**Grades K/1 Biology**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |
| --- | --- | --- |
| **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)
 |