

EcoRaft General Lesson Plan (Grades Five, Six, and Seven)

Content Objectives

Students will be able to:

1. Know that all organisms must be able to obtain and use resources.
2. Know that a population is the set of all individual species that exist together in an environment.
3. Know that an ecosystem is composed of a population and the environment in which the members of the population interact.
4. Know that plants are producers and animals are consumers.
5. Know that the number of organisms an ecosystem can support depends on the amount of resources available.

Activities

1. Round table discussion – Teacher acts as a moderator as children discuss the following questions:
 1. What is an organism? Are plants and animals organisms?
1. Any living thing, including plants, animals, and bacteria.
 2. What is an environment? How are organisms and environments related?
1. An environment is the area in which something lives or exists. Organisms inhabit environments and can only survive in environments that meet their basic needs. There are many different environments and distinct environments support the life of many different types of organisms.
 3. What is a population? How are organisms, environments, and populations related?
1. A population is the set of all individual species or organisms that exist together in an environment.
 4. Give an example of a population.
1. Example: Dogs, cats, and humans living together in a house.
 5. What is an ecosystem? How are organisms, environments, populations, and ecosystems related?
1. An ecosystem is a community of organisms, interacting with each other, plus the environment in which they live and react. A set of organisms make up a population. Organisms live in an environment and a population exists together in the same environment. An ecosystem is composed of a population and the environment in which the members of the population interact.
 6. What are resources? Where are resources found?
1. A resource is anything naturally occurring and of use to organisms. Resources can be found in many natural environments.
 7. Do any organisms depend on resources? What would happen to those organisms if there were not enough resources in the environment to support them?
1. All organisms must be able to obtain and use the resources in an ecosystem. If there are not enough resources in an ecosystem to support certain organisms, there may be a limit to the growth of the population and the organisms may not survive.
 8. What is a producer? What type of organisms are producers?
1. Producers are organisms in an ecosystem that make their own food. Plants and some micro-organisms are producers.
 9. What is a consumer? What type of organisms are consumers?
1. Consumers are organisms in an ecosystem that obtain food by eating other organisms. All animals are consumers.
2. Drawing exercise – Teacher distributes blank sheet of paper and pencils to all students and asks

the following question:

1. Draw the relationship between organisms, environments, populations, and ecosystems. When everyone is done, we will go around the room and have everyone discuss their drawing.
 1. *A set of organisms make up a population. Organisms live in an environment and a population exists together in the same environment. An ecosystem is composed of a population and the environment in which the members of the population interact.*
3. Balancing act – Students are given a balance and several puzzle pieces (some representing resources and others representing organisms) and asked to find the equilibrium.
 1. Each puzzle piece represents either a resource or an organism (a plant or animal).
 2. Puzzle pieces have varying masses. For instance, an animal that demands a lot of resources would be of a larger mass than a small animal that demands few resources. The heavier the resource, the more organisms it can support.
 3. Students are asked to find the maximum number of animals their “ecosystem” can support given a limited number of resources.
 4. This exercise should show students that an ecosystem can only support so many organisms given a limited number of resources.