Environments in Our World

Kindergarten - Year/Unit Plan Example

Year Plan

In this sample year plan for Kindergarten Science the outcomes are organized into 3 units that support students in learning about natural and constructed environments, properties of objects, difference and change, and concludes with a unit on protecting our environment.

	Sept - Oct	***Nov - Dec***	***Jan - Feb***	***Mar - Apr***	***May - June***
Guiding Questions	**<u>Unit 1</u> Observing, appreciating, & respecting our environment**		**<u>Unit 2</u> Difference and change in our environment**		**<u>Unit 3</u> Protecting our environment**
Earth Systems: *What makes up my environment?*	*U1: **Environments** can be **explored** and **wondered** about. (K1-5, S1-4)* *U5: **Feelings of connection and appreciation** can be experienced in nature. (K10, S11-12)* *U6: First Nations, Métis, and Inuit **ways of living** connect to nature and the land. (K11, S13)* *U2: Environments are shared spaces that include a **variety of objects**. (K6, S5-6)*		*U3: Environments **change** over time (K7, S7-8)*		*U4: Environments are important and should be **protected and respected**. (K8-9, S9-10)*
Matter: *How can properties of an object be distinguished from one another?*	*U1: Objects have **identifiable properties**. (K1 - K4, S1 & S2)*		*U2: Objects may be **similar** in one or more properties and **different** in another property. (S3 & S4)*		
Energy: *How can objects, humans, and other animals move?*			*U1: Objects, humans, and other animals can **move** or **be moved** in various ways (K1-K3, S1-S5)* *U2: Humans and other animals **move for many reasons**. (S6 & K4)*		
Computer Science: *How can instructions be used?*	*U1: **Following instructions** can help people be safe, complete a task, and know what to do. (K1-3, S1-5)*		*U2: The **order** in which instructions are followed can affect the outcome. (K4, S6-8)*		

CC BY NC SA

Unit #1
Observing, appreciating, & respecting our environment
(September - December)

This unit begins at the start of the year with explorations of the students' environment. In preparation for the indoor and outdoor activities, students will learn about **instructions** and how following instructions can keep us safe. Field trips to a local natural area provide students with opportunities to explore, observe, respect, wonder about, and connect to their **natural environment**. Students learn to use their senses to describe properties of **objects** and **environments**. Students will reflect on their personal experiences in nature and learn how First Nations, Métis, and Inuit ways of living connect to **nature and the land.**

Lesson	Description	KUSP's
1. Observing the world around us	Explain to students that this year they will be learning about the world all around them. Prepare students for taking a field trip by discussing the importance of following instructions. Discuss how following instructions can keep us safe when observing objects and the environment.	Computer Science U1: **Following instructions** can help people be safe, complete a task, and know what to do. K1: **Instructions** are directions that can be followed. S1: **Recognize** when actions do not correspond to instructions. S2: **Match** an action to the corresponding instruction.
2. Our park (exploring, wondering, connecting, and appreciating)	Go on field trip to the local park with a focus on encouraging exploration, wondering, and appreciation.	Earth Systems U1: **Environments** can be **explored** and **wondered** about. S1: **Use the senses** to make observations about environments. S2: **Ask questions** about surrounding environments. S3: **Demonstrate respect** while interacting with environments. U5: **Feelings of connection and appreciation** can be experienced in nature. K10: **Connections** can be fostered by physical locations, objects, and experiences in nature. S12: **Reflect** on what is personally considered to be beautiful and appreciated in nature.

CC BY NC SA

Unit #1
Observing, appreciating, & respecting our environment
(September - December)

Lesson	Description	KUSP's
2. Our park (exploring, wondering, connecting, and appreciating) **CONTINUED**	*See previous page.*	**Computer Science** U1: **Following instructions** can help people be safe, complete a task, and know what to do. K2: Instructions may be experienced in **many different contexts**, such as home, learning environments, games, experiences in nature. S3: **Engage** in activities that involve following instructions in various contexts. S4. Identify instructions that help **keep people safe** in various contexts.
3. Five senses	Learn about the five senses. Over a series of multiple days students will learn about their senses as they use each sense to observe and describe different objects.	**Matter** U1: Objects have **identifiable properties**. K1: An **object** is anything that can be perceived using one or more of the five senses. K2: The **five senses** are sight, touch, hearing, smell, and taste. S1: **Explore properties** of various objects using one or more of the five senses. S2: **Describe properties** of various objects. K3: Properties are **distinctive characteristics**. K4: **Properties** of objects that can be **perceived** using one or more of the five senses include: • **colour;** e.g., blue, yellow • **size;** e.g., long, short • **shape;** e.g., round, square • **texture;** e.g., rough, smooth • **temperature;** e.g., hot, cold • **sound;** e.g., loud, quiet • **scent;** e.g., fresh, rotten • **taste;** e.g., sweet, sour
4. Properties	Over a series of activities students will use their senses to observe and describe different types of properties, e.g. colour, size. Focus on different properties could be spread over the entire school year. During these activities, provide students with instructions given in different ways, e.g. through speaking, pictures, gestures.	**Computer Science** K3: **Instructions can be given in many ways** and presented through speaking, pictures, gestures, and traditional teachings. S5: **Engage** in activities that involve following instructions presented in various ways.

CC BY NC SA

Unit #1
Observing, appreciating, & respecting our environment
(September - December)

Lessons	Description	KUSP's
5. Our 5 senses in the park	Students will take another field trip to the park and use their senses to make observations of environments and the objects in them.	Earth Systems U1: **Environments** can be **explored** and **wondered** about. K5: Environments can be **explored using the senses**. S1: **Use the senses** to make observations about environments.
6. Connection & appreciation of natural environments	Have students share ways that they have engaged in activities in natural environments (e.g., swinging at the park, walking, biking, camping, swimming).	U5: **Feelings of connection and appreciation** can be experienced in nature. K10: **Connections** can be fostered by physical locations, objects, and experiences in nature. S11: **Identify** physical locations, objects, and experiences in nature that can lead to personal feelings of connection. S12: **Reflect** on what is personally considered to be beautiful and appreciated in nature.
7. Indigenous relationships with the land	Learn about First Nations, Métis, and Inuit ways of living are related to the land. Invite speakers, read books, or watch videos.	U6: First Nations, Métis, and Inuit **ways of living** connect to nature and the land. K11: First Nations, Métis, and Inuit **ways of living** include hunting, gathering, trapping, fishing, and ceremonies. S13: **Discuss connections** First Nations, Métis, or Inuit have with nature.
8. Our school	Students will take a field trip around the school and use their senses to make observations about specific objects (e.g. bleachers, playground equipment) and environments (e.g. lunch room). Students will draw pictures of these objects and environments.	U2: Environments are shared spaces that include a **variety of objects**. K6: **Objects** in environments can be natural or constructed by humans. S5: **Identify natural and constructed objects** in surrounding environments. S6: **Represent objects** found in nature and those constructed by humans.

CC BY NC SA

Unit #1
Observing, appreciating, & respecting our environment
(September - December)

Lessons	Description	KUSP's
9. Environments all around us	Students will construct representations of the local park and the school grounds. This will be used to consolidate students' understanding that environments can include natural and human-made structures and that environments include plants, animals (including humans), land, water, and sun.	Earth Systems K1: **Environment** refers to **physical surroundings**. K4: Environments include **land, water, and air**. K2: Environments include **plants, humans, and other animals**. K3: Environments include **human-made structures** such as buildings and roads. S4: **Represent** a local environment in nature.

CC BY NC SA

Unit #2
Difference and change in our environment
(January - April)

Between January and April students will explore concepts of difference and change as they build on their developing understandings of **objects** and **environments**. Students will examine concepts of similarity and difference as they compare and sort objects and develop an understanding of how **objects can be similar in some properties and different in others**. Students will also examine how **changes in location result in movement**. They will observe and describe different types of movement in living and non-living objects/organisms. Students will learn that the order in which **instructions** are followed can affect the outcome. For example, students will learn that the order in which directions for moving around the school are followed will affect the final location where they end up. Students will also continue their observations of outdoor environments with a focus on how the environment changes over time and **how animals move**.

Lesson	Description	KUSP's
1. Similar & Different	Students compare properties of objects and sort them into groups according to properties. Ask students to identify objects with the same properties (e.g. colour) and objects that have different properties (e.g. size).	Matter U2: Objects may be **similar** in one or more properties and **different** in another property. S4: **Compare properties** of various objects. S3: **Sort** various objects according to properties.
2. Change in objects	Students explore how properties of objects can change. This lesson builds from students' understanding that objects can have similar and different properties to the idea that an object's properties can change. Students should be given opportunities to observe changes in different types of objects (e.g. ice melting, playdough) and describe the changes in the object's properties.	
3. Change in the environment	Have students record observations of indoor and outdoor environments over time.	Earth Systems U3: Environments **change** over time. K7: **Changes** can be observed in environments, such as • **temperature;** e.g., hot, cold • **sunlight;** e.g., cloudy, sunny, day, night • **human-made structures**; e.g., new playground in a park • **animals** growing; e.g., tadpole becoming a frog • **plants** growing; e.g., grass getting taller S7: **Observe** a variety of local environments over time. S8: **Record observations** of changes in environments.

CC BY NC SA

Unit #2
Difference and change in our environment
(January - April)

Lesson	Description	KUSP's
4. Movement is change in location	Have students explore movement of objects.	Energy U1: Objects, humans, and other animals can **move** or **be moved** in various ways. K1: Movement is a **change in position or location** that happens over time. S3: **Identify objects** that **do not move.** S2: **Identify objects** that **move.** S1: **Move objects** in a variety of ways. K2: Objects can be **moved in various ways**, including straight lines, curves, circles, back and forth, zigzags, up and down, and fast and slow.
5. How animals move	Have students observe and imitate how animals move. Watch videos of animals moving and discuss why the animals are moving.	S4: **Observe** and **imitate** how animals can move. S5: **Identify various ways** that humans and other animals can move. K3: **Humans and other animals can move** in a variety of ways, such as flying, crawling, hopping, and swimming. U2: **Humans** and other **animals move** for many **reasons**. K4: **Reasons** for **human** and other **animal movement** include seeking food and water, exercising and playing, and escaping danger. S6: **Examine** the reasons why humans and other animals move.
6. Movement and order of instructions.	Have students follow instructions, such as (1) take one step forward, (2) turn to the left, (3) take one step backward. Then rearrange the order of the instructions. Have students communicate a sequence of two step instructions to get another student to move to another spot in the room, playground, etc.	Computer Science U2: The **order** in which instructions are followed can affect the outcome. K4: Instructions have **one or more steps.** S6: **Follow a sequence of two steps** related to a learning experience. S7: **Identify differences** in outcomes when the order of two steps is changed. S8: **Communicate** a sequence of two steps for a given purpose.

CC BY NC SA

Unit #3: Protecting our environment

(May - June)

At the end of the year, students will apply their learning about **objects** and **environments** as they learn about specific ways to **protect the environment**, such as reducing waste, recycling, and reusing. Students identify a class plan for protecting the local environment around the school and/or park.

Lesson	Description	KUSP's
1. Protecting our Environment	Students will apply their learning about objects and environments as they learn about specific ways to protect the environment, such as reducing waste, recycling, and reusing.	Earth Systems U4: Environments are important and should be **protected and respected**. K8: **Environments can be protected** in many ways, such as reducing, waste, reusing, and recycling. K9: **Environments can be respected** in many ways, such as not littering, and caring for nature. S9: **Discuss** the importance of protecting and respecting environments. S10: **Identify** ways to protect and respect environments.
2. Identify ways to protect local environments	Students identify a class plan for protecting the local environment around the school and/or park.	

CC BY NC SA