Continuity and Change

Grade 1 - Year/Unit Plan Example

Year Plan

In this sample year plan for Grade 1, the outcomes are sequenced in ways that support student investigations into how things change and how they stay the same. Rather than organizing the year into typical units, this year plan organizes the year according to the seasons. Although some outcomes will be addressed at one time during the year, others will be returned to over and over again as the year progresses. The concepts of continuity and change are addressed throughout the year as students learn about seasons, plants & animals, physical change, and movement.

	September - November	***December - March***	***April - June***
	Summer & Fall: Seasonal Change & Diversity of Life	**Winter: Living Things and their Environments**	**Spring: Interdependence of Living Things**
Earth Systems: *In what ways can environments change?*	*U1: Changes in environments include **seasonal changes.*** *U2: Seasonal or sudden changes can affect the **behaviour** of animals.* *U3: Environments are observed and understood using the **senses**.* *U4: Seasonal **changes** influence decisions about daily activities* *U5: Caring for nature comes from a sense of **responsibility***		
	Intro to seasons in Alberta *U1: K1-4, S1-5* *U3: K10, S8*	Environments & Living things *U2:* S6, *K5-6 (Migration),* K7-8 *(Hibernation),* *U2: S7, K9 (Sudden changes)* *U4: K11, S9 (daily activities)*	*Caring for Nature* *U5: K12-13, S10-12*
Living Systems: *How do plants and animals survive?*	*U1: **Plants and animals** share similarities and have differences.*	*U2: Plants and animals require **environments** that allow them to meet their needs.*	*U3: Humans, other animals, and plants **depend** on each other to meet their needs.*
	Plants & Animals: K9, K1-4, K6, S2 *Diversity of life: K5, K7, S1*	*Plants, animals, and their environments* *K8, S3-5*	*Interdependence* *K10-11, S6-8*
Energy: *How can movement of objects and animals be understood?* & ***Matter:*** *How can properties of an object be altered?*		*U1: **Movement** consists of direction, a pathway, and speed. (K1 - K5, S1, S3)* *U2: The movement of objects can be **influenced** in a variety of ways. (K6 - K7, S2 & S4)*	*U1: Objects have **measurable properties**. (K1 - K3, S1 - S3)* *U2: **Physical changes** to objects do not change what the objects are made of. (K4 - K6, S4 - S7)*
Computer Science: *How can instructions affect outcomes?*	*U3: Instructions help to keep people safe. (K3, S5)*	*U1: The **form** in which instructions are given may not affect the outcome. (K1, S1)* *U2: Instructions are ordered in a way that will produce a **desired outcome**. (K2, S2 - S4)*	
Scientific Methods: *What is an investigation?*	*U1: Investigations are carried out to try to **understand the world.*** *U2: Recording **data** helps ensure observations can be referenced in the future.*		
	U1: K1-3, S1; U2: K8-9, S5-6	*U1: K4-5, S2-3; U2: K6, S4-7*	

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Unit #1
Summer & Fall: Seasonal Change & Diversity of Life
(September - November)

This unit introduces students to the concept of **seasons**, **plants, and animals**. It also introduces the concept of **investigations, asking questions, and recording observations** and initiates a year-long investigation into **how natural environments change (i.e., seasons).** In preparation for the indoor and outdoor activities, students will learn about **instructions** and how following instructions can keep us safe. Throughout this unit, students will also learn about the **relationship between living things and their environments** as they learn about **plants** and **animals** and their **basic needs.**

Lessons	Description	KUSP's
1. Intro to seasons (summer)	Summer - As an introduction to the concept of seasons, have students discuss experiences from the summer. Review the concept of an environment with students. Introduce the idea that environments can change (e.g. leaves changing colour, desks moving around in a classroom). Engage students in activities to develop an understanding of the concept of change. Extend this into a pre-assessment to determine students knowledge of how natural environments change over time (e.g., KWL).	**Earth Systems** U1: Changes in environments include **seasonal changes**. S3: **Share personal experiences** related to seasons. K1: The **four seasons in Alberta** are summer, autumn or fall, winter, and spring. K2: **Some places have fewer than four seasons**, such as two seasons (rainy and dry) and three seasons (cool or cold, rainy, and dry).
2. Investigating & observing the environment (senses)	Explain to students that this year they are going to investigate how environments, animals, and objects change. Introduce the concept of investigations and their purpose. Engage students in activities to review the 5 **senses** and how they are used to observe environments and objects.	**Scientific Methods** U1: Investigations are carried out to try to **understand the world**. K1: The **skills and knowledge** required to carry out an investigation **can be learned.** K3: **Investigations are carried out by a variety of individuals or groups**, such as teachers, students, scientists, police, and doctors. K7: **Observations** can be made by using the senses. S5: **Make observations** using various senses. **Earth Systems** U3: Environments are observed and understood using the **senses**. K10: **Information can be gathered** from environments using the senses. S8: **Describe various environments**, drawing from information gathered using the senses.

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Unit #1
Fall: Seasonal Change & Diversity of Life
(September - November)

Lessons	Description	KUSP's
3. How do natural environments change? ***(Seasons)***	Introduce students to the question that they will be investigating this year, "How do natural environments change?" Introduce specific aspects that will be investigated (e.g., weather, environments, animals, plants) and methods for recording changes (e.g., photos, drawings, measurements). Engage students in asking questions about how the environment changes that they are interested in (e.g. KWL). Identify questions that can be investigated through observations. Have students begin recording observations of seasonal changes and continue regular observations throughout the unit/year. Discuss with students the importance of following instructions during the investigations in order to stay safe and record good observations. ***Note:*** Wherever possible throughout the year, integrate resources and information about First Nations, Métis, and Inuit perspectives and knowledge related to the KUSP's (e.g. seasons, needs of living things). **Resources:** ● Instructions Keep Us Safe Slideshow (Stepping Into Science Alberta)	**Earth Systems** U1: Changes in environments include **seasonal changes**. K3: Many **seasonal changes appear in environments**, such as snow covering the ground, snow melting, the surface of lakes and other bodies of water freezing, and rivers flowing fast or slow. K4: **Seasonal changes appear in plants and animals**, such as camouflage in animals, leaves changing colour and falling, flowers blooming, and crops and plants greening and growing. S1: **Observe seasonal changes** in local environments over time. S2: **Document signs of seasonal change** over time. S4: **Discuss how changes** in the appearance of environments, plants, and animals **are related to the seasons**. S5: **Represent an environment in different seasons** to show environmental changes. **Scientific Methods** S1: **Ask a question** sparked by curiosity. K2: Investigations can be sparked by **curiosity.** U2: **Recording data** helps ensure observations can be referenced in the future. S6: **Record observations** as data. K8: Observations can be **recorded as data in many ways**, such as words, drawings, photographs, numbers and counts, and sound and video recordings. K9: Scientists can keep **records of data** in record books or computers. **Computer Science** U3: Instructions help to keep people **safe**. K3: Following instructions is a way to **demonstrate respect and safety** during investigations. S5: **Follow instructions** during investigations.

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Unit #1
Fall: Seasonal Change & Diversity of Life
(September - November)

Lessons	Description	KUSP's
4. Needs of living things	Engage students in activities to support their understanding of living things and introduce students to some of the basic things that living things need to stay alive (e.g. food, water).	Living Systems K9: **Basic needs** of plants and animals include food, water, air, and shelter.
5. Plants and Animals	Engage students in activities to support their understanding of the characteristics of plants and animals and ways they are similar and different.	U1: **Plants and animals** share similarities and have differences. S2: **Observe and describe similarities** and **differences** between plants and animals. K1: **Plants** are living things that can grow and **make their own food**. K3: **Animals** are living things that can grow and that **need to find food**. K2: **Plants** usually cannot **move** from place to place. K4: **Animals** are usually able to **move** from place to place. K6: **Humans** are part of nature and **are classified as animals**.
6. Diversity of Life on Earth	Engage students in activities to develop their understanding of the concept of diversity. Develop the concept of diversity in relationship to plants and animals in Alberta and in other places on Earth.	K5: Plants and animals exist in **all shapes and sizes**. K7: A **variety** of plants and animals exist and are dispersed over Earth. S1: **Share examples** of plants and animals native to Alberta and Canada.

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Unit #2
Winter: Living Things and Their Environments
(December - March)

In this unit students will continue to observe **seasonal changes** as they develop a deeper understanding of the relationships between **living things and their environments**. Specifically, students will learn about animals and plants in Alberta and how the local environment helps them meet their needs. Students will also explore the ways that seasonal and sudden changes affect animal behaviour, including the concepts of migration and hibernation.

In this unit students will also explore the concept of **movement** and **conduct investigations** into the movement of objects. Within lessons on movement, students will learn that **instructions** are ordered to produce desired outcomes.

Lesson	Description	KUSP's
1. Living things and their environments	Review concepts students have learned about the needs of living things and the diversity of life on earth. Discuss and synthesize observations of changes in environments during the Summer and Fall. Explain to students that they are now going to learn more about how living things meet their needs in different environments.	Earth Systems U1: Changes in environments include **seasonal changes**. K3: Many **seasonal changes appear in environments**, such as snow covering the ground, snow melting, the surface of lakes and other bodies of water freezing, and rivers flowing fast or slow. K4: **Seasonal changes appear in plants and animals**, such as camouflage in animals, leaves changing colour and falling, flowers blooming, and crops and plants greening and growing. S1: **Observe seasonal changes** in local environments over time. S2: **Document signs of seasonal change** over time. S4: **Discuss how changes** in the appearance of environments, plants, and animals **are related to the seasons**. S5: **Represent an environment in different seasons** to show environmental changes.
2. How do natural environments change? ***(Continued)***	Have students continue recording observations of seasonal changes and continue regular observations throughout the unit/year. ***Note:*** Wherever possible throughout the unit, integrate resources and information about First Nations, Métis, and Inuit perspectives and knowledge related to the KUSP's (e.g. seasons, needs of living things).	

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Unit #2
Winter: Living Things and Their Environments
(December - March)

Lessons	Description	KUSP's
3. Plants and animals live in environments that meet their basic needs	Engage students in activities to support their understanding of the relationship between the environment and the types of plants and animals found in that environment. Have students learn about plants and animals in different environments in Alberta and discuss how the environment helps that plant or animal meet its needs.	**Living Systems** U2: Plants and animals require **environments** that allow them to meet their needs. K8: Diverse plants and animals can be found in many environments in **Alberta**, such as forests, prairies, lakes and rivers, and mountains. S3: **Represent** plants and animals in various environments. S4: **Determine** how a local environment meets the basic needs of plants and animals.
4. How things move	Explain to students that sometimes animals need to move from place to place to meet their needs. Support students development of vocabulary to describe directions of movement, movement pathways, and speed. Engage students in a variety of activities that have them observe, describe, and record movement of objects and animals. For example, have students observe and describe the movement of animals by observing them or observing animal tracks in the snow. When observing animals, have students discuss their ideas for why the animals might be moving and how the movement might help them meet their needs.	S5: **Discuss** the **movement** of local animals from place to place to meet their needs. **Energy** U1: **Movement** consists of direction, a pathway, and speed. S1: **Observe** and **describe** the **direction**, **pathway**, and **speed** of objects or animals. K1: **Directions of movement** can be described as up, down, forward, backward, sideways, toward, and away from. K2: A **movement pathway** is the path an object or animal follows when it moves. K3: **Movement pathways** can be described as straight, curved, spiral, and side to side. K4: Objects or animals move along pathways in a **variety of ways**, such as rolling, bouncing, and sliding . K5: **Speed** can be described as fast, slow, changing, and not changing. S3: **Describe and record** ways objects or animals move along different pathways.

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Unit #2
Winter: Living Things and Their Environments
(December - March)

Lessons	Description	KUSP's
9. Movement Practice	Have students practice moving in different ways by following 2 to 3 step instructions that are given in verbal, audio, visual, and written form. Change the order of the steps of the instructions to demonstrate to students that sometimes the order changes the outcome and sometimes it does not (e.g. the outcome could be the location after moving). Have students (1) sequence 2 to 3 step instructions and (2) exchange ideas for creating 3-step instructions that achieve a desired outcome.	Computer Science U1: The **form** in which instructions are given may not affect the outcome. K1: **Instructions** are directions that can be followed and given in **various forms**, including verbal,audio, visual, and written. S1: **Follow instructions** with two or three steps given in different forms. U2: Instructions are ordered in a way that will produce a **desired outcome.** K2: Many types of instructions need to be in a **specific order**, such as directions, recipes, computer programs, and safety protocols. S2: **Determine** if instructions with two or three steps given in different orders still produce the desired outcome. S3: **Sequence two or three instruction steps** to achieve a desired outcome. S4: **Exchange ideas** for creating three-step instructions that achieve a desired outcome.

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Unit #2
Winter: Living Things and Their Environments
(December - March)

Lessons	Description	KUSP's
9. Influences on movement	Engage students in investigations to determine factors that influence the movement of objects. Have students make predictions, record observations and make conclusions. Teach students about the components of scientific investigations including asking questions, making predictions, gathering data, and forming conclusions.	**Energy** U2: The movement of objects can be **influenced** in a variety of ways. S2: **Conduct an investigation** to determine how objects move. S4: **Demonstrate** how the movement of objects can be influenced. K6: The **movement of objects** can be **influenced** by the shape of the object, the materials the object is made from, the surface texture of the object, and interactions with other objects. K7: **Wheels** can make objects easier to move. **Scientific Methods** U1: Investigations are carried out to try to **understand the world**. U2: **Recording data** helps ensure observations can be referenced in the future. K4: **Steps followed during an investigation include** asking questions, making predictions, gathering data, and forming conclusions. S3: **Describe** steps of an investigation. S4: **Demonstrate safety and respect** during investigations. S2: **Predict** the answer to a question. K5: A **prediction** is a likely answer to a question based on current understanding. K6: A **conclusion** is an answer to a question based on gathered data. S6: **Record observations** as data. S7: **Reflect** on recorded data to make conclusions.

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Unit #2
Winter: Living Things and Their Environments
(December - March)

Lessons	Description	KUSP's
10. Effect of Seasonal Changes on Animal Behaviour	This lesson returns to the students' ongoing investigations of seasonal changes. Engage students in asking questions about the how seasonal changes affect animal behaviour. Introduce the idea that some animals move to warmer areas in the winter (migration) and others find ways to survive the winter by reducing their activity/movement (hibernation). Children's literature, science trade books, videos and other activities can be used to support students' understanding of migration and hibernation among a range of different types of animals.	Earth Systems U2: Seasonal or sudden changes can affect the **behaviour** of animals. S6: **Investigate animal behaviour** throughout the seasons, including migration and hibernation. K5: **Migration** is the regular movement patterns of animals from one area to another, usually in response to seasonal changes. K6: **Many animals migrate**, such as whales, geese, polar bears, butterflies, and caribou. K7: **Hibernation** allows animals to survive the winter with little or no food, usually by sleeping for long periods of time. K8: **Many animals hibernate** in winter, such as black bears and grizzly bears, groundhogs, and some types of squirrels.
11. Effect of Seasonal Changes on Our Daily Activities	Engage students in activities that allow them to describe how seasonal changes affect their daily activities.	U4: **Seasonal changes** influence decisions about daily activities. K11: Seasonal changes may affect a variety of **choices and activities**, such as clothing choices, recreational activities, Indigenous ceremonies, hunting and gathering. S9: **Describe** how seasonal changes affect decisions about daily activities.
12. Sudden Environmental Changes	Introduce students to the idea that along with seasonal changes, environments also undergo sudden changes, such as storms, fires and floods. Discuss different kinds of sudden changes in the environment and have students identify how the environment can be changed and how the behaviour of animals is affected by these events.	U2: Seasonal or sudden changes can affect the **behaviour** of animals. K9: Environments can undergo **sudden changes**, such as storms, floods, fires, and winds. S7: **Share personal experiences** related to sudden changes in environments.

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Unit #3

Spring: Caring for Nature

(April - June)

Between April and June students continue their observations of **seasonal changes** culminating in an end of the year project in which students apply what they have learned about the environment to a plan for taking personal and group actions to **care for the environment**.

Students learn about the **interdependence of living things** by caring for a classroom plant and pet. Students further develop understandings of the concepts of continuity and change as they engage in investigations of the **properties of matter**.

Lesson	Description	KUSP's
1. Interdependence of Living Things and Respect for the Environment	Review concepts students have learned about the relationship between living things and their environments. Discuss and synthesize observations of changes in environments during the Fall and Winter. Explain to students that they are now going to learn about how living things in the environment depend on each other and the responsibility that we all have to respect and protect all aspects of nature.	Earth Systems U5: Caring for nature comes from a sense of **responsibility**. K12: The responsibility to care for environments is shared by all people and is fulfilled by showing **respect** for and **protecting** all aspects of nature.
2. How do natural environments change? ***(Continued)***	Have students continue recording observations of seasonal changes and continue regular observations throughout the unit/year. ***Note:*** Wherever possible throughout the unit integrate resources and information about First Nations, Métis, and Inuit perspectives and knowledge related to the KUSP's (e.g. seasons, needs of living things).	U1: Changes in environments include **seasonal changes**. K3: Many **seasonal changes appear in environments**, such as snow covering the ground, snow melting, the surface of lakes and other bodies of water freezing, and rivers flowing fast or slow. K4: **Seasonal changes appear in plants and animals**, such as camouflage in animals, leaves changing colour and falling, flowers blooming, and crops and plants greening and growing. S1: **Observe seasonal changes** in local environments over time. S2: **Document signs of seasonal change** over time. S4: **Discuss how changes** in the appearance of environments, plants, and animals **are related to the seasons**. S5: **Represent an environment in different seasons** to show environmental changes.

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Unit #3

Spring: Caring for Nature

(April - June)

Lessons	Description	KUSP's
3. Caring for Plants and Animals	Ask students what plants and animals would need to live in a classroom environment? How is a classroom environment different than a natural environment? Ask students to share experiences caring for plants and animals in their homes. Bring a plant and animal to the classroom and have students develop plans for ensuring that the plant and animal survive by meeting their basic needs.	Living Systems U3: Humans, other animals, and plants **depend** on each other to meet their needs. S6: **Describe personal experiences** related to how humans take care of plants and animals. K10: Ways humans can help **meet the needs of plants or animals** include watering plants, taking care of domestic animals, and respecting environments.
4. Humans dependence on plants and other animals	Discuss with students what things humans need to survive (e.g. food, air, water, shelter). Engage in activities that support students in understanding the many ways that humans rely on other animals and plants to meet their needs. Have students explore products made by various cultures from plant and animal parts.	K11: Ways that plants and animals, or their parts, help **meet the needs of humans** include providing air for breathing, food, clothing, shelter, medicine, and connection (social/emotional). S7: **Discuss** how humans depend on plants and animals to meet their basic needs. S8: **Identify products made by various cultures**, including local First Nations, Métis, or Inuit, that use plant and animal parts.
5. Properties of objects	Using the objects made of plant and animal parts from the previous lesson and additional objects have students measure various properties of the objects. Teach students how to use tools such as balance scales and simple rulers safely to measure properties of the objects.	Matter U1: Objects have **measurable properties.** K1: **Measurable properties** of objects include length, how much flat space an object covers (area), and weight (mass). K2: **Weight** is the heaviness of an object. S1: **Identify** measurable properties of objects. K3: **Tools**, such as balance scales and magnifying glasses, can be used to examine properties of objects and materials. S3: **Use various tools safely** when examining the properties of objects. S2: **Directly compare** the length, area, and weight of various objects.

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Unit #3

Spring: Caring for Nature

(April - June)

Lessons	Description	KUSP's
6. Physical Change	Ask students to describe things they have learned about this year that change (e.g. seasons, animal behaviour, movement). Engage students in activities that explore various ways that objects can be changed. Through the activities develop the concept that physical changes such as breaking, cutting, stretching might change the size or shape of objects it doesn't change what the objects are made of.	Matter U2: **Physical changes** to objects do not change what the objects are made of. K4: **Properties** that can be changed include length, area, weight (mass), shape, and texture. K5: **Actions** that physically change properties of an object include bending, twisting, stretching, cutting, and breaking. K6: **Not all objects respond the same way** to bending, twisting, stretching, cutting, or breaking. S5: **Explore actions** that physically change properties of various objects. S4: **Predict** how actions can physically change properties of various objects. S6: **Describe physical changes** that result from various actions. S7: **Discuss** why physical changes do not change what an object is made of.

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Unit #3

Spring: Caring for Nature

(April - June)

Lessons	Description	KUSP's
7. Responsibility and Care for Nature	Discuss and synthesize observations of changes in environments during the Fall, Winter, and Spring. Have students develop representations of the cyclical nature of all four seasons as a culminating project. Build on what students have learned throughout the year to deepen their understanding of the importance of respecting and caring for the environment, including First Nations, Métis, and Inuit perspectives and knowledge related to seasons and the environment. End the year by having students identify personal and group actions that they can take to demonstrate responsibility and care for nature.	Earth Systems U1: Changes in environments include **seasonal changes**. S5: **Represent an environment in different seasons** to show environmental changes. U5: Caring for nature comes from a sense of **responsibility**. K12: The responsibility to care for environments is shared by all people and is fulfilled by showing **respect** for and **protecting** all aspects of nature. S10: **Discuss benefits** of spending time in nature. S11: **Identify personal and group actions** that demonstrate responsibility and care for nature. K13: For First Nations, Métis, and Inuit, a **sense of responsibility toward nature** can be connected to place and traditional teachings for future generations, such as taking only what is needed. S12: **Discuss and reflect on First Nations, Métis, and Inuit traditional teachings** that demonstrate a sense of responsibility to care for nature.

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