

# Seas, Trees, and Economies

## Lesson 1: The Mystery Trees of Island Breeze

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### Standards and Benchmarks (see page 1.12)

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### Lesson Description

Students read a short story about a fictional natural resource, the great Mystery trees of Island Breeze. Students discuss the various goods and services provided by the trees, draw pictures of the uses of the trees, and then role-play to demonstrate the effect of scarcity on a society.

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### Grade Level

6-8

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### Economic Concepts

Goods  
Natural resources  
Opportunity cost  
Scarcity  
Services  
Trade-offs  
Wants

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### Objectives

Students will be able to

- define wants, goods, services, natural resources, trade-offs, scarcity, and opportunity cost;
  - explain that natural resources are used to produce goods and services that satisfy people's wants;
  - recognize that natural resources have alternative uses; and
  - explain why scarcity forces people to make choices about how they use natural resources.
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## Compelling Question

How do people deal with scarcity?

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## Time Required

45-60 minutes

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## Materials

- Visuals 1-1 and 1-2
  - Copy of Handouts 1-1 and 1-2 for each student
  - One piece of drawing paper for each student
  - Pencils and crayons
  - Masking tape
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## Preparation

Before class, use masking tape to mark off a space in which only half the class can stand comfortably. This space will represent the Island Breeze from the story on Handout 1-1.

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## Procedure

1. Explain that people have unlimited wants. **Wants** are desires that can be satisfied by consuming goods and services. Define **goods** as objects that satisfy people's wants and **services** as actions that satisfy people's wants. Ask students for examples of goods and services they want.
  2. Display *Visual 1-1: What People Want* and read it aloud or have students read it aloud. Ask students to add some ideas to the list. (*Examples: Cold people want furnaces. Hot people want air conditioners. Wet people want towels. Walking people want sidewalks. Bike-riding people want bike trails.*) Have students refer to the visual and complete the following sentence: "These things that satisfy our wants are called \_\_\_\_\_." (*Goods and services*)
  3. Ask students for examples of goods and services from Visual 1-1. (*Answers may include goods: food, beds, fans, sweaters, toys, houses; and services: education, housekeeping, travel, movie entertainment, haircuts.*)
  4. Display *Visual 1-2: Natural Resources Are Used to Produce Goods and Services* and explain that **natural resources** are things that occur naturally in and on the earth that are used to produce goods and services. Read the visual aloud or ask a student to. Ask students to expand
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the list. (Examples: Trees are used to make paper. Water is used to produce electricity. Mountains are used for climbing. Rivers are used to move barges. Oil is used to make gasoline. Oil is used to make plastic. Sand is used to make windows. Diamonds are used to make jewelry.)

5. Point out that some things listed on Visual 1-2, such as oxygen, UV protection, flood control, and water, are provided directly to people by the environment for free; that is, at a price of zero. Others are provided for a price through the economic system by producers who use natural resources to make the goods and services people want. In either case, people's wants are being satisfied.
6. Distribute a copy of *Handout 1-1: The Mystery Trees of Island Breeze* to each student. Have them read the story and then ask students to describe the various goods and services provided to the islanders by the Mystery trees. They should also identify the wants these goods and services satisfy.

7. Summarize these uses into two categories—goods and services—as follows:

**Goods**

- Wood from the tree is used to produce homes for shelter.
- Wood from the tree is used to produce toys for play.
- Bark from the tree is used to produce paper for writing.
- Wood from the tree is used to produce boats for travel and fishing.
- Fruit from the tree provides food for the hungry people.

**Services**

- The trees provide windbreaks for the island.
  - The trunk and branches of the tree provide a home for the Falana birds.
  - The leaves and branches of the tree provide shade and windbreak for the people.
  - The vines of the tree provide entertainment and a place to play for the children.
8. Tell students to assume that these are mutually exclusive uses; that is, each tree is dedicated to only one of these uses. This makes sense, according to the story, because harvesting fruit and wood from the tree means it can't be used for shade, play, or windbreak. Logging the trees and harvesting the fruit would also disturb the Falana. Similarly, trees trimmed to grow fruit would not be good wood producers, and vice versa.
  9. Divide the class into four groups: Mystery trees that will provide wood, Mystery trees that will provide fruit, Mystery trees that will provide homes for the Falana birds, and Mystery trees that will provide services for the people.

10. Distribute a piece of drawing paper to each student. Tell students to draw a picture of a Mystery tree. The features of the tree should illustrate the use a student's group has been assigned. For example, a tree with a massive trunk and branches would be used for wood. A tree trimmed and showing a lot of fruit would be used to provide fruit. A tree showing nests would be used to provide homes for the Falana. A tree with vines would represent play and recreation for the islanders.
11. When students have completed their pictures, tell them to write the name of their group at the top of their picture.
12. Tell students to hold their pictures and stand up.
13. Explain that each student represents a Mystery tree used to provide a particular good or service. Explain that there are plenty of trees representing each good or service to satisfy all the people's wants. However, all trees must be "planted" on the Island Breeze.
14. Instruct all students to stand near the space you have marked off to represent the island. Begin planting the trees on the island by placing students, one at a time, in the marked area. It should soon become apparent that all the "student trees" cannot be planted on the island—they won't all fit. Ask students the questions below. As they respond, have them explain why their assigned use is more important than the other uses. (NOTE: This should lead to a discussion about which uses are the most valuable to the people; that is, which uses provide the greatest amount of satisfaction of wants.)
  - How many trees should be planted to provide wood for homes, boats, and toys?
  - How many trees should be planted to provide fruit?
  - What about trees that provide shade, play, and windbreak for the islanders?
  - How big should the Falana preserve be?
15. Explain that a **trade-off** is giving up some of one thing to gain more of something else. Point out the trade-offs inherent in their decisions. If they choose to plant more trees for fruit and fewer trees for wood, there will be more fruit to eat but fewer homes and boats. If they choose to plant more trees for Falana birds and fewer trees along the coastline, there will be more birds but fewer shady and play areas and less windbreak.
16. After this problem has been resolved and the "island" is filled, tell the "excess" students to be seated. Announce the following: "Oops, I forgot! We need room for the people and their homes!" Mark off a portion of the island for this use and again ask which trees should remain. After students have decided what to do, discuss the following:

- What is the islanders' problem? (*There isn't enough land to plant all of the Mystery trees needed to provide the people with all the goods and services they want.*)
  - Because there aren't enough trees for the people to have all the goods and services they want, what must they do? (*They must make choices.*)
  - If the islanders wanted to increase the size of the Falana preserve by one tree, what would happen? (*The people must give up one tree reserved for another use. So they would gain the satisfaction of a larger Falana preserve, but they would lose the satisfaction of the other good or service the tree would have provided.*)
17. Demonstrate this concept by adding a tree to the Falana preserve and removing a fruit or wood tree. Explain that the islanders are faced with the problem of scarcity. **Scarcity** is the condition that exists because there are not enough resources to produce everyone's wants. The land and trees on Island Breeze are scarce, so the people can't have all the goods and services they want. As a result, they must make choices.
18. Remind students that by choosing to have a larger Falana preserve, the people give up fruit or wood. What they give up is their opportunity cost. **Opportunity cost** is the value of the next-best alternative when a decision is made; it's what is given up.
19. Explain that this morning you had to choose between a bagel with cream cheese and cereal with banana for breakfast. You decided to have the bagel with cream cheese. You gave up the opportunity to have cereal with banana. The cereal with banana was your opportunity cost. It was the alternative you would have chosen if you hadn't chosen the bagel with cream cheese.
20. Give the following examples, selecting students to make a choice and identify the opportunity cost in each example:
- Your grandparents give you \$50 for your birthday. You think carefully about all the things you might do with your money and narrow your alternatives to three: save the money to buy a cell phone in the future, buy a new video game, or buy new jeans. Which would you choose? (*Answers will vary.*) What is your opportunity cost? (*The higher-valued alternative of the two not chosen [e.g., either jeans or video game]—not both*)
  - Your class is going to take a field trip. The teacher has offered the following alternatives: a trip to the history museum, a visit to the science center, or a trip to the art museum. Which would you choose? (*Answers will vary.*) What is your opportunity cost? (*The higher-valued alternative of the two not chosen—not both*)

## Closure

21. Review the key concepts in the lesson with the following questions:

- What are wants? (*Desires that can be satisfied by consuming goods and services*)
- What are goods? (*Objects that satisfy people's wants*)
- Name some goods on the island. (*Homes, boats, fruit*)
- Name some goods that you consume. (*Clothes, food, paper*)
- What are services? (*Actions that satisfy people's wants*)
- Name some services in the story. (*Shade, play, windbreak*)
- Name some services that you consume. (*Education, bike repair, haircuts*)
- What are natural resources? (*Things that occur naturally in and on the earth that are used to produce goods and services*)
- Give some examples of natural resources. (*Land, water, trees, oil*)
- How do natural resources help people satisfy their wants? (*Some natural resources provide goods and services directly; others are used to produce goods and services. People consume goods and services to satisfy their wants.*)
- Give some examples of natural resources, the goods and services they are used to produce, and the wants the goods and services satisfy. (*Land used to grow food to satisfy hunger, land used to build homes to satisfy a want for shelter, natural gas used to produce heat to satisfy a want for warmth, the ozone layer that provides UV protection, trees that provide shade and oxygen*)
- What is scarcity? (*The condition that exists because there are not enough resources to produce everyone's wants*)
- What natural resources were scarce on Island Breeze? (*Land, trees*)
- How do people deal with scarcity? (*They must make choices.*)
- What is opportunity cost? (*The value of the next-best alternative when a decision is made; it's what is given up*)
- Given an example of a choice you have made and the opportunity cost of your choice. (*Answers will vary.*)

## Assessment

22. Distribute a copy of *Handout 1-2: Assessment* to each student. Tell the students to read the directions and complete the task assigned. Review students' answers with the following answer key:
1. *Water is a natural resource because it occurs in nature.*
  2. *Scarcity is not having enough resources to satisfy all wants. Water was scarce in Red Rock. There wasn't enough to satisfy all the desired uses.*
  3. *Answers will vary.*
  4. *People make choices to deal with scarcity.*

### Visual 1-1: What People Want

Hungry people want food.

Thirsty people want water.

Tired people want beds.

Hot people want fans.

Cold people want sweaters.

Sick people want medicine.

Young people want toys.

Homeless people want houses.

Hairy people want haircuts.

Curious people want books.

Healthy people want clean air.

Nature-loving people want homes for wildlife.

Dirty people want soap.

Sad people want funny movies.

People who can't read want education.

Outdoor people want sunscreen.

Messy people want housekeepers.

Busy people want computers.

Bored people want travel.

**People wish to satisfy their wants to make themselves happy.**

**Goods and services are used to satisfy these wants.**



### **Visual 1-2: Natural Resources Are Used to Produce Goods and Services**

Land is used to grow food.

Forests are used to control floods.

Rain is used to provide water.

Hawks are used for bird watching.

Iron ore is used to produce cars.

Oil is used to make paint.

Lakes are used for boating.

The ozone layer is used for UV protection.

Trees are used to build houses.

Sheep wool is used to make sweaters.

Beaches are used for relaxing vacations.

Sand is used to make bottles.

Gold is used to make jewelry.

Trees produce oxygen.

## Handout 1-1: The Mystery Trees of Island Breeze

Far away from anywhere is Island Breeze. It is a small island, just big enough for the people who live there. The people live a quiet life. They depend on the great Mystery trees that grow on the island.

The people eat the fruit from the Mystery trees. They carve their fishing boats out of the trunks of the trees. The islanders write stories about the beloved Falana birds on paper made from the bark of the Mystery trees. They lie in the cool shade of the trees' broad, fern-like leaves. The children of Island Breeze play with the strong vines of the trees and make whistles and paddles out of its wood.

For the Mystery trees to produce fruit, they must be trimmed each year by the islanders. If not trimmed, the trees grow wider and taller and become good wood producers.

The Mystery trees are also used to build small homes to protect the people from the strong winds that often blow from the north. The islanders have let the Mystery trees on that side of the island grow tall to help block the winds.

The people enjoy the bright red Falana birds, which nest on the tips of the Mystery trees. "We like when the Falana are happy," say the islanders. Because the people enjoy the birds so much, a part of the Mystery forest is preserved as a safe, peaceful place for the Falana. The islanders like to go there to watch the birds, especially on sunny days.

Life is easy on the Island Breeze—as long as there are plenty of Mystery trees.

## Handout 1-2: Assessment

Directions: Read the information below and answer the questions that follow.

The city of Red Rock receives all of its fresh water from the Red Rock reservoir. Lately there hasn't been much rain. The water level in the reservoir has started to fall, and the citizens of Red Rock are very concerned about having enough water. They use fresh water to irrigate crops, drink, bathe, swim, water lawns, cool machinery, and wash cars, clothes, and many other things. What will they do if the water level in the reservoir continues to fall?

They have called a meeting to discuss the water problem. You've been asked to help conduct the meeting. As an outline for your meeting, answer the following questions:

1. What type of resource is water? Why?
2. What is scarcity, and how does it apply to the people who live in Red Rock?
3. Give an example of a choice the citizens of Red Rock might make about the use of fresh water. Explain what the opportunity cost of their choice would be.
4. How do people like those in Red Rock deal with scarcity?

## Standards and Benchmarks

### Voluntary National Content Standards in Economics

#### Standard 1: Scarcity

- **Benchmarks: Grade 4**

1. People make choices because they can't have everything they want.
2. Economic wants are desires that can be satisfied by consuming a good (an object), a service (an action), or a leisure activity.
3. People's choices about what goods and services to buy and consume determine how resources will be used.
5. The opportunity cost of an activity is the value of the best alternative that would have been chosen instead. It includes what would have been done with the money spent and the time and other resources used in undertaking the activity.
7. Natural resources such as land are "gifts of nature"; they are present without human intervention.

- **Benchmarks: Grade 8**

1. Scarcity is the condition of not being able to have all of the goods and services that one wants. It exists because human wants for goods and services exceed the quantity of goods and services that can be produced using all available resources. Scarcity is experienced by individuals, governments, and societies.
2. Making good choices should involve trading off the expected value of one opportunity against the expected value of its best alternative.
3. The choices people make have both present and future consequences.
4. The evaluation of choices and opportunity costs is subjective; such evaluations differ across individuals and societies.