

Class: Grade 1 Science

Lesson Title: Outdoor Ecosystems (Habitats & Food Webs)

Class Size: 20

Time: 50 mins

Curriculum Outcomes:

1.2.1 Students will be expected to describe how plants and animals meet their needs in a given environment

Learning Objectives:

1. Students will be able to demonstrate an understanding of how plants and animals interact with the environment around them.
2. Students will have an understanding of the relationships between all animals and plants within an ecosystem (and their dependence on one another).

Materials:

- Food web nametags (Deer, Bee, Rabbit, Caterpillar, Grasshopper, Squirrel, Beaver, Duck, Owl, Robin, Snake, Frog, Fox, Mouse, Raccoon, Trout, Fly, Ant, Salamander, Mosquito, Crow, Coyote, Hawk, Human)
- Ball of string/yarn
- Class-set of Ziploc bags

Preparation beforehand:

- This activity is done outside, so you will need to ensure that students are prepared to go outside and that the weather is cooperating
- You may wish to assign the plants and animals to students ahead of time so that they have time to create their own nametags (complete with names and pictures)

Introduction:

1. Introduce the topic. Possible prompt questions include:
 - a. What do you know about animals and habitats? What happens if the habitats are destroyed?
 - b. What kind of connection can you make between a bird and a worm? Grass and deer? A cave and a bear?
2. Explain what a kinulation is (broken up into kinesthetic and simulation). Tell them that these are used to help students learn difficult concepts that are otherwise difficult to picture. It allows students to become part of the demonstration, and therefore easier to remember and learn. Ask students if they would like to try one.

Activity #1: Habitat Awareness

1. Explain to students that they will be participating in a scavenger hunt outside according to the three different things they are looking for (explain the three things as they come up later).
2. Take all students outside, ensuring each are wearing their nametags, and give each student a Ziploc bag.
3. Everything that they need to find outside today will be put into their own Ziploc bag.
4. Instruct the students to complete the scavenger hunt (using only objects found on the ground) according to the following:
 - a. For the first round, students must find objects which they think their animal/plant role would eat. Any object they find that they think their animal/plant might eat should be put into their own bag.
 - b. For the second round, students will need to find objects that they could use to build a home for their plant/animal. It may be as simple as an animal living under a rock.
 - c. The third and final round involves students looking for objects that might help them camouflage themselves from predators (maybe mud, twigs, grass/flowers that are the same color as them).
5. After students are finished, they can gather in a circle to talk about some of the things they collected and why they think it was necessary for their animal to eat, live, or protect themselves.

Activity #2: Food Web

1. Have students put their Ziploc bags aside and gather in a circle (keeping the same nametags on).
2. Start the ball of yarn/string with one of the students. Explain that they must hold onto the string, and throw the ball to someone that their animal might be friends with, enemies with, or has some type of connection

(example a frog might throw the ball to a snake because it is eaten by the snake). Whenever they throw the ball, they must explain the relationship.

3. Students should continue to do this, holding onto piece of the string every time it comes back to them (it may be passed to the same person more than once!).
4. After everyone has been reached at least once, ask students what they think it looks like in the middle (a web, a trampoline, a net, etc.). Ask what they think it represents (relationships between everything in the ecosystem; everyone is connected)
5. Explain that this is called a food web because it shows how everything in the ecosystem works together (either in terms of food or habitat).
6. Have a few animals/plants drop their string so students can observe what happens when certain animals/plants are removed from the ecosystem (shows dependence).

Conclusion – Possible wrap-up questions:

1. What would happen if an animal/plant went extinct?
2. What would happen if the animals didn't have anything to make habitats because of construction, pollution, etc.?
3. Could animals learn to adapt in new environments (reflecting on how some students had a hard time finding materials in the school yard for eating, habitats, and camouflage)?