Ecosystem Scramble

Summary

Students actively participate while listening to a story with vocabulary words.

Objectives

1. To familiarize students with ecology vocabulary.
2. To give students an idea of what they might expect during a day at the SMNHC.

Standards

Science: Strand II, Standard II (Life Science), BM I, PS 1: Identify the components of habitats and ecosystems (producers, consumers, decomposers, predators, or non-living) and PS2: Understand how food webs depict relationships between different organisms.

Social Studies: Strand II (geography), Standard II, BM II-B, PS1: Describe human and natural characteristics of places.

Language Arts: Strand I (reading and listening for comprehension), Standard I, BM I-A, PF 4: Follow oral instructions.

Career Readiness: Standard I (identify career interests and aptitudes), BM I Explore areas of interest and possible career choices; Standard V (develop effective leadership, interpersonal, and team skills), BM II: Recognize that individual differences affect school . . .behavior, and BM III: demonstrate teamwork skills through the demonstration of effort.

Time

20 minutes

Materials

- The story included in this activity
- Vocabulary cards (cut out)

Background Information

This activity is designed for up to 26 students.

Vocabulary Words

Producers, consumers, decomposers, non-living, biotic, abiotic, habitat, herbivores, carnivores, omnivores, photosynthesis, niche, adapt, elevation, population, precipitation, hypothesis, ecology, environment, species, scat, camouflage, predators, prey, connections, and ecosystem. (See glossary or a science text for definitions.)

Procedure

1. Assign each student a vocabulary word by giving him/her a vocabulary card.
2. Each time the word on the card is mentioned in the story, whether in singular or plural form, the student stands up, turns around in place, and then sits back down again.
3. When the word ecosystem is mentioned, all the students stand up, turn around in place, and sit back down.

Vocabulary Cards

producers

consumers

decomposers

non-living

biotic

abiotic

habitat

herbivores

carnivores

omnivores

photosynthesis

niche

adapt

elevation

population

precipitation

hypothesis

ecology

environment

species

scat

camouflage

predators

prey

connections

Conclusion

After (or before) reading the story, have each student say his or her word and what it means. If the student doesn't know what the word means, have him or her look it up before the class shares their definitions. Ask the students why all of the parts stood up when the teacher said "ecosystem." (Answer: all of them are part of the ecosystem.)

Variations and Extensions

1. Read the story through twice, once before you give the students their words and then again, playing the game along with the story.
2. If your class will also do ECOnnections or Eco Word Puzzle, tell students to pay close attention to the meanings of the words because they will use them in a puzzle later.

Modifications

1. If you have more than 26 students, give some words to two students.
2. Depending on the nature of the class, you can have the students change seats with someone rather than just turning around in place when the word ecosystem comes up in the story.

Ecosystem Scramble

Introduction: This is a story game about some students visiting the Sandia Mountain Natural History Center. Listen and learn what their day was like and become more familiar with the ecology vocabulary.

The Story

Alicia and Robert were going to the Sandia Mountain Natural History Center with their class.

"We'll be learning more about producers, consumers, decomposers, and non-living parts of an ecosystem, and the connections they have with each other: that is, ecology. We'll understand more about our natural environment after today," said Ms. Cook, their teacher. The students grabbed their lunches and boarded the bus. On the way to the center, the class saw a coyote chase a rabbit across the road. The bus had to slow down so it didn't hit them. "Oh!" said Ms. Cook, "We're so lucky to see this drama between a carnivore and an herbivore in an ecosystem."

"Which of these consumers is the carnivore and which is the herbivore?" asked Sasha, who was sitting behind Alicia.

"Carnivores eat meat—like chile con carne is chile with meat, and herbivores eat plants or herbs," like in herbal tea," said Alicia, turning around.

"Which one are we? I like both meat and vegetables," asked Jung.

"Humans and other biotic parts of an ecosystem that eat plants and meat are called omnivores," answered Robert.

"What niche does a coyote fill in the ecosystem?" asked Ms. Cook. Robert raised his hand.

"A coyote is a predator, so he makes sure that populations of his prey like rabbits, mice, and squirrels don't get too large in an ecosystem."

"Good job, Robert," said Ms. Cook.

"I feel sorry for the prey," said Alicia. "I know they adapt to the habitat they live in with camouflage to help them hide and all that, but they're so cute, and I hate to think of them as food." The students were getting off the bus now and forming groups with the SMNHC instructors.

"It looks like there may be some precipitation today," said Ms. Cook, glancing up at the sky. "At this higher elevation, maybe it will be snow!"

"Yipeee!" cried all of the students together.

"All right, ecologists," said the SMNHC instructor enthusiastically, "let's explore this ecosystem!"

After an introduction in a neat, rustic classroom, the group hiked until lunchtime. They saw many species of producers and talked about how they created food for themselves and

other living things in ecosystems through the process of photosynthesis.

“Plants only need four abiotic or non-living ingredients to make all this food,” said the SMNHC instructor. “Those abiotic ingredients are Sun, Air, Water, and Soil. The first letter of each spells a word: “SAWS”; remembering SAWS helps you remember the four non-living parts of an ecosystem.”

There were dead logs being turned into soil by decomposers like mold and fungus. The students didn’t see many animals but noticed quite a bit of scat along the trail that helped them form hypotheses about which animals used the trail and what they ate.

After lunch the students did an activity and reviewed: producers, consumers, decomposers, non-living, biotic, abiotic, habitat, herbivores, carnivores, omnivores, photosynthesis, niche, adapt, elevation, population, precipitation, hypothesis, ecology, environment, species, scat, camouflage, predators, prey, connections, and ecosystems. Alicia, Robert, and all of Ms. Cook’s class agreed that this was the best day at “school” ever, and they learned a lot about ecosystems.