

Lesson: Natural Resources

Activity: Household Item Challenge

Grade Level: 3-5

Objectives:

Students will be able to:

- cite the origin of at least three products that people use on a daily basis
- name at least two products from the rainforest and two products that contain algae
- verbalize their understanding of the importance of protecting ecosystems so that humans can continue to use different resources

Vocabulary

Environment: the natural world, as a whole, or in a particular geographical area

Organism: An individual living thing

Community: Many populations that are in the same area that have interactions

Natural Resource: Occur naturally within environments that exist relatively undisturbed by mankind

Ecosystem: a biological community of interacting organisms and their physical environment

Rainforest: dense forest rich in biodiversity, found typically in areas with consistently heavy rainfall

Kelp Forest: An underwater ecosystem that is distinguished by kelp plants that descend down to great depths in the ocean

Background Information:

Share with Students: During the course of a day, you come into contact with several different products. Shampoo to wash your hair and toothpaste to brush your teeth are a couple of examples of things you see or use on a daily basis. Many people enjoy eating chocolate or vanilla ice cream, and others might like Jell-O. Did you ever stop to think where those products came from or the different ingredients that mix to form your favorite ice cream?

Throughout history, humans have taken naturally growing resources and combined them to create several useful products. During times of exploration to new worlds, people would trade goods instead of money. Traveling to new places around the world gave humans access to several new environments, which in turn, yielded new resources to make new products. Manmade products are composed of natural resources.

There are very few resources, in the world, that are considered inexhaustible (will not run out). These include solar radiation, air, and geothermal energy, but even these can be contaminated. The other resources can be depleted if not managed properly. Renewable resources are ones that can be replenished naturally if they are not over used or depleted, but often times the recovery process is long.

Let's take a closer look at a variety of products. By reading the ingredients on the back, you can discover what resources are combined to create some of your favorite products and where those resources originated. Believe it or not, several products you use on a daily basis have ingredients that come from the rainforest or from the ocean. Algae is used in several products to add flavor, change the texture, or can even be the main ingredient.

Materials:

- Empty product containers (e.g., gum, chocolate, vanilla, cashews, tea, shampoo, ice-cream, toothpaste, etc).
- Photos of rainforests and kelp forests for reference
- List of questions (provided below)

Procedure:

How-To Activity:

1. Give each student a list of questions to answer (provided below).
2. Next, divide the students into small groups, and provide each group with an empty product container. Explain that they need to read the ingredients to find out what is mixed together to make the product they are studying.
 - a. Algae key words to look for: agar, algin, carrageenan, mannitol
 - b. Rainforest key words to look for: chocolate, vanilla, sugar, cinnamon, pepper (see additional items below)
3. As a group, have students decide if their product originated from the rainforest or the ocean/kelp forest, or if it contains something from each ecosystem.
4. As a class, discuss the various ingredients and the decisions that the students made. Was anyone surprised by any of the findings? Why, or why not?

Kelp and Rainforest Product Questions

All questions contain products/ingredients found in the ocean/kelp forest or rainforest.

1. Did you brush your teeth today?
2. Have you ever had chocolate milk?
3. Have you ever eaten ice cream?
4. Have you eaten cottage cheese, cream cheese, yogurt, or pudding?

5. Do you drink soft drinks or fruit juices?
6. Do you eat caramels, marshmallows, or gummy candy?
7. Have you ever put mayonnaise, mustard, or ketchup on your burger?
8. Have you used syrup on pancakes or waffles?
9. Do you eat bread, cake, doughnuts, cookies, or pies?
10. Do you like to chew gum?
11. Have you ever used lotion?