BIG IDEAS

Plants and animals have observable features.	Humans interact with matter every day through familiar materials.	The motion of objects depends on their properties.	Daily and seasonal changes affect all living things.

Learning Standards

Curricular Competencies

Students are expected to be able to do the following:

Questioning and predicting

- Demonstrate curiosity and a sense of wonder about the world
- Observe objects and events in familiar contexts
- Ask simple questions about familiar objects and events

Planning and conducting

- Make exploratory observations using their senses
- Safely manipulate materials
- Make simple measurements using non-standard units

Processing and analyzing data and information

- Experience and interpret the local environment
- Recognize First Peoples stories (including oral and written narratives), songs, and art, as ways to share knowledge
- Discuss observations
- Represent observations and ideas by drawing charts and simple pictographs

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

- Share observations and ideas orally
- Express and reflect on personal experiences of **place**

Content

Students are expected to know the following:

- **basic needs** of plants and animals
- **adaptations** of local **plants** and **animals**
- **local First Peoples uses** of plants and animals
- **properties** of **familiar materials**
- **effects of pushes/pulls** on movement
- effects of size, shape, and materials on movement
- **weather** changes
- **seasonal changes**
- **living things make changes** to accommodate daily and seasonal cycles
- First Peoples knowledge of seasonal changes

BIG IDEAS

Living things have features and behaviours that help them survive in their environment.	Matter is useful because of its properties.	Light and sound can be produced and their properties can be changed.	Observable patterns and cycles occur in the local sky and landscape.

Learning Standards

Curricular Competencies	Content
Students are expected to be able to do the following: **Questioning and predicting** • 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 (including 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	*Students are expected to know the following:* • **classification** of living and non-living things • **names** of local plants and animals • **structural features** of living things in the local environment • **behavioural adaptations** of animals in the local environment • **specific properties** of materials allow us to use them in different ways • natural and artificial **sources of light** and **sound** • **properties of light** and **sound** depend on their source and the objects with which they interact • **common objects in the sky** • 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** • **local patterns** that occur on Earth and in the sky

Learning Standards (continued)

Curricular Competencies	Content
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**	

BIG IDEAS

Living things have life cycles adapted to their environment.	Materials can be changed through physical and chemical processes.	Forces influence the motion of an object.	Water is essential to all living things, and it cycles through the environment.

Learning Standards

Curricular Competencies	Content
Students are expected to be able to do the following: **Questioning and predicting** • 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 (including 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	*Students are expected to know the following:* • **metamorphic** and **non-metamorphic** life cycles of different organisms • similarities and differences between **offspring and parent** • **First Peoples use of their knowledge** of life cycles • **physical** ways of changing materials • **chemical** ways of changing materials • types of **forces** • **water sources** including local watersheds • **water conservation** • the **water cycle** • local First People's knowledge of water: – water cycles – conservation – **connection to other systems**

Learning Standards (continued)

Curricular Competencies	Content
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**	

BIG IDEAS

Living things are diverse, can be grouped, and interact in their ecosystems.	All matter is made of particles.	Thermal energy can be produced and transferred.	Wind, water, and ice change the shape of the land.

Learning Standards

Curricular Competencies	Content
Students are expected to be able to do the following: **Questioning and predicting** • Demonstrate curiosity and a sense of wonder about the 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	*Students are expected to know the following:* • **biodiversity** in the local environment • **the knowledge of local First Peoples** of **ecosystems** • **energy is needed for life** • **matter is anything that has mass and takes up space** • **atoms are building blocks of matter** • **sources** of **thermal energy** • **transfer of thermal energy** • major local **landforms** • local First Peoples knowledge of local landforms • observable changes in the local environment caused by erosion and deposition by wind, water, and ice

Learning Standards (continued)

Curricular Competencies	Content
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 • Co-operatively 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**	

BIG IDEAS

All living things sense and respond to their environment.	Matter has mass, takes up space, and can change phase.	Energy can be transformed.	The motions of Earth and the moon cause observable patterns that affect living and non-living systems.

Learning Standards

Curricular Competencies	Content
Students are expected to be able to do the following: **Questioning and predicting** • 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	*Students are expected to know the following:* • sensing and responding: – **humans** – **other animals** – **plants** • **biomes** as large regions with similar environmental features • phases of matter • the **effect of temperature** on particle movement • energy: – has **various forms** – is **conserved** • **devices that transform energy** • local changes caused by **Earth's axis**, **rotation**, **and orbit** • **the effects of the relative positions of the sun, moon, and Earth** including **local First Peoples perspectives**

Learning Standards (continued)

Curricular Competencies	Content
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 individual or collaborative approaches • Co-operatively 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**	

BIG IDEAS

Multicellular organisms have organ systems that enable them to survive and interact within their environment.	Solutions are homogeneous.	Machines are devices that transfer force and energy.	Earth materials change as they move through the rock cycle and can be used as natural resources.

Learning Standards

Curricular Competencies	Content
Students are expected to be able to do the following: **Questioning and predicting** • Demonstrate a sustained curiosity about a scientific topic or problem of personal interest • Make observations in familiar or unfamiliar contexts • Identify questions to answer or problems to solve through scientific inquiry • Make predictions about the findings of their inquiry **Planning and conducting** • With support, plan appropriate investigations to answer their questions or solve problems they have identified • Decide which variable should be changed and measured for a fair test • Choose appropriate data to collect to answer their questions • Observe, measure, and record data, using appropriate tools, including digital technologies • Use equipment and materials safely, identifying potential risks **Processing and analyzing data and information** • Experience and interpret the local environment • Identify First Peoples perspectives and knowledge as sources of information • Construct and use a variety of methods, including tables, graphs, and digital technologies, as appropriate, to represent patterns or relationships in data • Identify patterns and connections in data • Compare data with predictions and develop explanations for results • Demonstrate an openness to new ideas and consideration of alternatives	*Students are expected to know the following:* • basic structures and functions of body systems: – **digestive** – **musculo-skeletal** – **respiratory** – **circulatory** • **solutions and solubility** • properties of **simple machines** and their **force effects** • machines: – **constructed** – **found in nature** • **power** – the rate at which energy is transferred • the rock cycle • local types of **earth materials** • First Peoples concepts of **interconnectedness** in the environment • the nature of sustainable practices around BC's resources • First Peoples knowledge of sustainable practices

Learning Standards (continued)

Curricular Competencies	Content
Evaluating • Evaluate whether their investigations were fair tests • Identify possible sources of error • Suggest improvements to their investigation methods • Identify some of the assumptions in **secondary sources** • Demonstrate an understanding and appreciation of evidence • Identify some of the social, ethical, and environmental implications of the findings from their own and others' investigations **Applying and innovating** • Contribute to care for self, others, and community through personal or collaborative approaches • Co-operatively design projects • Transfer and apply learning to new situations • Generate and introduce new or refined ideas when problem solving **Communicating** • Communicate ideas, explanations, and processes in a variety of ways • Express and reflect on personal, shared, or others' experiences of **place**	

