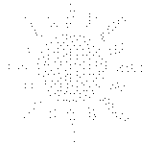
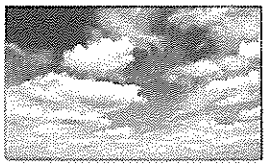
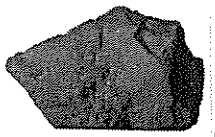
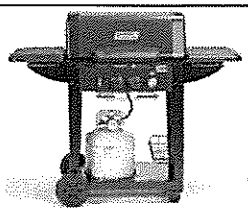
Chapter 9: Natural Resources

Earth's Natural Resources

Renewable Resources *A resource that can be replaced in a fairly short time is a renewable resource.	Nonrenewable Resources *A resource that cannot be replaced is a nonrenewable resource.
 Trees	 Coal
Endless Supply of Resources *Resources that are not used up.  Sunlight	 Oil
 Air	 Ores (Rocks that contain iron, copper, aluminum, & other metals)
 Water	 Natural Gas

The Chapter 9 test is scheduled for _____.
Review study guide on packet page 1, packet pages 6, 7, 8, and 9, and book pages 262-263 to prepare for the test.

Name _____ Section ___

Name _____ Test Date _____

Chapter 9 : Natural Resources---Study Guide

These items can be found in your child's packet in the science section or in their science book. All items have been discussed at length in class. Please refer to the cover of the packet to view which packet pages to study.

Words to Know:

natural resource **renewable resource** **nonrenewable resource** **conservation** **recycle**

***Here is a link to help your child to study the vocabulary for Chapter 9.** (This link is posted on your science teacher's website.)
http://quizlet.com/1022455/scott-foresman-science-grade-3-chapter-9-flash-cards/
You can also watch these video clips to review for the test (username: mck, password: na)
http://www.brainpopjr.com/science/conservation/naturalresources/
http://www.brainpopjr.com/science/conservation/reducereuserecycle/

Ideas to Know:

- A **natural resource** is an important material from the Earth that living things need.
- A **renewable resource** is a resource that can be replaced in a fairly short amount of time. One example is trees.
- A **nonrenewable resource** is a resource that **can NOT** be replaced. Some examples are natural gas, coal, oil, ores (rocks that contain iron, copper, aluminum, and other metals).
- Some resources can **NOT** be used up. Some examples are sunlight, air, and water.
- We must protect natural resources by not using them up or damaging them. **Conservation** is the wise use of natural resources so that people do not waste them or use them up.
- Some ways you can conserve water are:
  - Use less of it.
  - Turn off the water while brushing your teeth.
  - Take shorter showers.
- Communities have systems in place to clean water.
  1. First, dirty water is piped into wetlands.
  2. Next, oil filters out harmful particles.
  3. Then plants and tiny living things break down the particles.
  4. Finally, the water is clean enough to flow back into a river and be used again.
- One way that soil can be conserved is:
  - Put yard clippings and leaves where they decay instead of sending them to a landfill. The decayed material turns into compost. The compost can be used for fertilizer for garden soil.
- Soil needs protection from erosion.
  - Farmers plant crops around hills instead of up and down the hills. The curved rows of plants hold back rainwater. In this way, the soil soaks up the water instead of the soil being washed away.
  - Farmers plant trees by fields to keep soil from blowing away.
- A **landfill** is a large area in which trash is buried.
- Most of our trash is made up of paper.
- Several ways that we are reducing the need for landfill space are:
  - Burning garbage in special furnaces
  - Reducing the amount of trash we make
  - Recycling or reusing things
- To **recycle** means to take something that contains useful resources and change it into something that can be used again. Metal, glass, plastic, and paper products are things that can be recycled.
- Be able to identify some examples of items that you could reuse instead of throwing them away.

Explore: How can you classify resources?

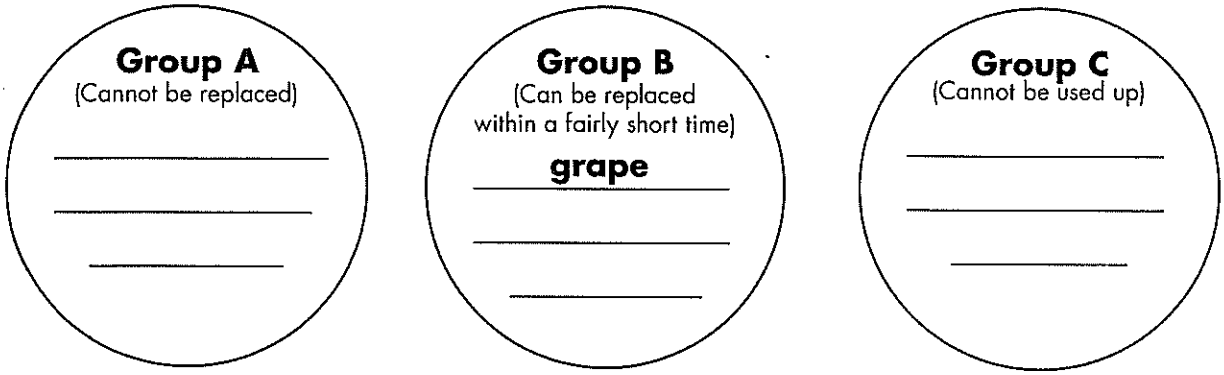
❶ **Classify** each resource by marking **X** under Group A, B, or C.

List of Resources	Group		
	Group A (Cannot be replaced)	**Group B** (Can be replaced within a fairly short time)	**Group C** (Cannot be used up)
grapevine		**X**	
river			
trees			
bauxite (contains aluminum)			
sheep			
sunlight			
petroleum (used to make plastic)			

❷ Draw a line to match the material to its resource.

Material	**Resource**
grape	grapevine
paper	river
wool cloth	trees
aluminum foil	bauxite
cup with water	sheep
plastic bottle	sunlight
solar energy	petroleum

❸ **Classify** each material by writing its name.



Explain Your Results

Explain how you **classified** each resource.

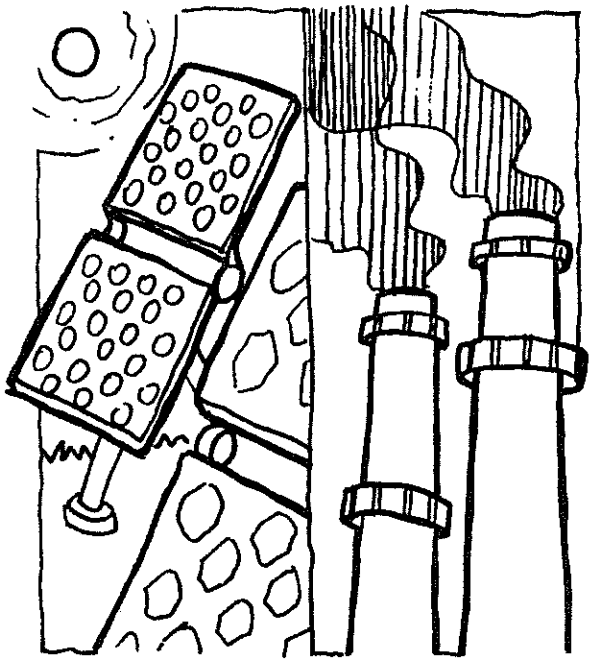
Self-Assessment Checklist	
I followed instructions to complete this activity.	
I correctly **classified** each resource by marking X to show if it belonged to group A, B, or C.	
I matched each material to a resource.	
I **classified** each material by writing its name in the circle for group A, B, or C.	
I explained how I **classified** the materials and resources.	

Notes for Home: Your child classified resources according to whether they could not be replaced, could be replaced in a short time, or could not be used up.
Home Activity: With your child, add more resources to each column of the chart. Discuss each of the resources you added and why they belong in that column.

Compare and Contrast

Read the science article.

Energy

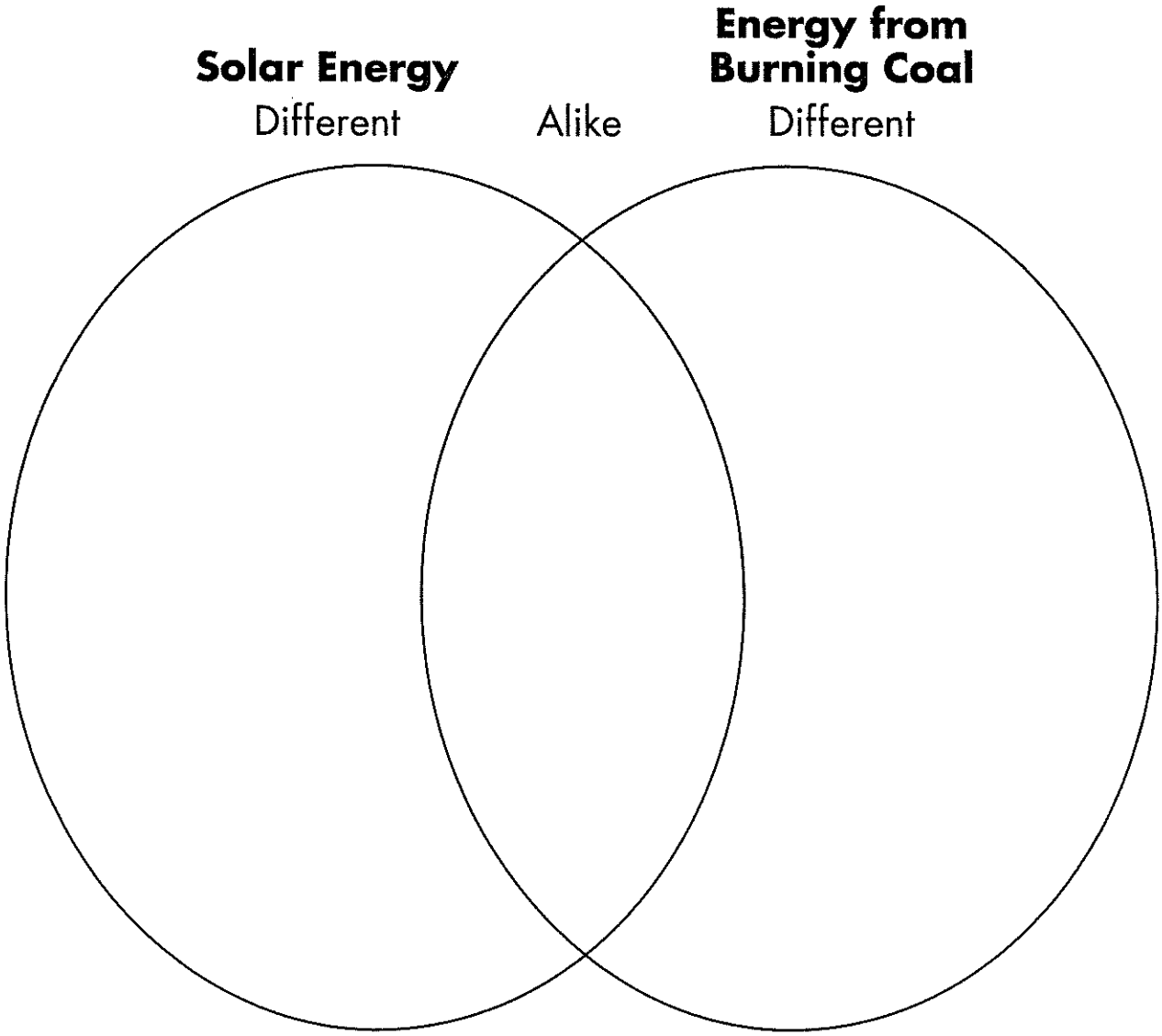


We burn a lot of coal to produce energy. In fact, coal furnishes 22 percent of the energy used in the United States. Mostly, coal energy is changed into electricity or used to run steam engines. However, burning coal releases pollution into the air. To get coal, we must mine it from the ground, which is dangerous for workers. Also, one day, we will run out of coal.

Solar energy is energy from the Sun. People capture it using panels or cells. These devices change the solar energy into heat energy or electric energy. This energy supply is clean and unlimited. However, it takes time to collect enough solar energy to use, and the devices used to collect it make it more expensive than other forms of energy. Also, clouds and night take away the source of this energy.

Apply It!

Fill in the graphic organizer. Write how solar energy and energy from burning coal are alike and different.



Notes for Home: Your child learned how to compare and contrast.
Home Activity: With your child, investigate what energy source(s) are used to provide your electricity. How does the power company avoid polluting the air?

Name _____

Vocabulary Preview

Use with Chapter 9.

Circle the letter of the answer that best completes the meaning of the boldfaced word.

1. **Natural resources** are materials from the Earth that living things need, such as ___.
   - **A.** air
   - **B.** water
   - **C.** minerals
   - **D.** all of the above

2. Some resources are **renewable**, which means that they ___.
   - **A.** can be replaced
   - **B.** cannot be replaced
   - **C.** are not needed
   - **D.** are needed more than other resources

3. **Nonrenewable resources**, such as oil, coal, and iron, must be used carefully because ___.
   - **A.** they are dangerous
   - **B.** we have very little of these resources
   - **C.** Earth cannot replace them
   - **D.** they pollute the Earth

4. **Conservation** will help people in the long run because it ___.
   - **A.** helps us find new resources
   - **B.** prevents the waste of resources
   - **C.** purifies dirty water
   - **D.** blows away soil

5. To **recycle** resources, you must ___.
   - **A.** change them so they can be used again
   - **B.** use them over and over
   - **C.** throw them away
   - **D.** use less of them

Notes for Home: Your child learned the vocabulary terms for Chapter 9.
Home Activity: Use vocabulary words as you and your child put away groceries and other items. Discuss the resources used to make these products and how you can conserve and recycle.

Name _____

Use with pages 247–249.

Reviewing Terms: Matching

Match each description with the correct phrase. Write the letter on the line next to each description.

_____ 1. important materials from Earth that living things need

_____ 2. resources that can be replaced in a fairly short time

_____ 3. resources that cannot be replaced

a. renewable resources

b. natural resources

c. nonrenewable resources

Reviewing Concepts: True or False

Write **T** (True) or **F** (False) on the line before each statement.

_____ 4. Wood is a natural resource.

_____ 5. Trees are a nonrenewable resource.

_____ 6. Ores are rocks that contain metals or minerals.

_____ 7. Iron is a renewable resource.

_____ 8. Sunlight is a resource that cannot get used up.

Writing

Use complete sentences to answer question 9. (2 points)

9. Describe one natural resource and explain how it is used by people.

_____

_____

_____

_____

Name _____

Lesson 2 Review

Use with pages 250–253.

Reviewing Terms: Sentence Completion

Complete the sentence with the correct word.

_____ **1.** _____ is the wise use of any natural resource. (Compost, Conservation)

Reviewing Concepts: Sentence Completion

Complete each sentence with the correct word.

_____ **2.** You can conserve water by using _____ of it. (more, less)

_____ **3.** Wetlands can _____ water. (clean, compost)

_____ **4.** Wind and water can cause soil _____. (conservation, erosion)

_____ **5.** Decay can turn yard clippings into _____. (water, compost)

_____ **6.** A _____ is a place where trash is buried. (landfill, wetland)

_____ **7.** Smoke from burning garbage must be _____ before it is released into the air. (cleaned, conserved)

_____ **8.** _____ landfill space would be needed if people made smaller amounts of trash. (Less, More)

Applying Strategies: Compare and Contrast

Use complete sentences to answer question 9. (2 points)

9. What is one way that conserving soil and conserving water are similar actions? What is one way they are different?

_____

_____

_____

_____

Name _____

Use with pages 254–257.

Reviewing Terms: Sentence Completion

Complete the sentence with the correct word.

_____ **1.** To _____ is to make something into a new product so it can be used again. (reuse, recycle)

Reviewing Concepts: True or False

Write **T** (True) or **F** (False) on the line before each statement.

_____ **2.** Reusing things is one way to conserve resources.

_____ **3.** Metal, glass, paper, and plastic are materials that can be recycled.

_____ **4.** In reusing, a new product is made.

_____ **5.** Reusing things to conserve resources is a new idea.

_____ **6.** Recycling glass does not save energy.

_____ **7.** Buying products made from recycled materials helps conserve resources.

_____ **8.** Reduce, reuse, and recycle are three ways to care for the Earth.

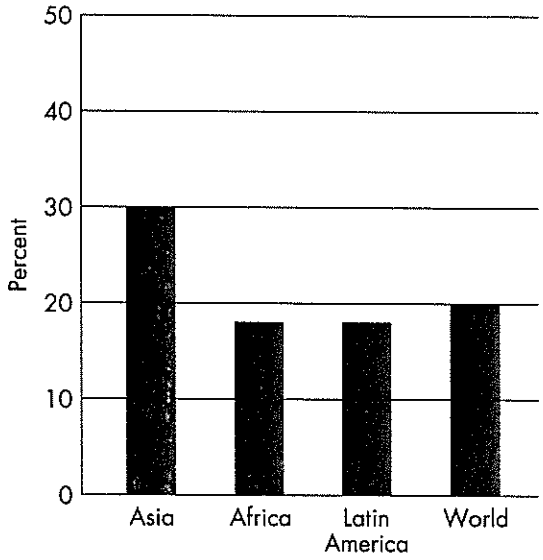
Applying Strategies: Calculating

9. People recycle 70 kilograms of cardboard for every 100 kilograms produced. If 500 kilograms of cardboard are produced, how many kilograms will be recycled? Show your work. (2 points)

Disappearing Forests

The graph shows how much tropical forest has been lost in just 30 years in three regions of the world as well as in the world overall.

Percent of Tropical Forest Cleared Between 1960 and 1990



Use the graph to answer these questions.

1. What percent of Asia's tropical forests was cut down between 1960 and 1990? _____
2. The bar for *World* shows the average percent of tropical forest cut down in all regions. What percent of the world's tropical forests was cut down between 1960 and 1990?

   _____
3. What conclusion can you draw from what this graph shows? _____

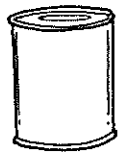
Notes for Home: Your child learned to read a bar graph.
Home Activity: Together count the number of food cans, boxes, and packages in your kitchen and make a bar graph that shows this data. Then ask your child questions about the bar graph.

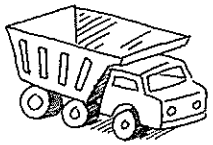
Recycling

When you **recycle** something, you use a material again to make something else. All the pairs of things below are examples of recycling except for one pair. Circle the one pair that is **not** an example of recycling.

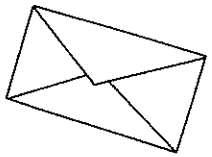
Before Recycling ⟶ **After Recyling**

1. aluminum can ⟶ toy truck

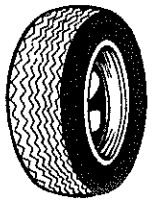


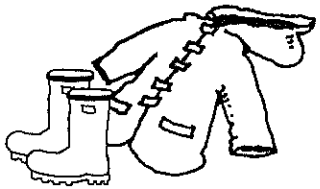


2. newspaper ⟶ envelope



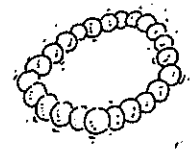
3. rubber tire ⟶ raincoat and boots





4. plastic bowl ⟶ dictionary

5. glass bottle ⟶ glass bracelet



Fun Fact

Every day, businesses in the United States throw away a lot of paper. How much? Well, enough paper to circle our planet 20 times!