



Being Part of a Food Web

Connections to Africa

Grade Levels

Grades 4-6

Engage

This activity is designed to start your students in recognizing themselves as scientists and thinking critically about problem-solving. The goal is to teach concepts through discovery and to encourage using scientific thought processes. As with all lessons provided, please feel free to adapt them according to your students' abilities. You may find it more successful to lead activities and discussions as a whole group rather than using individual Research Plan sheets. Certain scientific vocabulary may or may not be appropriate for your students' level of understanding. Take these ideas, make them your own and your students will have a greater chance at success.

What role or roles do elephants play in a food web? How might they affect the other animals around them?

1. Begin this lesson by telling students that they will be investigating how animals fit into a food web.
2. If your students are familiar with brainstorming and recording their ideas, break them into small groups. If your students need more guidance, work with them as a large group. Engage your students in a discussion of what they predict the answer to this question to be. More importantly, why do they think this?

Explore

3. Continue with the above discussion and encourage the group to come up with ways that they could investigate the question and test their predictions scientifically (all suggestions are welcomed). Are there materials that would help them find the answer? What kinds of records will they need to keep? What will they do with the information once they have it? And how will they know that they've successfully answered the question? Allow a wide variety of ideas and encourage conversation amongst the students to refine the details of their ideas.
4. Ideas should be recorded on the Research Plan sheets. Small groups can record their own answers or you can record ideas as a group.

Explain

5. Explain to the group that you have an activity that might help to give them some insight into the situation.
6. Share with your students the following information: All living things are part of a food web. Animals living within a food web are often defined as either predator or prey, but these animals only represent a part of a full food web. A typical food web contains producers, consumers, and decomposers. Producers create their own food using energy from the sun and nutrients from the soil. Consumers are animals that eat other organisms in order to get energy. Decomposers break down decaying or dead material so that it can be used again as energy for the producers.
7. The first thing your students need to know is that they will be developing their own food web. It does not necessarily need to include elephants, but it should include at least one producer, two consumers (one predator and one prey), and one decomposer.
8. To connect each part of their food web, students should think of a linking word (could be a verb, preposition, or short phrase) to connect and illustrate the relationship from one member of the food web to another. Example: A cat “eats” a mouse, an elephant “eats” tree bark, or a dung beetle “makes compost” from the dung of an elephant. A single animal could be connected to multiple members of their food web.
9. Have the students discuss their food webs and identify what role each of the members of their food web play.
10. Next, ask your class to write down a list of things an elephant does during its day. How do they spend their time? What do they do? An example would be grazing (even pooping would be an acceptable answer!).
11. Again, have the students discuss their answers and make a list of the different activities on the board.
12. One by one, go through this master list and ask the students how this particular activity might affect the elephants’ environment. Would this specific activity affect any plants in that environment? Would this affect help or hurt those plants? What about animals? Would the affect be helpful or hurtful? Are there any plants or animals that depend on elephants and/or elephant behavior during their day?

Expand

13. Discuss this situation further with the students. Must elephants be connected to only one other member of their food web? Could it be harmful or helpful for other animals if an elephant has more than one relationship in that food web?
14. Were you able to come up with more than one link between an elephant and other members of a food web? Do elephants have an effect on many different animals and plants within their habitat?
15. Feel free to repeat the activity in any number of ways with any number of situations that your students can come up with.

Assess

- 16. Was the outcome the same as what they had predicted? Was the situation they found in which elephants play multiple roles in a food web a situation that they had thought of before the activity?
- 17. If the students are working in small groups, observe their work and review what they are writing on the Research Plan. If working as a whole group, fill in the Research Plan together.

Standards

Ohio Academic Content Standards
Grade 5 Life Science Topic: Interactions within Ecosystems Organisms perform a variety of roles in an ecosystem All of the processes that take place within organisms require energy

Next Generation Science Standards
Matter and Energy in Organisms and Ecosystems 5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment MS-LS2-3 Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem



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Supplemental Materials

My Research Plan

- 1. Questioning**
State the problem.
Make a hypothesis.



What role or roles do elephants play in a food web?
How might they affect the other animals around them?

- 2. Planning**
Make a plan by asking
these questions
(think, talk, write)



- 3. Implementing**
Gather the materials.
Follow the
procedures.
Observe and
record the results.



- 4. Concluding**
Draw a conclusion.



- 5. Reporting**
Share my results
(informal)
Produce a report
(formal)

