

Lesson 5: Conserving Natural Resources

Getting Started

✿ Questions to Explore

- How do people's environments meet their needs?
- How does the environment affect living things?
- How do people affect the environment?

📖 Facts and Definitions

- **Conservation** means to save and use carefully.
- Natural resources can be renewable -- they are replaced by nature as they are used.
- Nonrenewable natural resources can run out over time because nature cannot replace them or they are used more rapidly than they are replaced.

⦿ Skills

- Identify natural resources and cite ways to conserve and replenish natural resources. (SS)
- Identify and describe the people, vegetation, and animal life specific to certain regions and describe their interdependence. (SS)
- Cite ways people modify the physical environment to meet their needs. (SS)
- Explain how people depend on the environment to meet certain needs. (SS)
- Identify natural resources and cite ways to conserve and replenish natural resources. (SS)
- Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment. (S)

✂ Materials

- 12-15 nickels and 12-15 dimes
- journal
- lamp
- timer

Introduction

Ask your child what it means to conserve something. Ask him to write the following definition for *conserve* in his journal: to save and use carefully. Ask him if he can think of anything that the family conserves.

Explain to your child that there are resources in the environment that must be conserved, or used wisely. Ask him why natural resources should be used wisely.

Activities

Activity 1: Nonrenewable Natural Resources

Before the lesson begins, hide about 25-30 nickels and dimes around the house. Hide some in very hard-to-find places.

Explain to your child that renewable resources are those that are replaced in nature at a rate close to their rate of use. For example, if you have an apple tree, you can pick enough apples off your apple tree to eat for a week. The next week, more apples may be ready for you to pick. Often renewable resources are those

that are living. Examples of renewable resources are water, trees, and fish. Even if a resource is renewable, it should still be used wisely; a renewable resource could begin to dwindle if used at a faster rate than it grows in nature.

Nonrenewable resources exist in fixed amounts or are used up faster than they can be replaced. For example, coal will eventually be used up because new coal cannot be made quickly. Other examples of nonrenewable resources are natural gas, iron, and diamonds. Look at pictures of nonrenewable natural resources on the Internet and discuss how each resource is used.



Energy Sources

www.beyondthepage.com/link/11566/

This website may be useful for information about non-renewable natural resources.

Tell your child that today he will go in search of nonrenewable natural resources. Tell him that you have hidden some coins around the house and that his job is to find as many coins as he can in 30 seconds. Reinforce the fact that the coins represent nonrenewable natural resources because coins are made from metal. After the 30 seconds, ask your child to record the number of coins he found. Give your child three more 30-second hunts. After each hunt, your child can record the number of coins he found.

Help him graph the results from his search on the "Nonrenewable Natural Resources" page and answer the questions at the bottom of the page. (Answers will vary, but your child should find that the coins were easier to find in early searches and harder to find in later ones.)

Explain that many natural resources are beneath the Earth's surface, so people have to search for them. It can be challenging to find the source of natural resources buried beneath the ground, just like some of the coins were hard to find. Discuss what happened as the time went on — the number of resources (coins) he was able to locate decreased over time. Once all the coins (nonrenewable resources) are found and spent, there will be no more to use.

Activity 2: Conserving Electric Energy

Ask your child if he knows why we plug things in. Turn on a lamp that is unplugged, and then turn it on with it plugged in. Explain to your child that electric energy is provided through the outlet when something is plugged in and that electric energy is another resource we use in our homes. Explain that every time your child watches television or turns on the light, he is using electric energy.

Let your child read through the list of products that require electric energy on the page called "Conserving Electric Energy." He can optionally add items that your family has. For example, your house may have a separate oven or freezer, or your child may include device chargers. Discuss the importance of each item or appliance in the home.

Ask your child to list the items in order from most important to least important. Now ask your child to think of ways to use less electric energy in the home. Tell him to think about the least important appliances and how their use can be stopped or limited and to think of ways to use the important items more wisely.

Some examples might include turning off the computer when it is not in use, letting hair dry naturally, or playing outside or playing board games instead of playing video games or watching TV. Ask your child to

think about ways the family could improve their use of electric energy, and let him share his ideas with family members.

NOTE: To extend this activity, ask your child to think about what it would be like to not be able to use any electric product for a whole day. Ask him how his life would be different. Let him see how long he can go without using an electric product.

Activity 3: Conserving Water

Ask your child why water needs to be conserved when most of the Earth is covered in water. Ask your child if he can explain the difference between salt water and fresh water. Tell your child that salt water cannot be used for drinking, bathing, or cooking. Explain that freshwater resources are much more limited, especially in times of drought when there is not much rain.

Ask your child to brainstorm ways to conserve fresh water. List his ideas on a sheet of paper. Then give him the page called "Conserving Water." On this page he will find a table that shows how we use water each day and how much water is used. His job is to record the amount of water used in your home over a 24-hour period. If an activity does not occur, he will record a 0 in the "Times Used" column. If you plan to water your lawn, you can estimate the amount of water used by assuming a half gallon for each square foot of lawn.

After 24 hours, discuss how water was used and how much. Ask your child to think of ways to limit water use in the home. Examples include washing larger loads of laundry and turning off the water when you brush your teeth. Let him share his ideas for conserving water with the family.

NOTE: To extend this activity, encourage everyone to conserve as much water as possible in a day. Repeat the activity and see if there was a change in the amount of water used.

Wrapping Up

Ask your child to explain the difference between a renewable and nonrenewable resource. Ask him to describe ways that natural resources can be conserved.

Life Application

Many national parks are protected because of their natural resources. Visit the website of the National Park Service to explore some of the following parks. Discuss why these places are now protected. Visit a national park near you and discuss why it is being protected.



Glacier National Park

www.beyondthepage.com/link/11547/



Yellowstone National Park

www.beyondthepage.com/link/11548/



Grand Canyon National Park

www.beyondthepage.com/link/11549/



Carlsbad Caverns National Park

www.beyondthepage.com/link/11550/



Everglades National Park

www.beyondthepage.com/link/11551/

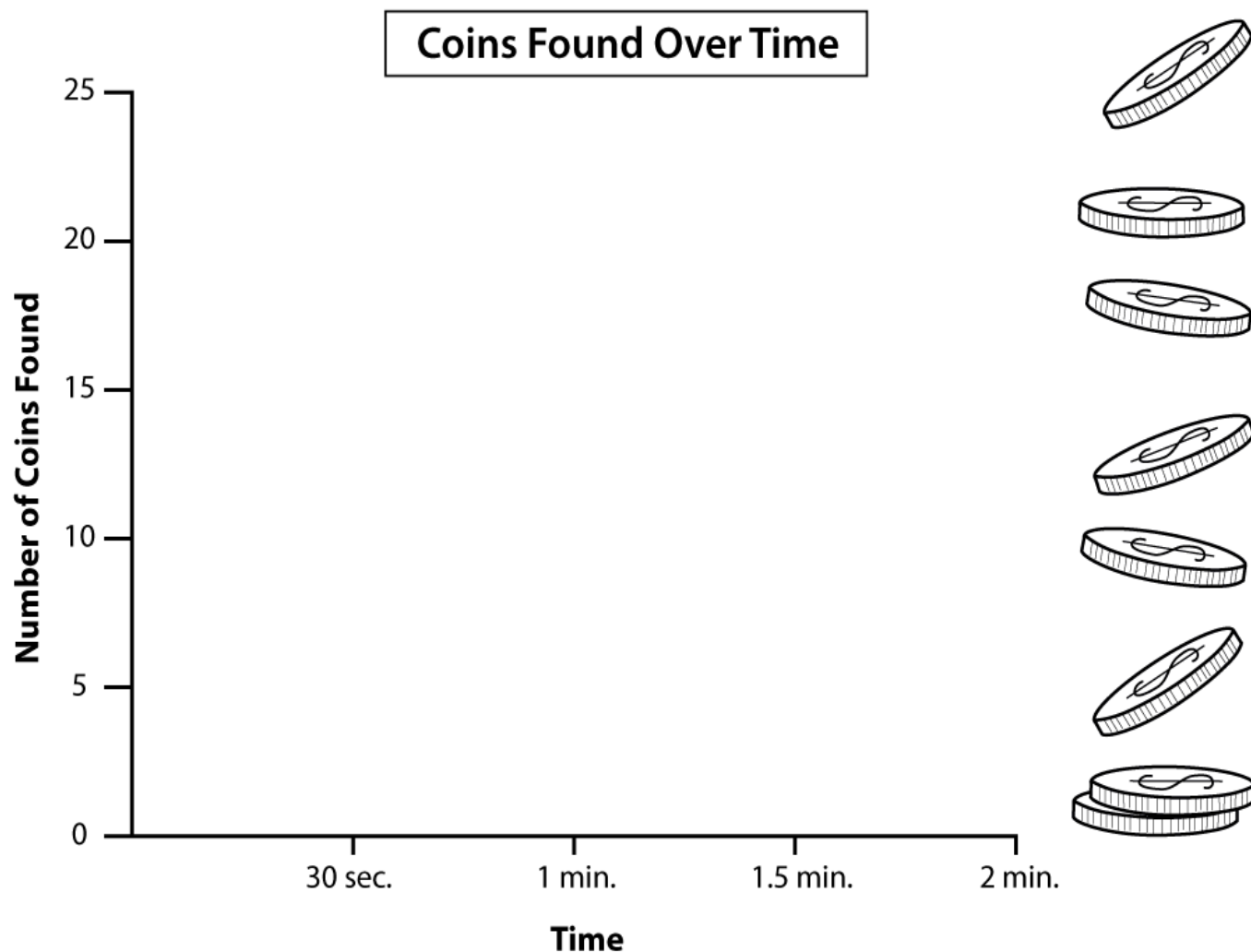


White Sands National Monument

www.beyondthepage.com/link/11552/

Nonrenewable Natural Resources

Directions: Record the findings from your experiment on the graph below, recording your coin finds every 30 seconds. Then answer the questions.



1. When did you find the most resources? _____
2. When did you find the fewest resources? _____
3. How did the amount of resources found change over time? _____
4. What did you learn about nonrenewable natural resources? _____

Conserving Electric Energy

Directions: Read through the list of products that require electric energy. You can optionally add more items to the list. List the items in order from most important to least important.



computer
microwave
electric stove
hair dryer
dishwasher
washing machine
clothes dryer
lamps
video game device
television
coffee maker
toaster
refrigerator
vacuum cleaner

- | | |
|----------|-----------|
| 1. _____ | 10. _____ |
| 2. _____ | 11. _____ |
| 3. _____ | 12. _____ |
| 4. _____ | 13. _____ |
| 5. _____ | 14. _____ |
| 6. _____ | 15. _____ |
| 7. _____ | 16. _____ |
| 8. _____ | 17. _____ |
| 9. _____ | 18. _____ |

Directions: List five ways your family can conserve more electric energy.

1. _____
2. _____
3. _____
4. _____
5. _____

CONSERVING Water



Directions: Record the amount of water that is used in your home over a 24-hour period. If an activity does not occur, list "0" in the "Times Used" column.

Activity	Gallons Used	Times Used	Total Gallons
flush toilet	1.5		
run faucet (1 min.)	2		
fill bathtub	50		
shower (5 mins.)	20		
run dishwasher	4		
wash dishes by hand	10		
wash one load of laundry	20		
water lawn			

Total gallons used in 24 hours: _____