Kindergarten Units

SEMESTER 1	
Lessons & Topics	**NGSS Standard**
Introduction to Science • **What is a scientist?** • **What tools do scientists use?** • **Why do we need science?** • **Science Notebook**	Background Knowledge
Introduction to STEM/Engineering **What is an engineer?** **What is a model?** **How do engineers work together as a team?**	K-2-ETS1-1,1-2,1-3
Weather Lessons **Scientists look for patterns and order when making observations about the local weather.** **What types of weather hazards are most likely to occur where we live?** **Who forecasts the weather? How can they help us prepare for emergencies?**	K-ESS2-2

Pushes and Pulls **How can we move something?** **How do people use pushes and pulls in their job?**	K-PS2-1
Speed and Direction **What are some ways that we can make something move?** **What happens when you change the strength or direction?**	K-PS2-2
Safe Slider Challenge (optional)	K-2-ETS1-1, K-2-ETS1-2, K-2-ETS1-3
Living vs. Non-Living **What are living & nonliving things?** **What are the differences between living & nonliving things?** **What are the characteristics of all living things?**	Background Knowledge
Semester 2	
Plant and Animal Needs; Habitats	K-LS1-1 and K-ESS3-1
Sunlight and Energy **What does the sun do for the Earth? How does the sun change the temperature of the Earth?**	K-PS3-1

Organisms Impact on their Environment **Reducing Human Impact**	K-ESS2-2

Kindergarten Meaningful Watershed Educational Experience

Curriculum Embedded Kindergarten Meaningful Watershed Educational Experience: KWEE

Essential Questions/ Driving Questions (Unit objectives)

- What do plants, animals including humans need to survive?
- How are plants, animals including humans changing the environment?
- How are humans affecting land, water, air and or living things in their local area?
- What are some solutions to reduce human impacts and how can we communicate the solutions to the community?

Enduring Understandings (what students will know and be able to demonstrate at the end of the kindergarten)

- Plants and animals need water to survive
- Animals have different food needs
- Animals need to eat food, plants do not need to eat food
- Plants need sunlight and water
- Plants and animals including humans need other resources to survive
- The needs of plants and animals including humans are met by various places
- There are specific relationships between plants, animals including humans and where they live
- Plants, animals including humans can change the environment in order to meet their needs
- Things that people do to live comfortably can affect the the local land, air, water and or living things
- There are many solutions to to reduce the effects of humans on the local land, air , water and or living things
- There are different ways to communicate the information

NGSS Standards

K-LS1-1

Performance Expectation (What students should be able to do by the end of kindergarten)

Use observations to describe patterns of what plants and animals (including humans) need to survive. [Clarification Statement: Examples of patterns could include that animals need to take in food but plants do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; and, that all living things need water.]

K-ESS 3-1

Performance Expectation (What students should be able to do by the end of kindergarten)

Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live. [Clarification Statement: Examples of relationships could include that deer eat buds and leaves, therefore, they usually live in forested areas; and, grasses need sunlight so they often grow in meadows. Plants, animals, and their surroundings make up a system.]

K-ESS 2-2

Performance Expectation (What students should be able to do by the end of kindergarten)

Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs. [Clarification Statement: Examples of plants and animals changing their environment could include a squirrel digs in the ground to hide its food and tree roots can break concrete.]

K-ESS 3-3

Performance Expectation (What students should be able to do by the end of kindergarten)

Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.* [Clarification Statement: Examples of human impact on the land could include cutting trees to produce paper and using resources to produce bottles. Examples of solutions could include reusing paper and recycling cans and bottles.]

The KWEE includes

Part 1 Issue Definition: Outdoor field experience to Ward Museum to explore the needs of plants and animals and to identify human impacts

Part 2 Science & ELA connection: Creek Critters Read-Aloud to engage students in scientific practices

Part 3 Investigation and Action Plan: Schoolyard survey to gather and analyze data to promote/communicate student action.

Part 1: Outdoor Field Experience at Ward Museum

Station 1: Land exploration hike focusing on

- Plants and animals that live on land
- Different animals eat different things

- Plants don’t eat food but they need water and sunlight
- Needs of plants and animals that live on land
- Needs of humans
- Relationship between plants, animals humans and where they live
- Plants, animals and humans have changed they land to meet their needs
- Changes to area around Ward Museum before and after dam construction

Station 2 : Water exploration
- Plants and animals that live in the water
- Different animals in the water eat different things
- Plants don’t eat food but they need water and sunlight
- Needs of plants and animals that live in the water
- Relationship between plants,animals, humans and water
- Changes to water seasonally that can affect plants and animals in the water (algae bloom vs clear water)

Station 3: Enviroscape
- Humans change the environment to live comfortably
- Human activities can have impacts on the local land, water, air and or living things
- There are solutions that can reduce human impacts

Part 2: Creek Critters Read Aloud
Part 3: Schoolyard Survey & Student Action