

Activity 4: Resources in an Ecosystem

Ask your child to give examples of resources found in an ecosystem that would be important for keeping the organisms in an ecosystem healthy. These might include water, clean air, clean soil, or a wide variety of plants, insects, trees, and animals.

Discuss the fact that there are limited resources in the environment and that animals are constantly competing with one another for these resources. For example, there are only so many plants in the forest to feed the deer. If the deer population grows too large, there will not be enough food, and the deer that do not get to the food will die.

Natural disasters and humans can threaten the resources in an environment. Ask your child to list some threats that an environment might face (fire, drought, humans hunting, humans developing land for homes or farming, and disease).

Read over the two options for this activity, and choose one for your child to complete.

Option 1: Ecosystem Tag

Let your child read the directions on the "Ecosystem Tag" sheet. Encourage him to gather family members and/or friends to play the game. He can explain the rules and then play the game. Note that in this game of tag, no one is "it" — all players chase each other at the same time. If he needs more tags, he can make them from blank white paper and color them with crayons or markers. Then encourage him to discuss the questions at the bottom of the page with you:

- For round 1, the results will vary depending on the number of players. Hopefully your child will see that the ecosystem remains relatively balanced and that some players from all three categories have survived.
- In round 2, poaching has reduced the number of carnivores. As a result, fewer herbivore and omnivore lives should be captured. Omnivores may notice that they have captured more herbivore lives in this round due to the limited supply of carnivores.
- In round 3, there are fewer herbivores and omnivores because less plant food is available. Omnivores and carnivores will compete for the remaining herbivores. The herbivore population may not survive this round. Carnivores will also have a harder time surviving.

Option 2: Create an Ecosystem

Play one of the following online games to manage the resources in either a mangrove or mountain ecosystem.

Make a Mangrove
www.movingbeyondthepage.com/link/10633/

Mountain Scramble
www.movingbeyondthepage.com/link/10634/

Ecosystem Tag

Directions:

1. Decide on a habitat for the game and divide players into herbivores, carnivores, and omnivores found in the habitat.
2. Cut out a tag for each player to attach to their shirt. Use green for herbivores, red for carnivores, and yellow for omnivores.
3. Cut out additional yellow and green tags to use as "lives." Assign the number of lives each player gets:
 - Herbivores get six lives (because there are more herbivores than carnivores or omnivores).
 - Omnivores get four lives.
 - Carnivores do not get any lives. They must get two lives from other animals during the game.
4. Set a timer for five minutes. The goal of the game is to survive.
 - Omnivores and carnivores capture lives by tagging other players. When a player is tagged, he must give the other player one of his lives.
 - Herbivores cannot capture lives. To survive, they must avoid omnivores and carnivores.
 - When a player runs out of lives, he is out. If a carnivore does not tag at least two herbivores or omnivores before the game ends, he is out.
5. When the game is over, those that survive are winners.

Variations: After you have played the game described above, change the number of players and lives for the following rounds.

Round 2: Poaching has decreased the number of carnivores. Give omnivores and herbivores more lives and have fewer carnivores.

Round 3: A non-native species was introduced and has killed off many herbivores. Give omnivores and herbivores fewer lives, and have more carnivores.

Questions to discuss:

How were the survivors different in each round?

What could have happened in the environment to cause the differences?

