

# Table of Contents

<b>Diagnostic Pre-test</b> . . . . .	5	<b>Lesson 5: Extinction</b>	
<b>Lesson 1: What Is an Environment?</b>		Extinct Species . . . . .	43
Making Essential Air . . . . .	11	Gone Forever . . . . .	44
The Environment . . . . .	12	From Healthy Numbers to Extinction . . . . .	45
Doing My Part . . . . .	13	Extinction Vocabulary . . . . .	46
What Is an Environment? Vocabulary . . . . .	14	Reasons for Extinction . . . . .	47
A Global Environment . . . . .	15	Extinction Journal . . . . .	48
What Is an Environment? Journal . . . . .	16	Extinction Assessment . . . . .	49
What Is an Environment? Assessment . . . . .	17	<b>Lesson 6: Natural Resources</b>	
<b>Lesson 2: What Is Ecology?</b>		In Need of Sun . . . . .	51
Studying Ecology . . . . .	19	Natural Resources Are All Around Us . . . . .	52
We Are All Connected . . . . .	20	Categorizing Natural Resources . . . . .	53
Make the Connection . . . . .	21	Natural Resources Vocabulary . . . . .	54
What Is Ecology? Vocabulary . . . . .	22	Renewable and Nonrenewable . . . . .	55
In This Together . . . . .	23	Natural Resources Journal . . . . .	56
What Is Ecology? Journal . . . . .	24	Natural Resources Assessment . . . . .	57
What Is Ecology? Assessment . . . . .	25	<b>Lesson 7: Renewable Resources</b>	
<b>Lesson 3: Endangered Species</b>		Solar Water Heater . . . . .	59
Web of Life . . . . .	27	Protecting Renewable Resources . . . . .	60
Struggling to Survive . . . . .	28	How Do We Use Them? . . . . .	61
Comparing Two Species . . . . .	29	Renewable Resources Vocabulary . . . . .	62
Endangered Species Vocabulary . . . . .	30	Renewable Solar Energy . . . . .	63
Help! I Am Endangered . . . . .	31	Renewable Resources Journal . . . . .	64
Endangered Species Journal . . . . .	32	Renewable Resources Assessment . . . . .	65
Endangered Species Assessment . . . . .	33	<b>Lesson 8: Nonrenewable Resources</b>	
<b>Lesson 4: Overpopulation</b>		When It Runs Out . . . . .	67
Plants Need Their Space . . . . .	35	Save Resources for the Future . . . . .	68
Overpopulation and Lemmings . . . . .	36	Solutions for Nonrenewable Resources . . . . .	69
Causes and Effects of Overpopulation . . . . .	37	Nonrenewable Resources Vocabulary . . . . .	70
Overpopulation Vocabulary . . . . .	38	Conserving Fossil Fuels . . . . .	71
It Is Crowded in Here . . . . .	39	Nonrenewable Resources Journal . . . . .	72
Overpopulation Journal . . . . .	40	Nonrenewable Resources Assessment . . . . .	73
Overpopulation Assessment . . . . .	41		

# Table of Contents

## Lesson 9: What Are the 3 Rs?

Making a Recycling Plan . . . . .	75
Reduce, Reuse, Recycle . . . . .	76
I Can Make a Difference. . . . .	77
What Are the 3 Rs? Vocabulary . . . . .	78
The Pacific Garbage Patch . . . . .	79
What Are the 3 Rs? Journal . . . . .	80
What Are the 3 Rs? Assessment. . . . .	81

## Lesson 10: Air Pollution

How Healthy Is Your Air? . . . . .	83
Air Pollution in Cairo. . . . .	84
Causes and Effects of Air Pollution . . . . .	85
Air Pollution Vocabulary . . . . .	86
A Breath of Fresh Air? . . . . .	87
Air Pollution Journal . . . . .	88
Air Pollution Assessment . . . . .	89

## Lesson 11: Water Pollution

What Is in the Water? . . . . .	91
Water Pollution and Estuaries . . . . .	92
Water Pollution Web . . . . .	93
Water Pollution Vocabulary . . . . .	94
Point and Nonpoint Water Pollution . . . . .	95
Water Pollution Journal . . . . .	96
Water Pollution Assessment . . . . .	97

## Lesson 12: Global Warming

Warming the Planet . . . . .	99
Polar Bear Problem . . . . .	100
Dangers Facing Polar Bears . . . . .	101
Global Warming Vocabulary. . . . .	102
It Is Hot in Here . . . . .	103
Global Warming Journal . . . . .	104
Global Warming Assessment . . . . .	105

## Lesson 13: Acid Rain

How Do Plants Grow? . . . . .	107
Affecting the Soil . . . . .	108
Effects of Acid Rain . . . . .	109
Acid Rain Vocabulary . . . . .	110
Causes of Acid Rain. . . . .	111

Acid Rain Journal. . . . .	112
Acid Rain Assessment. . . . .	113

## Lesson 14: Industry and the Environment

Cleaning Up . . . . .	115
The Effects of Industry on the Environment. . . . .	116
Positive or Negative? . . . . .	117
Industry and the Environment Vocabulary . . . . .	118
Effects of Industry . . . . .	119
Industry and the Environment Journal . . . . .	120
Industry and the Environment Assessment . . . . .	121

## Lesson 15: Preservation

Leave No Trace Behind. . . . .	123
Preserving Nature . . . . .	124
Details About Preservation . . . . .	125
Preservation Vocabulary . . . . .	126
Protecting Diverse Ecosystems . . . . .	127
Preservation Journal. . . . .	128
Preservation Assessment. . . . .	129

## Lesson 16: Conservation

Working Together for Conservation . . . . .	131
Reversing Damaging Effects. . . . .	132
Facts About Conservation . . . . .	133
Conservation Vocabulary. . . . .	134
Conserving the Natural World. . . . .	135
Conservation Journal . . . . .	136
Conservation Assessment . . . . .	137

## Culminating Activity: Ecology Forum

Project Planning Sheet . . . . .	139
Project Rubric . . . . .	142
Performance Rubric . . . . .	143

Name \_\_\_\_\_

# Renewable Resources

## Solar Water Heater

**Directions:** Read the question below and formulate a hypothesis. Then, design an experiment to test your hypothesis. Use the materials your teacher has provided. Make your observations and draw your conclusions. Create a record of your experiment on a separate sheet of paper.



### Question

What is the best material for conducting solar energy?



### Hypothesis

Formulate a hypothesis. (What is the answer to the question?) Record your hypothesis.



### Experimental Design

Design and conduct your experiment. Write the steps to your experiment. One suggestion for your experiment is outlined below.

1. Design different pans made from different materials.
2. Use a measuring cup to fill each of the pans with the same amount of water.
3. Place the pans in the sun.
4. Compare the temperatures of the water in the different pans after they sit in the sun for a chosen amount of time.



### Observation

What happened during your experiment? Record your observations.



### Conclusion

What is the answer to the question? Write your conclusion. Do your findings support your hypothesis? What did you learn during this experiment?

# Renewable Resources

## Protecting Renewable Resources

A natural resource is something found in nature that people use. Natural resources can be put in different groups. One group is *nonrenewable*. Another group is *renewable*.

Renewable resources are made in nature. They are made over and over again. They will be around for a long time to come. Sunlight is one example. Water is one. Air is also an example.

Renewable resources are very important. They support all life on Earth. For example, water keeps all living organisms alive. Water is used to help factories run. It is also used to make crops grow.

Another renewable resource is air. All living organisms need air. Plants need carbon dioxide from the air. Animals need oxygen from the air. Humans also need oxygen from the air. Air will never run out. But pollution can make air dirty. This is harmful for living organisms. Humans need to take good care of the air so that it is safe to breathe.

The sun is the most important resource. It is the source of all the energy on Earth. Best of all, it is renewable. Nothing could live on our planet without the sun. Sunlight helps plants grow. Animals get energy when they eat plants. Humans do, too. This energy keeps them all alive.

People often use renewable resources for energy. The energy made from them is renewable, too. That means we can keep making more and more energy. It will not run out. Sunlight is used to make energy. Water is used to make energy. Wind is also used. Energy from the sun, water, and wind is also better for our planet. It does not make pollution. Pollution makes air and water harmful for living organisms. It is not healthy for our planet.

Scientists are trying to find better ways to use sunlight, water, and wind to make energy. This will help us right now. It will also help us in the future. It will help us use energy without making pollution.

Energy from renewable resources is important. Natural resources are very important for all life on Earth. Fortunately, renewable resources are made over and over again. We need to take care of these important resources. We need them for many years to come.

Name \_\_\_\_\_

# Renewable Resources

## How Do We Use Them?

**Directions:** Think about the information you read. Fill out the chart below by describing different ways that humans use each renewable resource. Include ideas about how the resources are used as sources of energy.

### Renewable Resources

<b>water</b>
<b>air</b>
<b>sun</b>

# Renewable Resources

## Renewable Resources Vocabulary

**Directions:** Write words, phrases, or examples that are connected to each vocabulary word.

**energy:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**renewable:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**replenish:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**water:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Directions:** Write a paragraph that includes each of the vocabulary words.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Renewable Resources

## Renewable Solar Energy

Lesson 7

