properties of materials help connect to the function of materials?   **Materials can be changed through physical and  chemical processes. (2)**   * Why would we want to change the physical properties of an object? * What are some natural processes that involve physical and chemical changes? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * specific properties of materials allow us to use them in different ways (1) * physical ways of changing materials (2) * chemical ways of changing materials (2) |

**Grades 1/2 Physics**

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| **Big Ideas** | **Competencies** | **Content** |
| **Light and sound can be produced and their properties can be changed. (1)**   * How can you explore the properties of light and sound? * What discoveries did you make? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * natural and artificial sources of light and sound (1) * properties of light and sound that depend on their source and the objects they interact with (1) |
| **Forces influence  the motion of an object. (2)**   * What are different ways that objects can be moved? * How do different materials influence the motion of objects? | * types of forces (2) |

**Grades 1/2 Earth and Space**

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| **Big Ideas** | **Competencies** | **Content** |
| **Observable patterns and cycles occur in the local sky  and landscape. (1)**   * What kinds of patterns in the sky and landscape are you aware of? * How do patterns and cycles in the sky and landscape affect living things? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * common objects in the sky (1) * the knowledge of First Peoples: * shared First Peoples knowledge of the sky * local First Peoples knowledge of the local landscape, plants and animals * local First Peoples understanding and use of seasonal rounds (1) * local patterns that occur on Earth and in the sky (1) |
| **Water is essential to all living things, and it cycles through the environment. (2)**   * Why is water important for all living things? * How can you conserve water in your home and school? * How does water cycle through the environment? | * water sources including local watersheds (2) * water conservation (2) * the water cycle (2) * local First People’s knowledge of water: * water cycles * conservation * connection to other systems (2) |

**Grades 2/3 Biology**

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| **Big Ideas** | **Competencies** | **Content** |
| **Living things have life cycles adapted to their environment. (2)**   * 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?   **Living things are diverse, can be grouped, and interact in their ecosystems. (3)**   * What is biodiversity? * Why is biodiversity important in an ecosystem? * How does local First Peoples knowledge of living things demonstrate interconnectedness? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * metamorphic and non-metamorphic life cycles of different organisms (2) * similarities and differences between offspring and parent (2) * First Peoples use of their knowledge of life cycles (2) * Biodiversity in the local environment (3) * The knowledge of local First Peoples of ecosystems (3) * energy is needed for life (3) |

**Grades 2/3 Chemistry**

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| **Big Ideas** | **Competencies** | **Content** |
| **Materials can be changed through physical and chemical processes. (2)**   * Why would we want to change the physical properties of an object? * What are some natural processes that involve physical and chemical changes?   **All matter is made of particles. (3)**   * Why is matter known as the material of the universe? * How are matter and energy related? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * physical ways of changing materials (2) * chemical ways of changing materials (2) * matter is anything that has mass and takes up space (3) * atoms are building blocks of matter (3) |

**Grades 2/3 Physics**

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| **Big Ideas** | **Competencies** | **Content** |
| **Forces influence the motion of an object. (2)**   * What are different ways that objects can be moved? * How do different materials influence the motion of objects? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * types of forces (2) |
| **Thermal energy can be produced and transferred. (3)**   * What can be a source of thermal energy? * How is thermal energy transferred between objects? | * sources of thermal energy (3) * transfer of thermal energy (3) |

**Grades 2/3 Earth & Space**

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| **Big Ideas** | **Competencies** | **Content** |
| **Water is essential to all living things, and it cycles through the environment. (2)**   * Why is water important for all living things? * How can you conserve water in your home and school? * How does water cycle through the environment?   **Wind, water, and ice change the shape of the land. (3)**   * How is the shape of the land changed by environmental factors? * What are landforms? * What landforms do you have in your local area? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * water sources including local watersheds (2) * water conservation (2) * the water cycle (2) * local First People’s knowledge of water: * water cycles * conservation * connection to other systems (2) * major local landforms (3) * local First Peoples knowledge of local landforms (3) * observable changes in the local environment caused by erosion and deposition by wind, water, and ice (3) |

**Grades 3/4 Biology**

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| **Big Ideas** | **Competencies** | **Content** |
| **Living things are diverse, can be grouped, and interact in their ecosystems. (3)**   * What is biodiversity? * Why is biodiversity important in an ecosystem? * How does local Frist Peoples knowledge of living things demonstrate interconnectedness?   **All living things sense and respond to their environment. (4)**   * How do living things sense, respond, and adapt to stimuli in their environment? * How is sensing and responding related to interdependence within ecosystems? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * Biodiversity in the local environment (3) * The knowledge of local First Peoples of ecosystems (3) * energy is needed for life (3) * sensing and responding: * humans * other animals * plants (4) * biomes as large regions with similar environmental features (4) |

**Grades 3/4 Chemistry**

|  |  |  |
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| **Big Ideas** | **Competencies** | **Content** |
| **All matter is made of particles. (3)**   * Why is matter known as the material of the universe? * How are matter and energy related?   **Matter has mass, takes up space, and can change phase. (4)**   * How can you explore the phases of matter? * How does matter change phases? * How does heating and cooling affect phase changes | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * matter is anything that has mass and takes up space (3) * atoms are building blocks of matter (3) * phases of matter (4) * the effect of temperature on particle movement (4) |

**Grades 3/4 Physics**

|  |  |  |
| --- | --- | --- |
| **Big Ideas** | **Competencies** | **Content** |
| **Thermal energy can be produced and transferred. (3)**   * What can be a source of thermal energy? * How is thermal energy transferred between objects?   **Energy can be transformed. (4)**   * What is energy input and energy output? * What is energy conservation? * What is the relationship between energy input, output, and conservation? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * sources of thermal energy (3) * transfer of thermal energy (3) * energy: * has various forms * is conserved (4) * devices that transform energy (4) |

**Grades 3/4 Earth & Space**

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| --- | --- | --- |
| **Big Ideas** | **Competencies** | **Content** |
| **Wind, water, and ice change the shape of the land. (3)**   * How is the shape of the land changed by environmental factors? * What are landforms? * What landforms do you have in your local area? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * major local landforms (3) * local First Peoples knowledge of local landforms (3) * observable changes in the local environment caused by erosion and deposition by wind, water, and ice (3) |
| **The motions of Earth and the moon cause observable patterns that affect living and non-living systems. (4)**   * How do seasons and tides affect living and non-living things? * What changes are caused by the movements of Earth and the moon? | * local changes caused by Earth's axis, rotation, and orbit (4) * the effects of the relative positions of the sun, moon, and Earth including First Peoples perspectives (4) |

**Grades 4/5 Biology**

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| **Big Ideas** | **Competencies** | **Content** |
| **All living things sense and respond to their environment. (4)**   * How do living things sense, respond, and adapt to stimuli in their environment? * How is sensing and responding related to interdependence within ecosystems? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * sensing and responding: * humans * other animals * plants (4) * biomes as large regions with similar environmental features (4) |
| **Multicellular organisms have organ systems that enable them to survive and interact within their environment. (5)**   * How do organ systems interact with one another? * How do organ systems interact with their environment to meet basic needs? | * basic structures and functions of body systems: * digestive * musculo-skeletal * respiratory * circulatory (5) |

**Grades 4/5 Chemistry**

|  |  |  |
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| **Big Ideas** | **Competencies** | **Content** |
| **Matter has mass, takes up space, and can change phase. (4)**   * How can you explore the phases of matter? (4) * How does matter change phases? (4) * How does heating and cooling affect phase changes? (4)   **Solutions are homogeneous. (5)**   * How are solutions homogeneous? (5) * What are their uses? (5) | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * phases of matter (4) * the effect of temperature on particle movement (4) * solutions and solubility (5) |

**Grades 4/5 Physics**

|  |  |  |
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| **Big Ideas** | **Competencies** | **Content** |
| **Energy can be transformed. (4)**   * What is energy input and energy output? * What is energy conservation?   **Machines are devices that transfer force and energy. (5)**   * How do machines (natural and human-made) transfer force and energy? * What natural machines can you identify in your local environment? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * energy: * has various forms * is conserved (4) * devices that transform energy (4) * properties of simple machines and their force effects (5) * machines: * constructed * found in nature (5) * power - the rate at which energy is transformed (5) |

**Grades 4/5 Earth & Space**

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| **Big Ideas** | **Competencies** | **Content** |
| **The motions of Earth and the moon cause observable patterns that affect living and non-living systems. (4)**   * How do seasons and tides affect living and non-living things? * What changes are caused by the movements of Earth and the moon? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * local changes caused by Earth's axis, rotation, and orbit (4) * the effects of the relative positions of the sun, moon, and Earth including First Peoples perspectives (4) |
| **Earth materials change as they move through the rock cycle and can be used as natural resources. (5)**   * 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? | * the rock cycle (5) * local types of earth materials (5) * First Peoples concepts of interconnectedness in the environment (5) * the nature of sustainable practices around BC's resources (5) * First Peoples knowledge of sustainable practices (5) |

**Grades 5/6 Biology**

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| **Big Ideas** | **Competencies** | **Content** |
| **Multicellular organisms have organ systems that enable them to survive and interact within their environment. (5)**   * How do organ systems interact with one another? * How do organ systems interact with their environment to meet basic needs?   **Multicellular organisms rely on internal systems to survive, reproduce, and interact with their environment. (6)**   * How are internal systems necessary for survival? * What do your body systems require for survival? * How do your body systems interact with one another? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * basic structures and functions of body systems: * digestive * musculo-skeletal * respiratory * circulatory (5) * the basic structures and functions of body systems: * excretory * reproductive * hormonal * nervous (6) |

**Grades 5/6 Chemistry**

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| **Big Ideas** | **Competencies** | **Content** |
| **Solutions are homogeneous.**   * How are solutions homogeneous? * What are their uses?   **Everyday materials are often mixtures. (6)**   * What is a heterogeneous mixture? * How can mixtures be separated? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * solids, liquids, and gases as matter (5) * the effect of temperature on pressure in a gas (5) * solutions and solubility (5) * heterogeneous mixtures (6) * mixtures: * separated using a difference in component properties * local First Peoples knowledge of separation and extraction methods (6) |

**Grades 5/6 Physics**

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| **Big Ideas** | **Competencies** | **Content** |
| **Machines are devices that transfer force and energy. (5)**   * How do machines (natural and human-made) transfer force and energy? * What natural machines can you identify in your local environment?   **Newton’s three laws of motion describe the relationship between force and motion. (6)**   * What is the difference between motion caused by balanced forces and motion caused by unbalanced forces? * How are balanced and unbalanced forces evident in your life and activities? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * properties of simple machines and their force effects (5) * machines: * constructed * found in nature (5) * power - the rate at which energy is transformed (5) * Newton’s three laws of motion (6) * effects of balanced and unbalanced forces in daily physical activities (6) * force of gravity (6) |

**Grades 5/6 Earth & Space**

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| **Big Ideas** | **Competencies** | **Content** |
| **Earth materials change as they move through the rock cycle and can be used as natural resources. (5)**   * 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? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * the rock cycle (5) * local types of earth materials (5) * First Peoples concepts of interconnectedness in the environment (5) * the nature of sustainable practices around BC's resources (5) * First Peoples knowledge of sustainable practices (5) |
| **The solar system is part of the Milky Way, which is one of billions of galaxies. (6)**   * What are the relationships between Earth and the rest of the universe? * What extreme environments exist on Earth or in our galaxy? | * The overall scale, structure, and age of the universe (6) * the position, motion, and components of our solar system in our galaxy (6) |

**Grades 6/7 Biology**

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| **Big Ideas** | **Competencies** | **Content** |
| **Multicellular organisms rely on internal systems to survive, reproduce, and interact with their environment. (6)**   * How are internal systems necessary for survival? * What do your body systems require for survival? * How do your body systems interact with one another? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * the basic structures and functions of body systems: * excretory * reproductive * hormonal * nervous (6) |
| **Evolution by natural selection provides an explanation for the diversity and survival of living things. (7)**   * Why do living things change over time? * How do these changes affect biodiversity? | * organisms have evolved over time (7) * survival needs (7) * natural selection (7) |

**Grades 6/7 Chemistry**

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| --- | --- | --- |
| **Big Ideas** | **Competencies** | **Content** |
| **Everyday materials are often mixtures. (6)**   * What is a heterogeneous mixture? * How can mixtures be separated?   **Elements consist of one type of atom, and compounds consist of atoms of different elements chemically combined. (7)**   * What are the similarities between elements and compounds? (7) * How can you investigate the properties of elements and compounds? (7) | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * heterogeneous mixtures (6) * mixtures: * separated using a difference in component properties * local First Peoples knowledge of separation and extraction methods (6) * elements and compounds are pure substances (7) * crystalline structure of solids (7) * chemical changes (7) |

**Grades 6/7 Physics**

|  |  |  |
| --- | --- | --- |
| **Big Ideas** | **Competencies** | **Content** |
| **Newton’s three laws of motion describe the relationship between force and motion. (6)**   * What is the difference between motion caused by balanced forces and motion caused by unbalanced forces? * How are balanced and unbalanced forces evident in your life and activities? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * Newton’s three laws of motion (6) * effects of balanced and unbalanced forces in daily physical activities (6) * force of gravity (6) |
| **The electromagnetic force produces both electricity and magnetism. (7)**   * How is electricity generated? * What is the relationship between electricity and magnetism? | * Electricity: * generated in different ways with different environmental impacts * electromagnetism (7) |

**Grades 6/7 Earth & Space**

|  |  |  |
| --- | --- | --- |
| **Big Ideas** | **Competencies** | **Content** |
| **The solar system is part of the Milky Way, which is one of billions of galaxies. (6)**   * What are the relationships between Earth and the rest of the universe? * What extreme environments exist on Earth or in our galaxy? | **Questioning and Predicting**  **Planning and Conducting**  **Processing and Analyzing Data and Information**  **Evaluating**  **Applying and Innovating**  **Communicating** | * The overall scale, structure, and age of the universe (6) * the position, motion, and components of our solar system in our galaxy (6) |
| **Earth and its climate have changed over geological time. (7)**   * How and why have Earth and its climate changed over time? * How do people and their practices impact Earth and its climate? | * The fossil record provides evidence for changes in biodiversity over geological time (7) * First Peoples knowledge of changes in biodiversity over time (7) * evidence of climate change over geological time and the recent impacts of humans: * physical records * local First Peoples knowledge of climate change (7) |