Omaha Explorers: Ecosystem Scavenger Hunt

Keep Omaha Beautiful

Description:

Students explore the ecosystem around their school or home to discover the producers, consumers, decomposers, and abiotic factors.

Objective:

- Participants will recognize that no matter where they live, nature is all around them. They will recognize that there is beauty in the nature they can find in an urban habitat.
- Participants will observe and study insects, birds, and mammals that live in their neighborhood.
- Participants will understand the variety of creatures that live in their urban natural environment.
- Participants will identify producers, consumers, decomposers, and abiotic features in an urban habitat.

Standards:

All Grades:

- LA.X.1.5 - Vocabulary: Students will build and use conversational, academic, and content-specific grade-level vocabulary.

Kindergarten:

- SC.K.7.2 - Gather, analyze, and communicate evidence of interdependent relationships in ecosystems.
- SC.K.7.2.A - Use observations to describe patterns of what plants and animals (including humans) need to survive.

2nd Grade:

- SC.2.7.2.C - Make observations of plants and animals to compare the diversity of life in different habitats. Assessment does not include specific animal and plant names in specific habitats.

3rd Grade:

- SC.3.7.2 - Gather and analyze data to communicate an understanding of the interdependent relations in ecosystems.
- SC.3.7.2.C - Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
- SS 3.3.3.B - Identify ecosystems. For example: forests, deserts, grasslands.

4th Grade:

- SS 4.3.3.B - Identify examples of ecosystems in Nebraska and describe related environmental issues. For example: forests, wetlands, grasslands, and rivers, runoff, flooding, erosion, wildfires.

OMAHA EXPLORERS:
ECOSYSTEM SCAVENGER HUNT

Keep Omaha Beautiful

Standards Continued:

5th Grade:

- SC.5.8.2 - Gather and analyze data to communicate understanding of matter and energy in organisms and ecosystems.
- SC.5.8.2.A - Use models to describe that energy in animals' food (used for body repair, growth, and motion and to maintain body warmth) was once energy from the sun.
- SS 5.3.3.A - Identify examples of ecosystems and analyze issues related to the natural setting in the United States. For example: forests, deserts, grasslands, deforestation, wildfires, urban sprawl, flooding, erosion, strip mining.

Materials:

- Clipboards (not provided in the resource kit - can be provided upon request)
- Copies of Ecosystem Scavenger Hunt Page
- Writing utensils (not provided in the resource kit)
- Magnifiers
- Video - https://www.youtube.com/watch?v=hWxfqA2IPCo

Background Info:

According to National Geographic, "An ecosystem is a geographic area where plants, animals, and other organisms, as well as weather and landscape, work together to form a bubble of life. Ecosystems contain biotic or living, parts, as well as abiotic factors, or nonliving parts. Biotic factors include plants, animals, and other organisms. Abiotic factors include rocks, temperature, and humidity."

While students frequently learn about desserts, oceans, forests, and mountains, we seldom take the time to help them explore in-depth the ecosystem in which they currently live - an **urban ecosystem**. This simple scavenger hunt activity asks students to begin exploring the biotic and abiotic features of the ecosystem they exist in every day. Students may be looking at things they see all the time, but simply categorizing these items into the component elements of an ecosystem helps students begin to analyze their surroundings.

As we move through this unit, students will explore different aspects of our urban ecosystem and gain a deeper understanding of the role they, as members of that ecosystem, play as a part of the "bubble of life."

As students are exploring, point out interesting features. Pose questions to students and encourage them to think deeper. *Why do you think that insect is here? Why is there moss on this tree but not on that one?* Don't feel like you need to know all the answers. The purpose of this activity is to encourage students to observe and consider their surroundings.

Omaha Explorers: Ecosystem Scavenger Hunt

Keep Omaha Beautiful

Activity:

1. *Note:* The video that accompanies this activity can be used to provide students with all of the information they need for steps 2-4.

2. Inform students that you will be going on a scavenger hunt. Unlike some scavenger hunts, on this search you will seek items but will not gather them. Part of understanding an ecosystem is respecting it – the plants and animals in our urban ecosystem need the materials we will be finding so it is important to be respectful and leave them where we find them.

3. Distribute an *Ecosystem Scavenger Hunt Student Page* to each student. Discuss the following vocabulary. *Note*: Upper elementary students will likely be able to provide their own definitions for these words. In younger grades, teachers should guide students to a basic understanding of the vocabulary.

- **Ecosystem** - an ecosystem is a community made up of all the living and nonliving things in an area; this includes plants, animals, rocks, water, soil, and more
- **Producer** – an organism that makes its own food through the process of photosynthesis (plants)
- **Photosynthesis** –the process in which green plants use sunlight to make their own food
- **Consumer** – an organism that cannot produce its own food and must eat plants or other animals for energy (insects, birds, mammals, etc.)
- **Decomposer** - an organism that gets its energy from dead plants or animals (worms, fungus, etc.)
- **Biotic** - living organisms that are part of an environment
- **Abiotic** - non-living factors in an environment such as temperature, light, water, and nutrients

4. Provide each student with a clipboard and a magnifier. Each student will also need to take a writing utensil (not provided in the resource kit.) Take the students outside and encourage them to find as many items from the E*cosystem Scavenger Hunt Student Page* as they can.

- Suggested Extension: If you have the technology, consider asking students to take photographs with their tablets of the items they find. They can use these photos to make an ecosystem photo collage.

- Suggested Adaptation: Encourage students to do this activity during their distanced learning time in the area around their home.

Omaha Explorers:
Ecosystem Scavenger Hunt

Activity Continued:

5. After completing the scavenger hunt, ask students to complete the reflection questions on the back of their *Ecosystem Scavenger Hunt Student Page*. You can ask students to draw pictures or write their answers in the space provided.

6. Encourage students to share their responses with the class or with a partner so they can learn about elements of the ecosystem that their classmates observed.

Assessment:

- Completed Ecosystem Scavenger Hunt Student Page
- If extension is completed, photo collage of ecosystem elements

Omaha Explorers: Ecosystem Scavenger Hunt

Keep Omaha Beautiful

Name:

Directions:

Check off each item as you find it.

Producers:

- A tree so big you cannot wrap your arms around the trunk
- A tree that is small enough that you can wrap your hand around the trunk
- 3 different colors of leaves or flowers
- 3 different kinds of “grass” (look closely at the leaves, or blades of grass and find 3 unique ones)
- Two different kinds of seeds

Consumers (signs of consumers):

- An insect (insects have 6 legs)
- A spider (spiders have 8 legs)
- A bug with more than 8 legs
- A bird’s nest
- An animal footprint
- A mammal
- A bug under a rock (what else is under the rock?)
- An insect hole in a tree
- A spider web

Decomposers (signs of decomposition):

- A mushroom
- A slug
- A rotten tree stump (look closely - what's inside?)
- A worm
- A roly poly

Non-Living (abiotic) Items:

- Feel the wind
- Soil (what does it feel like? what does it smell like?)
- Two different kinds of rocks
- Water in 3 places

REFLECTION QUESTIONS

Keep Omaha Beautiful

Draw or write your answers in the space below:

What was the most interesting thing you found?

What surprised you about your exploration?

How do you think an ecosystem exploration would be different during the winter? How would it be different during the summer?

What did you learn during your adventure today?