

Producers, Consumers and Decomposers

Rationale and Essential Questions:

All living things that form an ecosystem play very important roles. Some make their own food, some can only consume but are not able to make their own food and some eat the dead plants and animals and break them down. Students need to understand which these living things are and what their roles are. This will then enable them to understand that we need a balance of all of them to have a good ecosystem. For example if those who consume did not have anything to consume, they would all die. All of these therefore affect each other in one way or another.

The essential questions that will drive this lesson are:

How do plants make their own food?

Why are producers an important part of the ecosystem?

What are consumers an important part of the ecosystem?

What is the role of the decomposers in an ecosystem?

Content Knowledge:

Plants are producers because they make their own food.

Plants make their own food through the process of photosynthesis.

Consumers have different levels namely primary consumers and secondary consumers.

Fungi and bacteria are decomposers as they break down dead plants and animals

Materials Needed:

- Science Journals
- Pencils
- Projector
- Projector screen
- Construction paper
- Document camera
- Rotten potatoes
- Personal whiteboards
- Whiteboard markers

Prior Knowledge of Students:

1. Students know that most living things eat plants and animals
2. Students know that when plants and animals die, they usually rot.

New Jersey Core Curriculum Standards:

- CCSS. Science. Understand the relationships among organisms and their environment.

Objectives	Assessment
Cognitive: Each student will demonstrate understanding of producers, consumers and decomposers by writing or drawing in their journals their own examples and stating what their examples are and the reason for their answer.	I will assess the students' examples of producers, consumers and decomposers in their science journal as well as the reason for their answer.
Affective: Students will work share in their groups their reasons of whether they think the cows and goats can make their own food	I will informally assess this through observation. Students will have to demonstrate they are working together by listening attentively to each other's reasons.

Activities

- 1) **Hook:** 5 minutes I will tell a story of my grandmother who is a farmer. She grows maize and beans that she uses to feed her family. *(For my student in learning support for English, I will have labeled pictures of maize and beans)* After harvesting the maize, she cuts the maize stalks and feeds them to her cows and goats. When she has a family event, she slaughters one of the cows or goats so as to have meat for the event. People enjoy the meat that is usually roasted and weeks after the event, when I go to her backyard; I see the remaining pieces of the cow or goat that were left there already rotting. I will then tell the students that in this lesson they will be learning about the roles of different living things in an ecosystem using those in my story.

Grouping: All the students will be sitting on the carpet listening to the story.
- 2) I will then ask the students to work in their table groups and come up with a list of about five plants that they know. They will then think and write down on a personal whiteboard from where they think the plants get food. Each table group will then share their thoughts with the class. Afterwards, depending on their answers, they will learn that plants actually make their own food through the process of photosynthesis and hence they are called *producers*. I will remind them that the maize and beans from my grandmother are therefore *producers*. *Again, for the English support student, I will put the label "producers" underneath the pictures of maize and beans.* (10 minutes)
- 3) I will then project on the projector screen, a video of some cows and goats feeding on maize. Students will individually write on their social studies whether they think the cows and goats can make their own food and why.

They will then share their responses to the members of their table groups. I will be walking around listening to the various explanations. I am hoping they all realize that animals mostly eat plants and other animals because they cannot make their own food. For this reason they are called *consumers*. Again, for the English support student, I will put the label “consumers” underneath the pictures of cows and goats. (10 minutes)

- 4) I will then take out rotten pieces of potatoes and place one on top of one of the tables of each table group. (*I will have my ADHD students help me distribute the potatoes*) Students will then think of a reason of what may have made the potatoes rot. One representative will share their answer to the whole class. Students will then learn that bacteria and fungi break down dead living things making them rot and hence are called *decomposers*. (12 minutes)
- 5) **Closure:** Each student will write in their science journal their own example of a producer, consumer and decomposer and state a reason for their answers. *My student in learning support will have the option to draw his examples if he wants.* (8 minutes)

Future lesson planning: Depending on the outcome of the lessons, I may need to use other examples of producers, consumers and decomposers to help the students learn how to identify them.