



ECO & Your School: Program Summary

Third Grade Investigators

Lesson: Habitat Who Am I?

Description:

From the temperate rain forest to the high desert, the Northwest is filled with unique habitats. What makes these places so unique is a combination of flora and fauna, landscape and climate. After discussing characteristics of local ecosystems, students will play "Habitat Who Am I?" identifying common habitats of the Northwest.

Learning Targets:

- Understand a habitat as more than "an animal's home." A habitat is a combination of flora, fauna, landscape and climate.
- Recognize there are multiple habitats in Oregon.
- Identify features that distinguish one habitat from another

Oregon Science Standards:

- 3.1 Structure and Function: Living and non-living things vary in their characteristics and properties
- 3.2 Interaction and Change: Living and non-living things interact with energy and forces
 - 3.2E.1 Identify Earth as a planet and describe its seasonal weather patterns of precipitation and temperature.

Vocabulary:

- | | | |
|-----------|----------|------------|
| • Habitat | • Edge | • Ecotone |
| • Beach | • River | • Stream |
| • Wetland | • Field | • Mountain |
| • Desert | • Forest | • |

Lesson: Water Cycle, Watersheds & Land Forms

Description:

We all live in a watershed! This is an introduction to the concepts of a watershed and the water cycle. We also investigate the connection between land use and water quality. Students will learn about types of pollution including point and non-point sources, and ways to keep streams and rivers healthy.

Learning Targets:

- Define the word watershed
- Identify basic phases within the water cycle

- Understand that we all live in a watershed, and human actions affect the environment

Oregon Science Standards:

- Science: 3.2 Interaction and Change: Living and non-living things interact with energy and forces.
 - 3.2E.1 Identify Earth as a planet and describe its seasonal weather patterns of precipitation and temperature.

Vocabulary:

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|-------------|-----------------|---------------|
| • Watershed | • Evaporation | • Run Off |
| • Model | • Precipitation | • Water Cycle |
| • Erosion | • Gravity | • |

Optional Extension: Borrow the ECO stream table! Create your own watershed inside the stream table, using rocks, sticks and "trees," then turn on the pump to watch the water flow through the sandy landscape. Ask students to make predictions about how changes upstream will affect the watershed downstream. *This can be messy! Please only let adults operate the stream table, and deconstruct it when you are done.

Lesson: Animals of the Northwest

Description:

Dive into the watery habitat that these animals call home. Did you know beavers can hold their breath for fifteen minutes and frogs can jump up to twenty times their body length? Learn about the unique adaptations of the frog and the beaver, and how they adapt to life on land and water.

Learning Targets:

- Define the word Adaptation
- Understand that adaptations make it possible for organisms to survive in a particular habitat

Oregon Science Standards:

- Science: 3.1 Structure and Function: Living and non-living things vary in their characteristics and properties
- 3.2 Interaction and Change: Living and non-living things interact with energy and forces.
 - 3.2L.1 Compare and contrast the life cycles of plants and animals.

Vocabulary:

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|------------------------|---------------|----------------|
| • Adaptation | • Habitat | • Valves |
| • Lodge | • Dam | • Cold Blooded |
| • Nictitating Membrane | • Webbed feet | • Amphibian |
| • Mammal | • Underfur | • Castor Oil |

Optional Extension: Have students research an animal and design (or even create!) a costume. Be sure they explain why they choose particular costume fabrics and/or features.

Lesson: Animals of the Northwest

Description:

Birds are a diverse group of animals that survive on a variety of food sources. Some birds visit small backyard birdfeeders, while others dive underwater for fish; feeding patterns tell you a great deal about these adaptable creatures. During this activity, students play a card game to match some common Northwest birds and the foods they eat.

Learning Targets:

- Recognize that birds, as a species, have special adaptations that differentiate them from other animals
- Recognize that many specialized adaptations exist within the bird Class
- Identify bird characteristics that relate to food source

Oregon Science Standards

- Science: 3.1 Structure and Function: Living and non-living things vary in their characteristics and properties.
- 3.2 Interaction and Change: Living and non-living things interact with energy and forces.
 - 3.2L.1 Compare and contrast the life cycles of plants and animals.

Vocabulary:

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|--------------|-------------|-------------|
| • Adaptation | • Beak | • Feet |
| • Feathers | • Herbivore | • Carnivore |
| • Scavenger | • Omnivore | • |

Optional Extension: Borrow ECO's Bird Beak Buffet kit. Students will delve deeper into the connection between birds' beaks and their food sources as they attempt to "eat" various "foods," such as string, paperclips, etc. with their specialized "beaks" (chopsticks, spoons, etc.).

Lesson: Outdoor Explorations – Scavenger Hunt!

Description:

What's really out there? The schoolyard is a perfect place for exploration! Students will work in pairs to observe and check off items on a non-collecting scavenger hunt.

Learning Targets:

- Utilize multiple senses to make detailed observations
- Identify organisms with special adaptations within their own schoolyard

Oregon Science Standards:

- Science: 2.3 Scientific Inquiry: Scientific inquiry is a process used to explore the natural world using evidence from observations.
- 2.3S.1 Observe, measure, and record properties of objects and substances using simple tools to gather data and extend the senses.
 - 2.3S.3 Make, describe, and compare observations, and organize recorded data.

Vocabulary:

- Scavenger Hunt
- Senses
- Exploration
- Adaptations
- Observation
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Optional Extension: Take students out to a different section of the schoolyard with paper, pencils, binoculars and magnifying glasses. Working in pairs, have students create a new scavenger hunt. Regroup, collect binos and magnifying glasses, and have students trade scavenger hunt lists with another team.

Remind students not to collect anything in this scavenger hunt!

Lesson: Parts of a Flower

Description:

Take a closer look! A simple flower dissection will reveal the complex arrangement of flower parts that enable the process of pollination to occur. Without the wind, bees and butterflies, the world would a different place! Students discover the details of flower anatomy in this hands-on project.

Learning Targets:

- Understand that adaptations are found within both the plant and animal world
- Identify basic anatomical structures of a flower
- Understand the role of the flower in the process of pollination

Oregon Science Standards

- 3.2 Interaction and Change: Living and non-living things interact with energy and forces.
 - 3.2L.1 Compare and contrast the life cycles of plants and animals.
- Science: 3.3 Scientific Inquiry: Scientific inquiry is a process used to explore the natural world using evidence from observations and investigations.
 - 3.3S.1 Plan a simple investigation based on a testable question, match measuring tools to their uses, and collect and record data from a scientific investigation.

Vocabulary:

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|----------|------------|----------|
| • Petal | • Sepal | • Stem |
| • Stamen | • Filament | • Anther |
| • Pistil | • Ovary | • Stigma |
| • Style | • | • |

Optional Extension:

Build an anatomically correct arts-and-crafts flower! Petals: construction paper, Sepals: paper plate, Stem: paper plate, Filaments: pipe cleaners, Anthers: felt, Pistil: small amount of play dough Ovaries: sesame seeds stuck into play dough