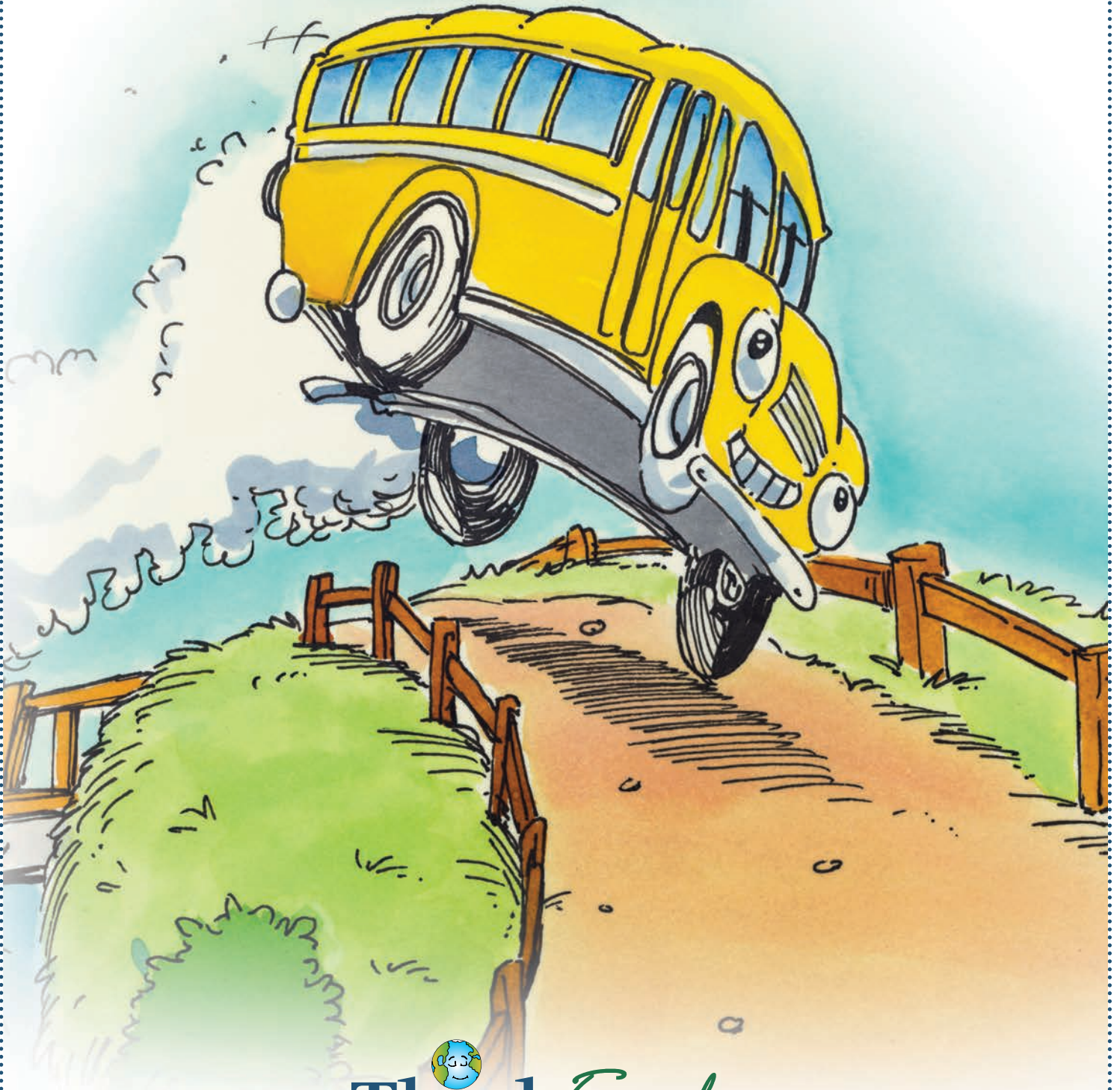


TEACHER'S GUIDE



GRADE 1 UNIT: Bernie the School Bus



 **Think** Earth

ENVIRONMENTAL EDUCATION CURRICULUM



Teacher's Guide

It's time to **THINK EARTH!**

With more than 7 billion people now inhabiting the planet and putting pressure on both our natural and built systems on Earth, environmental education is particularly important. All of us must consider our Earth and learn to:

- conserve natural resources
- reduce waste
- minimize pollution.

The *Think Earth* Environmental Education Curriculum is intended to help students become more aware of their environment and begin to develop responsible behaviors and caring attitudes toward it. By teaching children at an early age that we are part of our environment and by empowering them with behaviors with which they can make a difference, we can help develop a generation of people who will “Think Earth” in their personal lives and as members of our global society.

The *Think Earth* Curriculum consists of 9 instructional units, for preschool through middle school. Each unit introduces new concepts and behaviors, while reviewing those learned at earlier grades. The units are interrelated and sequential, yet independent. Students need not complete one unit before beginning another one.

A colorful illustration of a school building with pink walls and yellow windows. In the foreground, a yellow school bus is parked, and two children are standing nearby. The scene is set outdoors with green trees and a blue sky.

In this First Grade unit—*Bernie the School Bus*—students are introduced to:

- what the natural environment is
- how we use natural resources from the environment to make products
- why we shouldn't waste natural resources
- how we can all conserve natural resources.



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Unit Objectives

- 1. Concepts.** Students will understand the following environmental concepts:
 - a. The environment is everything around us.
 - b. The natural environment provides valuable resources that we use to live.
 - c. Everything comes from the environment: we build houses and make paper from trees; we use plants and animals for food and clothing; we drink water and use it to clean; we burn fossil fuels (oil, natural gas, and coal) for heat, transportation, and electricity.
 - d. We waste natural resources in many ways in our homes by using more than we need or by using them unnecessarily.
 - e. When we waste natural resources, we must get more from the environment, which costs money and uses up natural resources that we could run out of.
 - f. When we use products and throw them away, we produce lots of trash and pollution in the environment.
 - g. Wasting natural resources is not good for the environment.
 - h. We can do many things to help conserve natural resources and produce less waste and pollution.

- 2. Skills.** Students will:
 - a. Identify the natural resource bases of given products.
 - b. Identity behaviors that conserve natural resources.

- 3. Behaviors.** Students will practice the following behaviors to help the environment:
 - a. Use only the paper products really needed.
 - b. Turn off unused lights, televisions, computers, and other appliances when they are not being used.
 - c. Turn off water faucets while brushing teeth and when the water is not needed.
 - d. Close doors and windows when heat or air conditioning is on.
 - e. Recycle paper, glass, metal, and plastic when possible.
 - f. Put all trash in trash cans; do not litter.

Planning

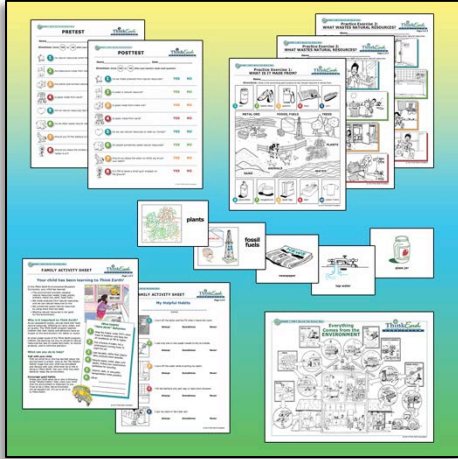
Instruction on the unit's objectives is organized into **five lessons** with detailed instructional procedures for each lesson, including a listing of the objectives addressed, the materials required, and the preparation needed. The vocabulary words introduced in each lesson are listed prior to the procedures, highlighted within the lesson, and defined in the glossary.

At the end of each lesson are **additional activities**, which can help students not only accomplish the lesson objectives but also apply environmental concepts and behaviors to other disciplines and to everyday living. Each of the five lessons can be completed in one or more days, depending on your class and the activities that you do.

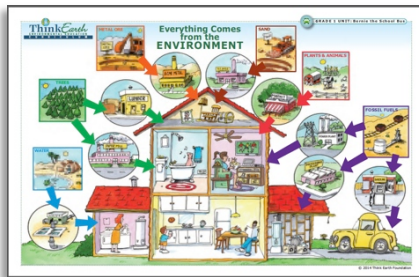
Following Lesson 5 are **Unit Follow-Up Activities** that can be used periodically throughout the remainder of the year to reinforce the unit's objectives and to help students further develop strong environmental attitudes and habits.

Materials

In addition to this teacher's guide, you will need the following instructional materials, which can be found in the [Grade 1 Section](#) of the *Think Earth* website. Links to these items are also included in the procedures in this teacher's guide.



- Student Materials – PDFs of:
 - Pretest
 - Practice Exercise 1
 - Practice Exercise 2
 - Poster in black and white
 - Natural Resource Cards
 - Product Cards
 - Family Activity Sheet
 - Posttest



- Posters – PDFs of:
 - *Everything Comes from the Environment*
 - *Think Earth*



- *Think Earth* Video
 - Narrated version
 - Unnarrated version



- Stories
 - *Bye-Bye, Bernie* (video and PDF)
 - *Bernie is Back* (video and PDF)
- Songs
 - *Think Earth, Think Earth* (vocals and instrumental)

Technology

The *Think Earth* curriculum is flexible and can be taught using various classroom technologies.

The student practice exercises and the posters can be displayed directly from a computer with a projector or smartboard, or pages can be printed and displayed with a document camera. If students use tablets in class, you can load the pages onto the tablets. If you do not have access to or choose not to use these technologies, simply print copies and distribute them to students.

The videos—*Think Earth* and the two stories—can be presented directly from a computer with a projector, smartboard, or television monitor. Students can also watch the videos on tablets, on individual computers in the classroom, or in a computer lab. The stories are also provided in PDF format so that they can be printed out.

Standards Correlations

Standards correlation information is available on the [Think Earth Standards Correlation Charts](#) on the *Think Earth* website. All units are correlated to:

- [Common Core State Standards](#)
- [NextGen Science Standards](#)
- [McREL Online Standards Compendium](#)

Teacher Response Form

After you have finished teaching the unit, please complete the brief online [Teacher Response Form](#). Your responses will help to improve the program and to inform other teachers about the *Think Earth* Curriculum.





Understanding the Environment

Objectives

Concepts: Students will understand the following environmental concepts:

- The environment is everything around us.
- The natural environment provides valuable resources that we use to live.
- Everything comes from the environment: we build houses and make paper from trees; we use plants and animals for food and clothing; we drink water and use it to clean; we burn fossil fuels (oil, natural gas, and coal) for heat, transportation, and electricity.
- We waste natural resources in many ways in our homes by using more than we need or by using them unnecessarily.
- When we waste natural resources, we must get more from the environment, which costs money and uses up natural resources that we could run out of.
- When we use products and throw them away, we produce lots of trash and pollution in the environment.
- Wasting natural resources is not good for the environment.
- We can do many things to help conserve natural resources and produce less waste and pollution.

Materials

- Pretest
- *Think Earth* poster
- Natural Resource Cards
- Product Cards
- *Think Earth* video – narrated version



Preparation

- Make a copy of the Pretest for each student.
- Print and cut apart the 7 Natural Resource Cards and the 16 Product Cards.
- Preview and prepare to present the narrated version of the *Think Earth* video.
- Prepare to project or display the *Think Earth* poster.

Vocabulary

- **coal** – a solid substance we get out of the ground and use for energy
- **environment** – everything living and nonliving that surrounds us
- **fossil fuels** – sources of energy (coal, oil, natural gas) that formed in the earth from the remains of prehistoric plants and animals
- **metal ore** – a solid substance we get out of the ground to make metals
- **natural gas** – a gas we get out of the ground and use for energy
- **oil** – a liquid we get out of the ground and use for energy


Procedures

A. Administer the Pretest

- Tell the students that for the next few days they will be learning about the environment with a program called *Think Earth*. Show students the *Think Earth* poster.
- Explain that before they look at the program, they are going to answer some questions to see what they already know. Tell students that it is all right if they do not know some of the answers.
- Give each student a copy of the *Think Earth Pretest*. Have students write their names and the date on the Pretest.
- Read the directions for the Pretest aloud. Be sure students can identify the words YES and NO. Then read each question aloud and allow students time to circle their answers. If some students are not yet able to identify numbers, use the pictured objects to identify each row.
- Circulate around the room to check that students are responding to the right row.
- Collect the Pretests and later correct them using the answer key. Calculate the average number of items correct for the class to record later on the Teacher Response Form.









GRADE 1 UNIT: Bernie the School Bus

PRETEST



Name _____ Date _____

Directions: Circle YES or NO after your teacher reads each question.

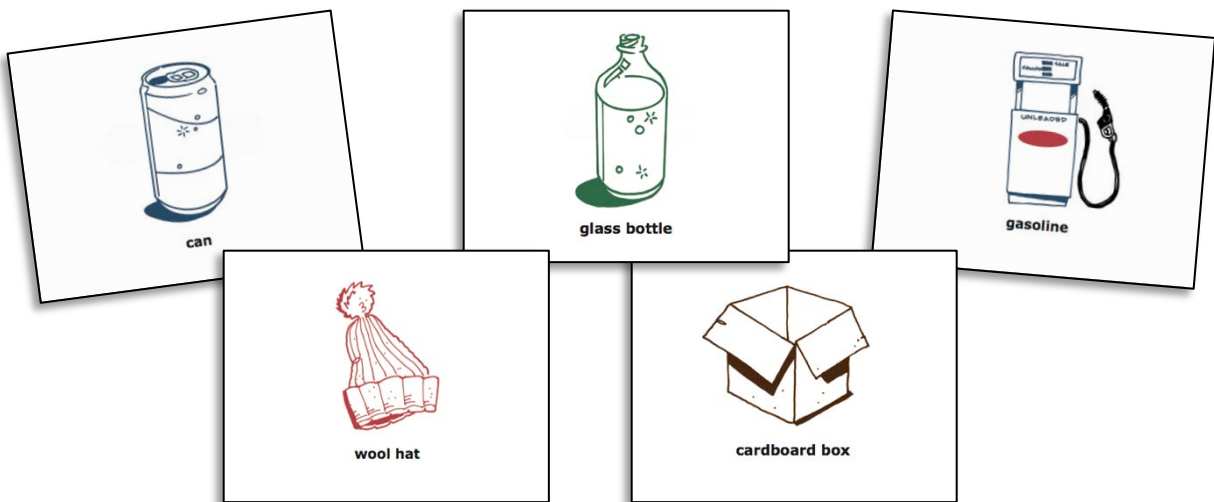
 1	Do natural resources come from the environment?	<input checked="" type="radio"/> YES	<input type="radio"/> NO
 2	Are televisions made from natural resources?	<input checked="" type="radio"/> YES	<input type="radio"/> NO
 3	Are plants and animals natural resources?	<input checked="" type="radio"/> YES	<input type="radio"/> NO
 4	Is glass made from sand?	<input checked="" type="radio"/> YES	<input type="radio"/> NO
 5	Will all natural resources last forever?	<input type="radio"/> YES	<input checked="" type="radio"/> NO
 6	Do we often waste natural resources?	<input checked="" type="radio"/> YES	<input type="radio"/> NO
 7	Should you fill the bathtub to the top?	<input type="radio"/> YES	<input checked="" type="radio"/> NO
 8	Should you leave the window open when the heater is on?	<input checked="" type="radio"/> YES	<input type="radio"/> NO

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B. Introduce the *Think Earth* video

- Tell students that they are going to watch a video about how people live in the environment and about what can happen to the environment. Explain that you will be stopping the video now and then so that they can talk about what they've seen.
- Ask students what they think the “environment” is. Lead students to understand that the environment is everything around us—people, air, desks, trees, water, windows, cars, etc.
- Hold up each of the **Natural Resource Cards** (*trees, plants, animals, sand, water, metal ore, and fossil fuels*). As you hold up each one, ask students if it is part of the environment. Explain unknown terms using the vocabulary list.
- Hold up each of the following **Product Cards**:
 - can
 - wool hat
 - glass bottle
 - cardboard box
 - gasolineFor each one, ask students if it is part of the environment. Lead students to understand that everything is part of the environment.


- Tell students to look closely in the video for the items on the cards.




C. Show and discuss the *Think Earth* video


- Show students the **narrated version of *Think Earth***. Pause the video at the places indicated in the following chart and discuss what students have seen.


Discussion Questions for *Think Earth* Video

<p>Section 1</p> <p>Pause the video when the log truck starts to drive through the city.</p>		
1. What animals did you see in the video?	<i>bird, fish, bear</i>	
2. Did the animals need the environment to live?	<i>Yes. The bird needed the tree for a home. The fish needed the water. And the bear needed the fish to eat and the water to drink.</i>	
3. Did people use things from the environment to live?	<i>Yes. The man ate an apple from the tree. He chopped down a tree to build a house. He piped water into his house to drink and to clean with.</i>	
4. Where do you think the logs on the truck are going?	<i>Answers will vary.</i>	

<p>Section 2</p> <p>Pause the video when the truck carrying paper products leaves the paper factory.</p>		
1. Birdy saw big pumps working. Do you know what was being pumped out of the ground?	<i>oil</i>	
2. What was the oil used for?	<i>The oil was used to make gasoline to make our cars run.</i>	
3. Where did the log truck go?	<i>It went to the paper factory.</i>	
4. What were the logs used to make?	<i>They were used to make paper products, such as boxes, paper cups and plates, and writing paper.</i>	
5. Where do you think the truck loaded with paper products is going?	<i>Answers will vary.</i>	

Discussion Questions for *Think Earth Video* (continued)

<p>Section 3 Pause the video when the trash truck arrives at the landfill.</p>		
<p>1. What did Birdy see as the paper truck drove through the city?</p>	<p><i>Birdy saw lots of cars. He saw people using products and throwing them away, sometimes on the ground.</i></p>	
<p>2. What were people in the apartment house doing?</p>	<p><i>They were using lots of electricity—lights, washers, dryers, electric toothbrushes, TVs, radios, air conditioners—and lots of water for sprinklers, showers, sinks.</i></p>	
<p>3. What happened because people were making and using so many things?</p>	<p><i>Trash cans were overflowing. Trash was on ground. A lot of smoke was in the air. Trees disappeared. Water in the lake was low.</i></p>	
<p>4. What do you think will happen next?</p>	<p><i>Answers will vary.</i></p>	

<p>Section 4 Let the video play to the end.</p>		
<p>1. Why do you think the Earth sneezed?</p>	<p><i>People weren't taking care of the Earth. They were wasting water, electricity, trees, etc. They were making too much trash and creating pollution.</i></p>	
<p>2. What did the people do after the sneeze?</p>	<p><i>They turned off lights and water faucets and TVs. They recycled cans, glass, and paper. They rode bicycles instead of always taking the car. They didn't litter. They planted new trees.</i></p>	
<p>3. What happened to the environment?</p>	<p><i>It became nice again. Trees grew and water was in the lake. The air was cleaner. There was no trash on the ground.</i></p>	
<p>4. Why do you think this video is called <i>Think Earth</i>?</p>	<p><i>We should think about the Earth and take care of it to keep it nice.</i></p>	

Additional Activities

Note: *The activities at the end of each lesson reinforce and extend the unit’s concepts, skills, and behaviors. Some help students apply what they’ve learned to their own surroundings. Some are “hands-on.” Use these activities as time and interest permit.*

- **Take an environmental walk.** Take students on a walk around the school. Have students identify elements of the natural environment (sun, water, air, soil, plants, and animals). Discuss how each element is important in the environment.
- **Create pictures and stories.** Have students draw or paint pictures of scenes they remember from the *Think Earth* video. Have them write or dictate stories to accompany their pictures.
- **Collect and analyze litter.** Take students on a litter walk around the school to see what kinds of litter they can find. Back in the classroom, have students sort the litter, record the data, graph the types and amount of litter found, and analyze their graphs.
- **Make litter bags.** Have students save and bring in used paper bags. Have them decorate the bags with art scraps and then take the bags home to be used as litter bags, perhaps in the family car.
- **Conduct a plant growing experiment.** Plant seeds or small plants in little pots or milk cartons. Have children discover what happens when some plants don’t have:
 - sunlight (cover plant with a box)
 - air (cover plant with a plastic bag)
 - soil (plant in sand or rocks instead of dirt)Help children to see that these elements are vital for life.





Learning About Natural Resources

Objectives

Concepts: Students will understand the following environmental concepts:

- b. The natural environment provides valuable resources that we use to live.
- c. Everything comes from the environment: we build houses and make paper from trees; we use plants and animals for food and clothing; we drink water and use it to clean; we burn fossil fuels (oil, natural gas, and coal) for heat, transportation, and electricity.
- e. When we waste natural resources, we must get more from the environment, which costs money and uses up natural resources that we could run out of.
- f. When we use products and throw them away, we produce lots of trash and pollution in the environment.

Skills: Students will:

- a. Identify the natural resource base of given products.

Materials

- Story 1, *Bye-Bye, Bernie* (video or PDF)
- *Everything Comes from the Environment* poster
- Poster in black and white
- Crayons



Preparation

- Prepare to present Story 1, *Bye-Bye, Bernie*. You can show students the video, show the PDF pictures and read the story aloud, or print the PDF and create a book to read to students.
- Prepare to project the *Everything Comes from the Environment* poster.
- Make a copy of the black and white poster for each student.
- Have blue, green, orange, brown, red, and purple crayons ready for students.

Vocabulary

- **electricity** – energy used to make light and heat and to run appliances
- **litter** – trash where it is not supposed to be
- **natural resources** – things in nature, such as trees and water, that we use to make products and to live
- **valuable** – something important or worth a lot

Procedures

A. Show or read Story 1, *Bye-Bye, Bernie*

- Tell students that they are going to listen to a story about a school bus named Bernie and about how he lives in the environment.
- Present the story *Bye-Bye, Bernie* to students in one of the following ways:
 - Show the [video of *Bye-Bye, Bernie*](#).
 - Project the pictures from the [PDF](#) and read the text from the script (included in the PDF and at the end of this lesson).
 - Print the [PDF](#) and create a book to read to students.
- Use the questions below to discuss the story.

1. Why did Mr. James, the bus driver, say Bernie was about ready for the junkyard?

(Bernie was old and worn. His paint was peeling; his windows were cracked. His seats were torn; his motor went “klatter kabang kabang.”)

2. Why did Bernie run away?

(He ran away because he wasn't ready for the junkyard. He wasn't junk.)

3. Where did Bernie end up?

(He crashed into a ditch alongside the river.)

4. Did he like it there?

*(No. The ditch was a mess. It was **littered** with empty cans and bottles, an old book, a T-shirt, and some tennis shoes.)*

5. Why did Bernie—Bernard Bartholomew Omnibus III—tell Patti that he wasn't ready for the junkyard?

*(He told Patti that he wasn't junk; he told her he was made from valuable **natural resources**.)*

6. What natural resources was Bernie made from?

(His wooden steering wheel was made from a tree; leather seats from cows; tires from rubber trees; metal body from ore mined from the ground; gasoline from oil pumped out of the ground.)

7. Does everything come from natural resources?

*(Yes. For example, trees are used to build houses and make paper; plants and animals are used for food and clothing; water is used to drink and to clean things; fossil fuels are used to make **electricity**, to heat homes, and to run cars and buses.)*

8. Why are natural resources valuable?

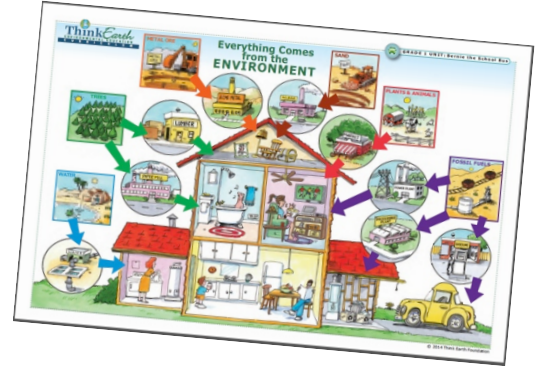
(They cost money, and some of them can't be replaced once we run out.)
Note: You might want to introduce the concept of renewable resources—such as water, air, sunlight, plants—and nonrenewable resources—such as metal ores and fossil fuels.

9. Why was Bernie sad about all the things people had thrown in the ditch?

(When people throw trash on the ground, they are making a mess, and they are wasting valuable resources.)

B. Discuss the poster, *Everything Comes from the Environment*

- Project the color version of the *Everything Comes from the Environment* poster for students to view or, if applicable, have them view the poster on their tablets or computers.
- Explain to students that the poster shows how natural resources are taken from the environment and made into many different products that we use in our homes. Remind students that everything we have in our homes comes from the environment.
- As you explain the process of how natural resources get made into products that end up in our homes, have students find on the poster the picture of each bold-faced word you read below. Tell students to follow the same color arrows on the big poster from the natural resource to the house. Ask students the questions in the following chart about each natural resource.



Discussion Questions: *Everything Comes from the Environment* Poster

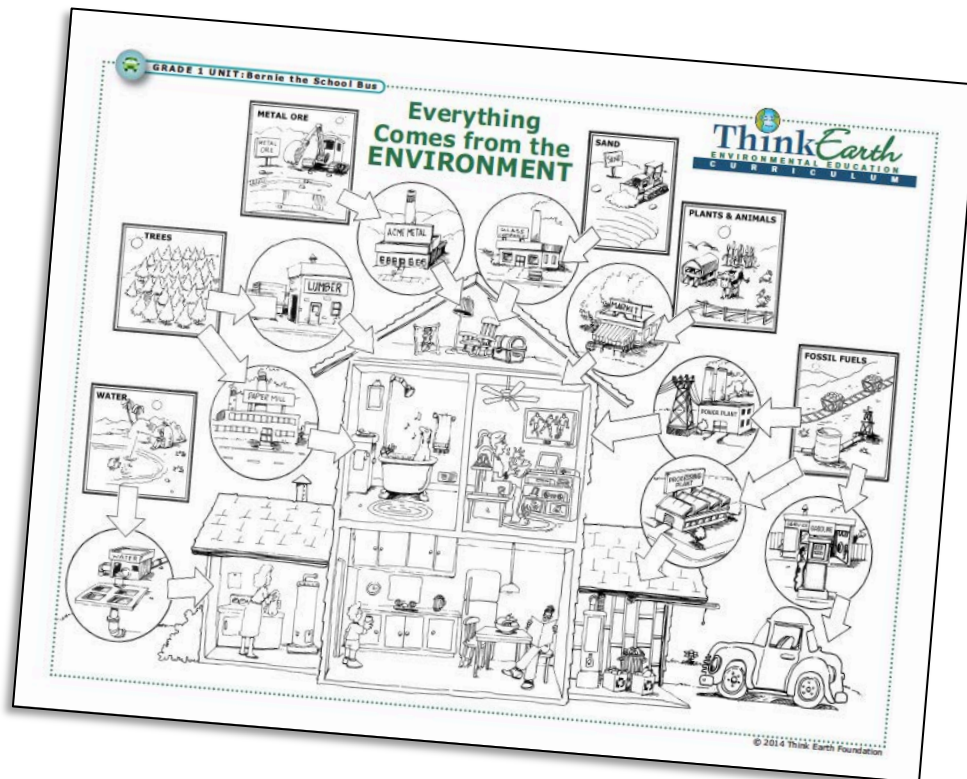
Processes	Questions	Possible Answers
Water goes from the lake to the water cleaning plant to our homes .	1. Where else do we get water besides from lakes?	<i>We also get water from rivers and from underground wells.</i>
	2. How is water being used on the poster?	<i>Woman is washing clothes; boy is getting a drink; man is taking a bath.</i>
	3. How else do we use water in our homes?	<i>We use water to wash dishes and cars; we use water to flush toilets; we water yards; we use water to cook; and we drink water.</i>
Trees go from the forest to the lumber mill to our homes . Or, trees go from the forest to the paper mill to our homes .	4. What paper products do you see in this house?	<i>a newspaper, toilet paper, cardboard boxes</i>
	5. What are some other paper products you use in your homes?	<i>magazines, books, notepaper, napkins, towels, tissue</i>
	6. What are some things in this house made out of wood?	<i>tables, chairs, cabinets, the house itself</i>

Discussion Questions: *Everything Comes from the Environment Poster* (continued)

<p>Metal ore is mined out of the ground and goes to a factory where it is made into products that we use in our homes.</p>	7. What are some things made out of metal on the poster?	<i>washer, dryer, water heater, refrigerator, shower pipes, fan, aluminum can, trash can, car</i>
	8. What are some other things in our homes made out of metal?	<i>stoves, cooking pans, silverware, clothes hangers, lawn chairs, etc.</i>
<p>Sand is taken from the ground and sent to the glass factory to make all kinds of glass that we use in our homes.</p>	9. What are some things made of glass on the poster?	<i>windows, drinking glass, blender, light bulb, mirror, picture frame glass, lamp shade, TV screen</i>
	10. What are some other glass products we use?	<i>bottles, eye glasses, vases, etc.</i>
<p>Plants and animals are raised on farms and ranches and then they go to markets where we buy them and take them home.</p>	11. What are some foods that come from animals?	<i>meat, milk, cheese, fish, chicken, eggs, honey</i>
	12. How are plants and animals used to make clothing?	<i>Leather for shoes and belts comes from cowhides. Wool clothes come from sheep. Cotton clothes come from cotton plants. Silk comes from silkworms.</i>
	13. What plant and animal products do you see on the poster?	<i>fruit, popcorn, shoes, clothes, bath towel</i>
<p>Fossil fuels are pumped or dug out of the ground. Some fossil fuels are burned at power plants to make electricity, which comes to our homes through power lines. Some fossil fuels are piped to a processing plant and then piped or delivered to our homes to make heat. Some fossil fuels are made into gasoline, which runs our cars. Some fossil fuels are used to make plastic products, which we use in our homes.</p>	14. What runs on electricity in the house on the poster?	<i>lights, refrigerator, blender, TV, DVD player, fan, radio, computer, phone charger</i>
	15. What else do we use electricity for in our homes?	<i>microwave ovens, hair dryers, and other electric appliances</i>
	16. What big appliances in the house are used to make heat?	<i>furnace, water heater, stove</i>
	17. What other vehicles besides cars run on fossil fuels?	<i>buses, trucks, motorcycles, airplanes, boats</i>
	18. What items in the house might be made of plastic?	<i>picture frame, drinking cup, fruit bowl, computer, DVD cases, parts of the car</i>

C. Have students color black and white posters

- Give each student a copy of the **black and white poster** and crayons. Have students write their names on their posters. Tell students that their little posters are just like the big one only not in color.
- Point out to the students that on the color poster, the boxes around and the arrows leading from each natural resource are a different color for each natural resource. Water is blue; trees are green; metal ore is orange; sand is brown; plants and animals are red; and fossil fuels are purple.
- Tell students that you want them to color the boxes and the arrows on their mini-posters to match the boxes and the arrows on the color poster.
- Circulate among students and ask them about the natural resource they are coloring, e.g., “What natural resource is this? What do we make from this natural resource? What in the house is made from this natural resource?”
- Collect students’ colored posters. Tell them they will be coloring more of their posters in a couple of days.



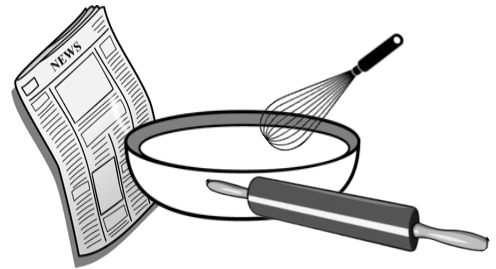
Additional Activities

- **Draw pictures.** Have students draw pictures about the part of the story *Bye-Bye, Bernie* they liked best.

- **Make paper.** Gather the following materials:

- newspaper
- buckets or bowls of water
- electric or hand beaters
- pieces of screen or felt

Have students tear the newspaper up into small pieces. Fill the buckets or bowls with one part paper pieces and two parts water and allow to sit overnight. The next day, use an electric or hand beater to pulp the paper. Beat the mixture until it looks like mush. Have students place a handful of paper mush on a piece of screen or felt and mold it to the size of a sheet of paper they wish to make. Press out the excess water by hand or use a rolling pin. Let the paper dry one or two days. When it feels dry, remove it from the screen or felt. Have students use their paper for an art project.



- **Make “glass.”** Gather the following materials:

- 1 cup sugar
- electric frying pan or a hot plate and pot
- pane of tempered glass
- 1/4 cup water

Explain to students that although sugar isn’t really used to make glass, they can make a kind of glass out of sugar to get an idea of how sand is used to make real glass. Heat the water to boiling and stir in the sugar until it dissolves. Pour the mixture over the pane of glass and allow it to cool (about 15 minutes). Have students look through the “sugar glass.” If allowed to sit overnight, the “sugar glass” will become frosted.

- **Classify students by resources.** Make copies of the **Product Cards** or create more product cards from magazine pictures so that you have one for each student. Tape one at each student’s desk. When asking the students to line up by the door, call them by natural resource group. For example, tell the plant group to line up, then animal, and so forth. After a few days, switch the pictures around. Those who get up out of turn must return to their seats until their group is called.
- **Learn about the water cycle.** Check the school or local public library or search the Internet for primary books about the water cycle. Conduct an experiment by placing a large covered jar with a very small amount of water in the bottom in direct sunlight. After the water has evaporated, move the jar into the shade. As droplets begin to form and “rain” down, explain evaporation. Children can act out the water cycle as a drop of water (evaporation, floating in a cloud, falling as rain, running down a river, etc.).

- **Retell the story.** Print out a copy of the [pictures for *Bye-Bye, Bernie*](#) and place them in a learning center. Have students retell the story while looking at pictures from the story. Provide sticky notes for students to write dialogue and place them on the pictures.
- **Demonstrate fossil fuels.** Explain that millions and millions of years ago when animals and plants died, they were covered by mud, sand, and water and that the increasing pressure on them over millions of years turned them into coal, oil, and natural gas. To give students an idea of what these fossil fuels look like, show them:
 - charcoal or chunks of coal (if coal is available in your area)
 - motor oil
 - a butane lighter (if safe and allowed)

Tell students that:

- coal is a solid substance that is dug (mined) out of the ground
- oil is a liquid that is pumped out of the ground
- natural gas is an substance, like air, that either rises naturally or is pumped out of the ground

- **Demonstrate solid, liquid, and gaseous matter.** Gather the following materials:
 - glass or cup of cooking oil (several if students are to work in groups)
 - chunk of rock or charcoal (several if students are to work in groups)
 - electric kettle and water or other method to heat water to create steam

Explain to students that fossil fuels can be solid (coal), liquid (oil), or gas (natural gas) and tell them that they are going to determine qualities of each form of matter.

1. If students are working in groups, give a cup of oil and a rock or charcoal to each group. Ask students to touch the oil. Ask if the oil is solid, liquid, or gas. Write LIQUID on the board. Have them write down, or say, some words to describe the oil. As students respond, write the descriptors under the word LIQUID on the board (e.g., wet, cool, runny).
2. Ask students to touch the rock or charcoal. Ask if the rock is solid, liquid, or gas. Write SOLID on the board. Have them write down, or say, some words to describe the rock. As students respond, write the descriptors under the word SOLID on the board (e.g., hard, dry, rough).
3. In front of the class, heat the water until it turns into steam. Ask if the steam is solid, liquid, or gas. Write GAS on the board. Have them write down, or say, some words to describe the steam. (Do NOT touch the steam.) As students respond, write the descriptors under the word GAS on the board (e.g., light, clear, moving, disappearing into the air).

Ask students to name other substances that are liquid (*water, milk, dish soap, paint*), solid (*paper, glass, plastic, metal, ice*), and gas (*helium in balloon, butane in a lighter, burps*); or show various items and have students classify them as liquid, solid, or gas.

Script: Bye-Bye, Bernie



Klatter kabang kabang. Klatter kabang kabang. The old school bus rattled down the road and arrived in front of the school just as it did every school day. All the children poured out of the bus, laughing and talking, ready for another day at school. Then Mr. James, the bus driver, stepped off the bus.

“Good morning,” he said to Mrs. Marquez, the principal, who was greeting the children.

“Yes, it is a good morning, Mr. James,” she replied. “But old Bernie, your school bus, doesn’t sound so good.”

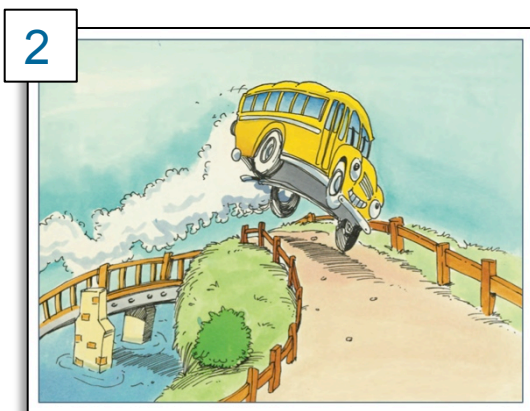
Bernie’s headlights flashed on and his windows opened just a bit so he could hear what was being said.

“No, he doesn’t,” replied Mr. James. “I think that old Bernie is about ready for the junkyard.”

Bernie couldn’t believe his ears. True, his paint was rather dingy and was peeling off in several places; many of his windows were cracked; most of his leather seats were torn and sagging; and he coughed black smoke now and then. But he wasn’t ready for the junkyard. Why, he wasn’t junk at all!

“Yes,” said Mrs. Marquez, “we should probably replace Bernie at the end of this year.”

Bernie didn’t like the sound of that at all. But what could he do? Just as Mrs. Marquez was saying goodbye to Mr. James, an idea came to Bernie. He’d run away. That way he wouldn’t have to go to the junkyard.



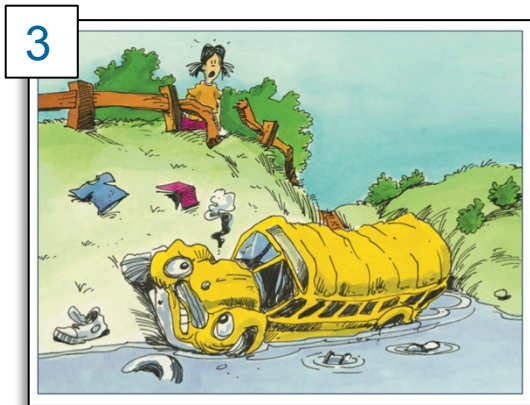
So Bernie eased off his brake and started rolling down the little hill away from the school.

“Oh no!” cried Mr. James and Mrs. Marquez. “Bernie is running away!”

And indeed he was. With a klatter kabang kabang, Bernie rolled down the hill, turned the corner, and headed for the country.

“Away I go!” called Bernie, his tires barely touching the road as he flew past houses and stores and parks.

On and on he klattered, feeling the sun on his roof and hearing the wind whistle through his windows. Faster and faster he seemed to go. He was going so fast, in fact, that when he reached the curve just over the bridge, he couldn’t quite make it. His tires squealed, he tilted up on two wheels, and then he flipped tires over roof and tumbled into the ditch alongside the river.



“Oh, no!” exclaimed Bernie, his tires now flat and his fenders all dented. “What am I going to do now!” As he looked around, thinking about what to do, he saw empty cans and bottles, an old book, a T-shirt, and some tennis shoes. “I might as well be in the junkyard,” he sighed. “This place is a mess.”

All day Bernie sat there in the ditch, sure no one would ever find him. But then he heard a noise. He flashed on his headlights and saw Patti, one of the children that he usually took to school.

Bernie took a breath and with all his might, he tried to honk his horn. All that came out was a little squeak. But it was enough, for Patti stopped, looked over the side of the bridge, and saw Bernie lying in the ditch.

“Bernie!” called Patti. “We’ve been looking all over for you. Whatever are you doing down there?”

“Oh,” answered Bernie, “I was running away so I wouldn’t have to go to the junkyard, and I got going so fast that I couldn’t get around the curve, and I tumbled right down into this ditch.”

“Well,” said Patti, climbing down into the ditch, “you certainly look as if you’re ready for the junkyard now!”

Bernie propped himself up the best he could on his flat tires and said, “I may be battered, but I am not junk. I am Bernard Bartholomew Omnibus III, and I am made from valuable natural resources.”

“From what?” asked Patti, looking Bernie over from top to bottom.

“Natural resources,” repeated Bernie. “Things we get from nature, from the environment. Every single part of me comes from a natural resource.”

4



“Like what?” Patti wanted to know, peering in through Bernie’s windows.

“Well,” answered Bernard Bartholomew Omnibus III, “I am proud to say that my wooden steering wheel, for example, was made from a lovely tree. And my leather seats come from the hides of cows.”

“Oh, I like trees and cows,” said Patti, clapping her hands. “But what about the rest of you?”

“My tires,” Bernie continued, “are made from rubber plants. My metal body is made from ore mined from the ground. My windows are made from sand. And even the gasoline that I need to run is made from oil, which is pumped out of the ground.”

“Gee,” said Patti, settling down in the grass in front of Bernie, “does everything come from natural resources?”

“Oh yes!” exclaimed Bernie. “The natural environment provides all the resources that we use to live. Trees are used to build houses and to make all kinds of paper. Plants and animals are used for food and to make the clothes you wear. Water is used to drink and to clean things. And oil, natural gas, and coal, which we get out of the ground, are burned in power plants to make electricity, as well as used to heat your home and to run cars and buses, like me!”

“And these natural resources are valuable?” asked Patti.

“Absolutely!” answered Bernie. “It takes time and money to get them and to make them into products. And some of them, like oil and metal ore, we can’t get more of once we run out.”

Bernie glanced at all the litter lying around him in the ditch, and then said sadly, “People are wasting natural resources as well as making a mess when they just throw out everything they no longer want, like these cans and bottles, that book over there, those old clothes.”

“And you!” Patti spoke up as she jumped up off the ground. “I’m going to tell everyone that Bernard Bartholomew Omnibus III is not junk but is made from valuable natural resources!”

“Oh,” replied Bernie, flashing his headlights and squeaking his horn, “thank you ever so much.”



Recognizing Products from Natural Resources

Objectives

Concepts: Students will understand the following environmental concepts:

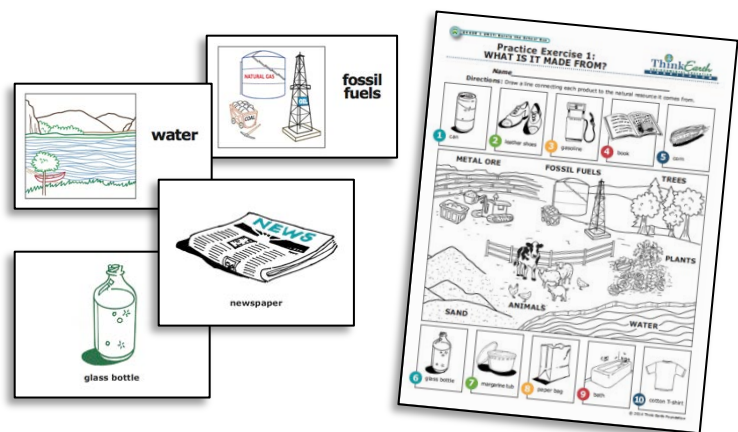
- b. The natural environment provides valuable resources that we use to live.
- c. Everything comes from the environment: we build houses and make paper from trees; we use plants and animals for food and clothing; we drink water and use it to clean; we burn fossil fuels (oil, natural gas, and coal) for heat, transportation, and electricity.

Skills: Students will:

- a. Identify the natural resource bases of given products.

Materials

- Natural Resource Cards
- Product Cards
- Practice Exercise 1
- Tape



Preparation

- Prepare to present Practice Exercise 1. Make copies to hand out to each student **and/or** project on a screen or smartboard to use with the entire class.
- Place seven chairs at the front of the classroom. See Procedure A.

Procedures

A. Conduct group practice

- Hold up each of the **Natural Resource Cards** and have students identify each natural resource. As each resource is named, tape the card to an empty chair at the front of the room.
- Hold up each **Product Card** and ask individual students what the product is. As soon as a student correctly names the product, ask the student to sit in the chair showing what natural resource that product is made from. If the student gets the natural resource correct, hand the student the product card and have him or her return to his or her seat.

- Work through all 16 Product Cards. To extend practice, you might want to bring in some actual products (e.g., cotton T-shirt, frying pan, apple, pencil, plastic bottle) or have some pictures of other products.
- When the resource base for each product has been identified, ask all the students holding cards or products to stand by the chair with the natural resource card that their product is made from. Have any students without cards or products check to see if everyone is standing by the right natural resource.

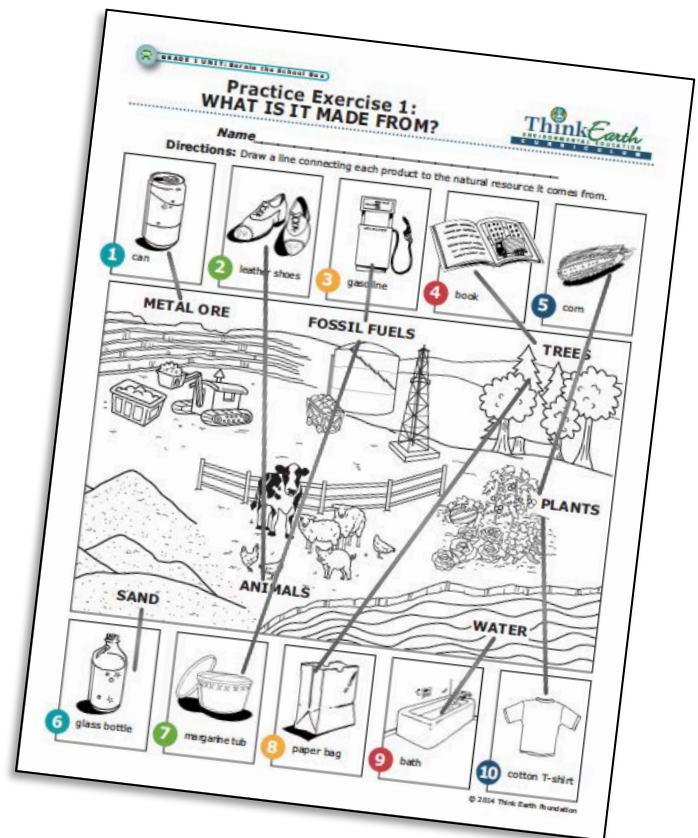
B. Identify classroom resource bases

- Ask a student to point to and name any object in the classroom. Ask other students what natural resource or resources were used to make that item.
- Ask students to point to and name other objects in the classroom and tell the natural resource bases.
- Lead students to understand that everything we have comes from the environment.

C. Have students complete Practice Exercise 1, What Is It Made From?

- To complete Practice Exercise 1, either:
 - give each student a copy along with a pencil or crayon
 - project the exercise on a screen or smartboard
 - give each student a copy AND project the page

- Read the directions aloud to students. Then, explain that the big picture in the center shows natural resources and that the little pictures are products. Have students identify each natural resource in the big picture.
- Work through the exercise one item at a time. For each picture, read the name of the product and ask students what natural resource it is made from. Have students draw a line connecting the product picture to the picture of the natural resource from which it is made. If working on a smartboard, ask various students to draw the lines on the projected image.
- Circulate among the students, making sure that they draw the lines correctly.



Additional Activities

- **Cut and paste products on natural resources.** Provide groups of students with poster boards titled with each natural resource. Each group could have all the natural resources or just a few, or each group could have one different natural resource. Give each group several old magazines and have students cut out pictures of products and paste them on the board showing what natural resource they were made from. Have each group share their collages with the class.
- **Make a resources/products bulletin board.** Have students start a bulletin board of products organized by natural resource base. Students can look through old magazines for pictures or find pictures online or take digital photos.
- **Play “Who am I?” with Product Cards.** Have a student pick a **Product Card** and play “Who am I?” Allow the other students to ask three yes/no questions to determine which product was selected, e.g., “Are you made from paper?” “Are you worn as clothing?”
- **Play Product/Resource Game.** Have a few students play a game with the **Product Cards**. Put the cards in a stack with the pictures face up. Have each student, one at a time, name the product on top of the stack and tell what natural resource it is made from. If the student is correct, he or she keeps the card. If not, the card is returned to the bottom of the stack. The student with the most cards after all cards have been drawn wins the game.
- **Learn a song.** Teach students the following song about not littering.

(to the tune of “Frère Jacques”)

Do not litter. Do not litter.
That’s a rule. That’s a rule.
Put all your trash in trash cans.
Put all your trash in trash cans.
Thanks a lot. Thanks a lot.





Learning to Conserve Natural Resources

Objectives

Concepts: Students will understand the following environmental concepts:

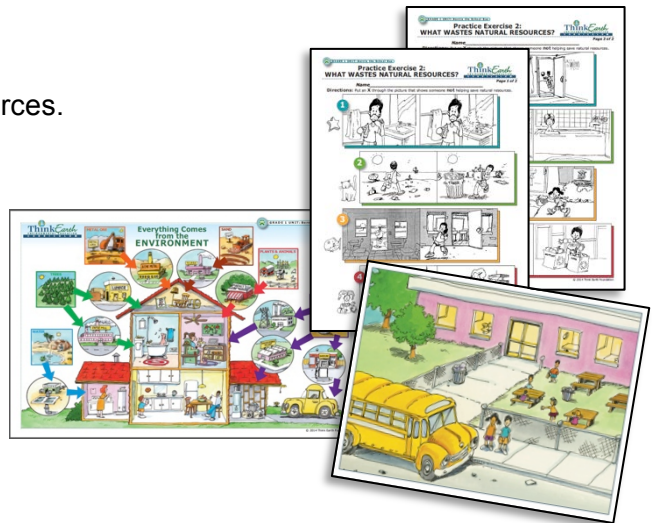
- d. We waste natural resources in many ways in our homes by using more than we need or by using them unnecessarily.
- e. When we waste natural resources, we must get more from the environment, which costs money and uses up natural resources that we could run out of.
- f. When we use products and throw them away, we produce lots of trash and pollution in the environment.
- g. Wasting natural resources is not good for the environment.
- h. We can do many things to help conserve natural resources and produce less waste and pollution.

Skills: Students will:

- b. Identify behaviors that conserve natural resources.

Materials

- Story 2, *Bernie is Back* (video or PDF)
- *Everything Comes from the Environment* poster
- Practice Exercise 2



Preparation

- Prepare to present Story 2, *Bernie is Back*. You can show students the video, or show the PDF pictures and read the story aloud, or print the PDF and create a book to read to students.
- Prepare to project *Everything Comes from the Environment* poster.
- Prepare to present Practice Exercise 2. Make copies (back-to-back, if possible) to hand out to each student **and/or** project on a screen or smartboard to use with the entire class.

Vocabulary

- **conserve** – not to waste; to use wisely

Procedures

A. Show or read Story 2, *Bernie is Back*

- Tell students that they are going to listen to another story about Bernie.
- Present the story *Bernie is Back* to students in one of the following ways:
 - Show the [video of Bernie is Back](#).
 - Project the pictures from the [PDF](#) and read the text from the script (included in the PDF and at the end of this lesson).
 - Print the [PDF](#) and create a book to read to students.
- Use the questions below to discuss the story.

1. Instead of being sent to the junkyard, what happened to Bernie?

(He was repaired and fixed up to look and run like new. He was painted. His tires were patched. His broken seats and windows were fixed. He used a better fuel or gasoline so that his engine ran better and didn't make so much smoke. All the natural resources used to make Bernie were still being used; they were [conserved](#) and weren't wasted.)

2. Why did Bernie honk when the children came out of their classrooms?

(They had left the lights on in the classrooms. This was wasting electricity, which is made from natural resources.)

3. What are some other ways we sometimes waste electricity?

(We sometimes waste electricity by leaving on TVs and radios, or by leaving the refrigerator door open.)

4. Why did Bernie honk again when the children left the doors open?

(The heat was on inside and was escaping outside. This was wasting the fossil fuel burned in the furnace to heat the classroom.)

5. Why did Bernie honk as the children left the lunch tables?

(They had left their lunch sacks and other trash on the tables. Litter looks bad and can be unsafe. Also, the lunch sacks could be used again instead of thrown away. This would help save trees.)

6. How else can you save trees by not wasting paper?

(We can use only one or two paper towels; we can use a washable glass or plate or towel instead of paper ones; we can write on both sides of the paper.)

7. What did Bernie say can be done with newspapers, aluminum cans, and glass and plastic bottles?

(They can be recycled into new ones instead of putting them in the trash.)

8. Why did Bernie honk after Joe and Patti washed their hands in the restroom?

(They had left the faucets on and were wasting water.)

9. How else can we save water?

(We can turn the water off while brushing our teeth; we can fill the bathtub only part way, not all the way to the top; we can take short showers.)

10. Why isn't it good for the environment to waste electricity, heat, paper, and water?

(It wastes valuable natural resources.)

B. Identify behaviors helpful to the environment

- Display the *Everything Comes from the Environment* poster. Pass students' black and white posters back to them.
- Ask students to find the following examples on their posters. Ask one student to come up to the big poster, point out the example, and answer the questions. As each example is identified, have students color that part of their posters.

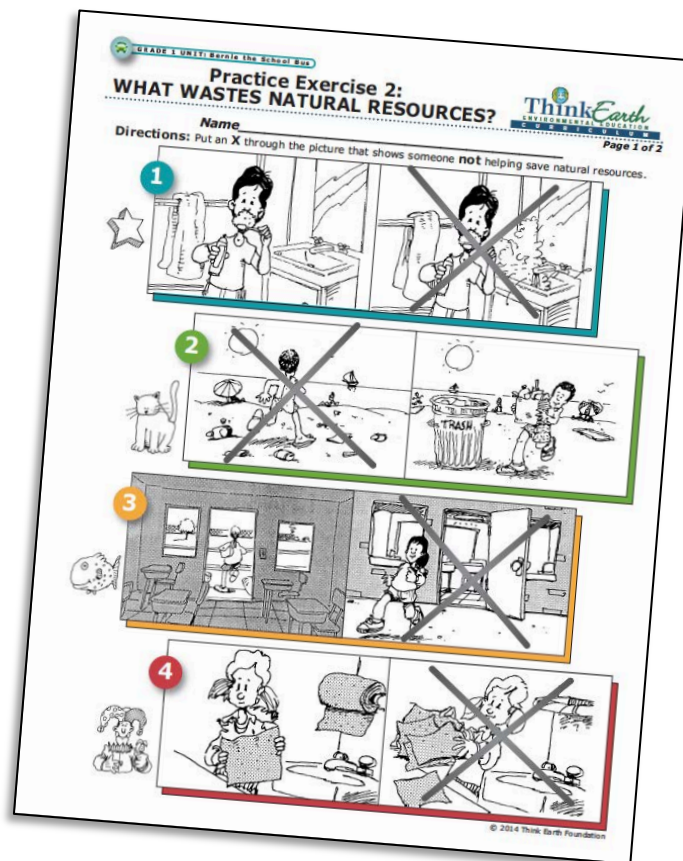
Find...	Examples	Questions	Possible Answers
1. someone using a washable glass	<i>boy in the kitchen</i>	What are some other products you can use that don't have to be thrown away?	<i>washable plates and eating utensils, cloth towels and napkins, canvas bags</i>
2. someone not wasting water	<i>man taking a shallow bath</i>	What are some other ways you can conserve water?	<i>We can turn off water while brushing our teeth; we make sure the water faucet isn't dripping.</i>
3. products being saved for recycling	<i>boxes for recycling products in the garage</i>	How does your family recycle?	<i>Answers will vary.</i>
4. lights and television	<i>light on in the kitchen; light and television on in the den</i>	What should the people do when they leave the den and the kitchen?	<i>They should turn off the lights and the TV.</i>

C. Have students complete Practice Exercise 2, *What Wastes Natural Resources?*

- To complete *Practice Exercise 2*, either:
 - give each student a copy along with a pencil or crayon
 - project the exercise on a screen or smartboard
 - give each student a copy AND project the page
- Have students look at the exercise. Explain that each row shows two pictures and that they are to decide which picture shows someone helping the environment and which picture shows someone not helping.
- Read the directions aloud. Then work through the exercise one item at a time. For each item, read the following explanations; ask students what picture shows someone not helping the environment and why. Then have students put an X on that picture. Make sure students mark the correct pictures.

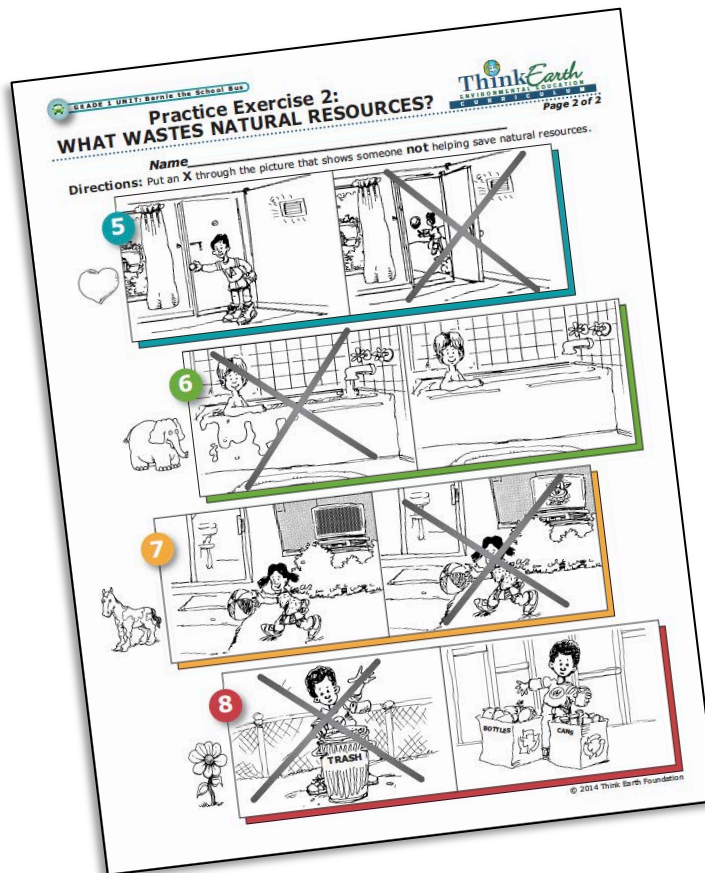
Practice Exercise 2, *What Wastes Natural Resources?*

- 1. Look at row 1 – the star row.** Mario is brushing his teeth. Should he turn the water off while he brushes, as the first picture shows? Or should he leave the water running, as the second picture shows? Put an X on the picture that shows what Mario should **not** do. (*second picture*)
- 2. Look at row 2 – the cat row.** Tad is about ready to leave the beach. Should he leave his trash on the sand, as the first picture shows? Or should he pick up his trash and put it in the trash can, as the second picture shows? Put an X on the picture that shows what Tad should **not** do. (*first picture*)
- 3. Look at row 3 – the fish row.** Ginny is the last person to leave the room. Should she turn the light off, as the first picture shows? Or should she leave it on, as the second picture shows? Put an X on the picture that shows what Ginny should **not** do. (*second picture*)
- 4. Look at row 4 – the clown row.** Olivia is washing her hands after an art project. Should she use one paper towel, as the first picture shows? Or should she use several paper towels, as the second picture shows? Put an X on the picture that shows what Olivia should **not** do. (*second picture*)



Practice Exercise 2, *What Wastes Natural Resources?* (continued)

- 5. Look at row 5 – the heart row.** The heater is on in Vincent’s house and he is going out to play. Should he close the door, as the first picture shows? Or should he leave the door open, as the second picture shows? Put an X on the picture that shows what Vincent should **not** do. (*second picture*)
- 6. Look at row 6 – the elephant row.** Larry is taking a bath. Should he fill the tub up to the top, as the first picture shows? Or should he fill the tub only part way, as the second picture shows? Put an X on the picture that shows what Larry should **not** do. (*first picture*)
- 7. Look at row 7 – the horse row.** Josie is playing outside. Should the TV be off in the house, as the first picture shows? Or should the TV be left on in the house, as the second picture shows? Put an X on the picture that shows what Josie should **not** do. (*second picture*)
- 8. Look at row 8 – the flower row.** Scottie has finished his drink. Should he put the can in the trash can, as the first picture shows? Or should he put it in the recycle box, as the second picture shows? Put an X on the picture that shows what Scottie should **not** do. (*first picture*)



Additional Activities

- **Take a school tour.** Take a tour of your school to find and discuss the following:

Natural Resource or Product	How does it enter the school?	How is it used at school?	What happens after we use it?
1. Water	It comes in through pipelines.	It goes to faucets, toilets, sprinklers.	Water goes down the drain or into the ground.
2. Natural Gas	It comes in through pipes.	It might go to furnaces, water heaters, and stoves.	Natural gas is burned, but exhaust fumes go into the air.
3. Electricity	It comes through wires.	It is used by appliances by plugging a cord into an outlet.	The electricity creates heat, light, or motion, but exhaust fumes go into the air when the electricity is made at the power plant.
4. Paper Products	They are delivered by trucks.	They are used in classrooms, in offices, and in the cafeteria.	Paper is put either into the trash or into a recycle bin and usually picked up by a truck.
5. Food	It is delivered by trucks.	It is used in the cafeteria.	Food is eaten, but packages and wrappers and leftover food (apple cores, chicken bones, eggshells, uneaten food) are thrown in the trash.

- **Search for a dripping faucet.** Have students search for a dripping faucet or a leaking pipe. Have them put a container under the drip to collect the water. Get the leak fixed.
- **Draw pictures and write stories.** Ask students to think about a conservation practice they can do at home. Have students draw pictures of themselves following the conservation practices they have chosen, e.g., taking a shallow bath, turning off lights. Have children dictate stories about their drawings.
- **Reshow the *Think Earth* video.** Show the [unnarrated version of the video](#) and ask various students to narrate short segments.

- **Learn a song.** Teach students the following song. If desired, have students listen and sing along to the audio of either the **vocal** or **instrumental** recording. (**Note:** A new verse is added to this song at every grade level.)

(to the tune of "Twinkle, Twinkle Little Star")

Think Earth, Think Earth
Is our song.
Everyone should sing along.

Don't waste paper, Save a tree.
It is good for you and me.

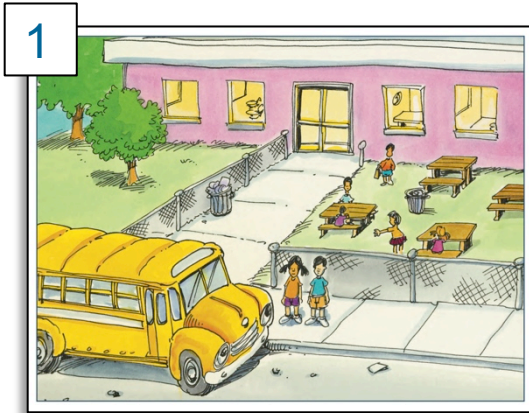
Think Earth, Think Earth
Is our song.
Everyone should sing along.

Turn off lights
And the TV
It is good for you and me.

Think Earth, Think Earth
Is our song.
Everyone should sing along.



Script: *Bernie is Back*



It was a cold crisp day, and Bernard Bartholomew Omnibus III stood happily next to the playground at school waiting to take the children back home. He looked wonderful! His metal body was clean and smooth, and his new bright yellow paint shone in the sun. His tires were patched and plump, and his leather seats newly padded and repaired. He now used cleaner fuel to run, and when he drove down the road, he no longer went klatter kabang kabang, but hummed a pleasant little tune.

The school bell rang and Bernie watched as all the children emptied from their classrooms into the yard for lunch. Patti waved and Bernie flashed his headlights. Patti had told everyone that Bernie was not junk but was valuable natural resources that should be conserved. Bernie was happy that he had been fixed up so that the natural resources in him were not wasted, but he was not happy about what he was seeing right now.

All the children and teachers were outside in the lunch area, but all the lights were left on in the rooms. Bernie began honking his horn loudly. The children stopped rustling their lunch sacks and stared at Bernie.

“Why’s he doing that?” Joe asked, covering his ears.

Patti knew something was wrong. Many of the kids followed her over to Bernie. She looked right up at him and asked, “What’s up?”

“The lights,” answered Bernie. “You left the lights on in the classrooms.”

“So what?” said Patti. “We’re going back in after lunch.”

“The lights use electricity,” Bernie stated, “which is usually made from fossil fuels we get out of the ground.”

“So,” Patti exclaimed, “leaving the lights on wastes natural resources!”

“That’s right!” Bernie said. “Leaving on any electrical appliance, such as a TV or a radio, when you’re not using it wastes natural resources, which is not good for the environment.”

2



Several children ran back to the classrooms to turn off the lights, but as they came back into the lunch area, Bernie sounded off again. He wouldn't quiet down until they all gathered around him.

"Okay," said Joe. "We turned off the lights. Now what's wrong?"

"The doors," Bernie replied. "You left the doors open so all the heat in the rooms is escaping outdoors."

"We'll just turn the heater up when we go back in," said Joe.

Bernie frowned and tooted his horn. Patti knew what the problem was. She explained. "Heat comes from burning fuel that comes out of the ground. So wasting heat wastes natural resources."

Bernie smiled. "You can't heat up the outdoors," he said. "So keep the doors and windows closed when you have the heat on, and don't heat the room up more than you need to be comfortable."

All the doors of the classrooms were closed to keep the heat inside, and the children settled down to eat lunch. As they finished eating, many children got up to leave, but they left their lunch sacks on the tables. It wasn't long before they heard Bernie bellowing again.

3



"Not so fast!" Bernie called after the children. "Your trash belongs in the trash can, and it's up to you to see it gets there. Litter looks and sometimes smells terrible, and it can be unsafe for animals and people."

The children picked up their lunch sacks and put them into the trash can. But Bernie's horn didn't stop blaring.

Patti looked up from her lunch. "Are we wasting more natural resources?" she asked.

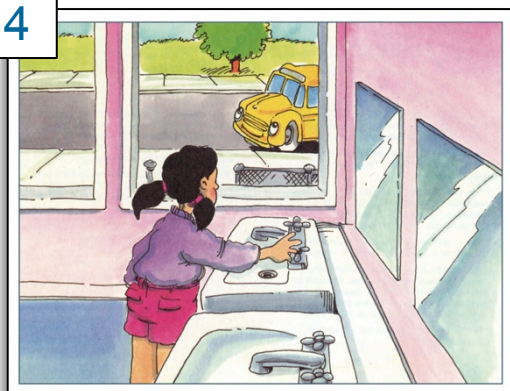
"I'm afraid so," answered Bernie. "Look at these lunch sacks that have been thrown in the trash," Bernie demanded. "Why, some of them are as good as new. They could be used several more times."

Joe didn't understand why he should reuse his lunch sack, but Patti did. "Paper is made from trees," she told Joe, "so when we waste paper, it means more trees in the environment have to be cut down to make more paper."

“And it also means that you create more trash,” Bernie continued. “So you should use only as much paper as you really need—like one paper towel instead of two, and a real glass or plate or towel instead of paper ones when you can. And you shouldn’t throw away anything made of paper that you can use again, such as a lunch sack or a box.”

“We’ll do it!” cried many of the children at the same time. But as Joe pulled his paper sack out of the trash, he frowned and said, “There’s still a lot of trash in here.”

“You’re right,” Bernie agreed. “But not all of it is trash. The aluminum cans, the glass and plastic bottles, and the newspapers can be recycled—that means that they can be used to make new things out of aluminum, glass, plastic, and paper. They belong in a recycle bin, not in the trash.”



Lunch time was almost over, so Joe and Patti ran into the restrooms to wash their hands. But when they walked back outside, Bernie was howling again.

Joe and Patti looked at each other and then looked straight at Bernie. “What now?” Joe wanted to know.

“The water,” said Bernie, who could hear the water still trickling out of the faucets in the restrooms. “Water is an important natural

resource that you’re just letting run down the drain.”

“Sorry,” said Joe and Patti as they ran back into the restrooms to turn the water off tightly.

“And furthermore,” Bernie called after them, “when you brush your teeth, you shouldn’t let the water run. And when you take a bath, you shouldn’t fill the tub all the way to the top. You can get just as clean in half as much water!”

“Okay,” said Patti, looking out the window. “Anything else?”

“Just one more thing,” answered Bernie, who had finally quieted down. “Please let everyone know that saving natural resources is good for the environment—for the water, for the land, for the air, and for all the animals and people.”

The bell rang and Patti hurried out to go back to class. “Don’t worry,” she said, smiling over her shoulder at Bernard Bartholomew Omnibus III. “I’ll tell them!”



Practicing *Think Earth* Behaviors

Objectives

Skills: Students will:

- b. Identify behaviors that conserve natural resources.

Behaviors: Students will practice the following behaviors to help the environment:

- a. Use only the paper products really needed.
- b. Turn off unused lights, televisions, radios, and other appliances when they are not being used.
- c. Turn off water faucets while brushing teeth and when the water is not needed.
- d. Close doors and windows when heat or air conditioning is on.
- e. Recycle paper, glass, metal, and plastic when possible.
- f. Put all trash in trash cans; do not litter.

Materials

- *Everything Comes from the Environment* poster
- Family Activity Sheet
- Posttest



Preparation

- Prepare to project the *Everything Comes from the Environment* poster
- Make a copy of the Family Activity Sheet for each student (back-to-back, if possible), or post it online or email it to families.
- (Optional) Gather props for role-playing (popcorn boxes, napkins, cafeteria tray, fast-food wrappings, trash can, garden hose)

Procedures

A. Discuss *Think Earth* behaviors

- Show the *Everything Comes from the Environment* poster to students. Ask students to come up to the poster to point out the natural resource you name. Discuss the questions in the following chart as a class.

Behaviors Questions: *Everything Comes from the Environment* Poster

Natural Resource	Questions	Possible Answers
Water	1. What could happen if we waste water?	<i>The lakes could run low on water, and we wouldn't have enough to use, and plants and animals wouldn't have enough to live and grow.</i>
	2. How can we conserve water?	<i>We can turn off water while brushing our teeth, not fill the bathtub full, not let the sprinkler run onto the cement.</i>
Trees	3. What could happen if we waste paper or use more wood and paper than we really need?	<i>We would have to cut down more trees for paper, and we would make more trash.</i>
	4. What can we do to conserve trees?	<i>We can use only the paper we need—like only one or two paper towels and a washable drinking glass instead of a paper one.</i>
Metal Ore	5. Can we get more metal ore if we use it all up?	<i>No. There's only so much. Once it's gone, it's gone.</i>
	6. What should we do with our metal cans?	<i>We should recycle them.</i>
Sand	7. What do we make out of sand?	<i>We make glass.</i>
	8. What should we do with our glass bottles and jars?	<i>We should recycle them.</i>
Plants and Animals	9. Why do we need plants and animals?	<i>We use plants and animals for food and clothing. They're also nice to have in the environment.</i>
	10. What products made from plants or animals do we sometimes waste?	<i>Answers will vary but might include food and clothing.</i>
Fossil Fuels	11. Can we get more fossil fuels if we use them up?	<i>No. There's only so much of them in the ground.</i>
	12. How can we conserve fossil fuels?	<i>We can turn off lights; we can close the doors and windows when the heater is on.</i>

B. Conduct role playing

- Tell students that they are now going to get a chance to *Think Earth* and show what they can do to help save natural resources and help the environment. Explain that you are going to read several unfinished little stories, and they are to act out what they would do.
- Read each of the stories on the role play cards to the class; then ask for volunteers to act out the situation and provide an ending. Provide props or have students pantomime the various objects. (**Note:** *Sample endings follow each story, but encourage the children to do whatever they like.*) After students have acted out an ending or two, use the question after each story to discuss why people act in certain ways.

Role Play Cards

At the Movies

Characters: Bradley and Marilyn

Props (optional): popcorn boxes, napkins

Bradley and Marilyn are at the movies. They have just bought some popcorn before going in to watch the show. Bradley, who is carrying the popcorn, says to Marilyn, "Get some napkins for us." Marilyn pulls about ten napkins out of the dispenser. What does Bradley say?

(Bradley tells Marilyn that they don't need so many napkins. Wasting paper wastes natural resources and makes a lot of trash.)

Ask: Why do you think people sometimes use more paper than they need?

(Some people don't know that wasting paper means using more trees, and they probably don't think about how much trash they are making.)

Washing the Car

Characters: Nicholas and his mom

Props (optional): a hose

Nicholas and his mom are washing their car. His mom hoses the car off and then says to Nicholas, "You hold the hose and as I finish washing a section, you rinse it off." What does Nicholas say to his mom?

(Nicholas tells his mom that leaving the hose running wastes water. They should turn the hose off, wash the car using a bucket and sponges, and then turn the hose back on to rinse the car.)

Ask: Why do you think people just let the water run when they are not using it?

(Sometimes people don't know that they are wasting water. They don't realize that it takes time and money to get the water to their homes and that there may not be enough water if it doesn't rain very much.)

Role Play Cards *(continued)*

Eating Out

Characters: Helen and Daniel

Props (optional): tray, napkins, fast-food wrappings

Helen and Daniel are having lunch with their mom and dad at Taco Time. They've finished eating and are going to leave, so Helen and Daniel take all the trash to put it in the trash can. Daniel dumps everything off his tray into the trash can, but the can is pretty full, so some of the trash goes onto the floor. Daniel sets his tray down and turns to walk away. What does Helen say?

(Helen tells Daniel that all the trash belongs in the trash can. They should either push the trash into the can, or they should tell someone at the restaurant that the trash can is full. Leaving trash on the ground looks bad and is unhealthy and unsafe. Everyone is responsible to pick up his or her own trash.)

Ask: Why do you think people throw their trash on the ground instead of in trash cans?

(Sometimes they think someone else will clean it up. Sometimes they just don't know how much litter hurts the environment.)

The Refrigerator

Characters: Francisco and Patricia

Francisco and Patricia have just gotten home from school and want to have a snack. Francisco opens the refrigerator and stands in front of it trying to decide what to have. He calls out to Patricia, who is in the next room, "Do you want an apple, or some cheese, or yogurt?" Patricia can't quite hear Francisco, so she walks into the kitchen and sees him standing in front of the open refrigerator. What does Patricia say?

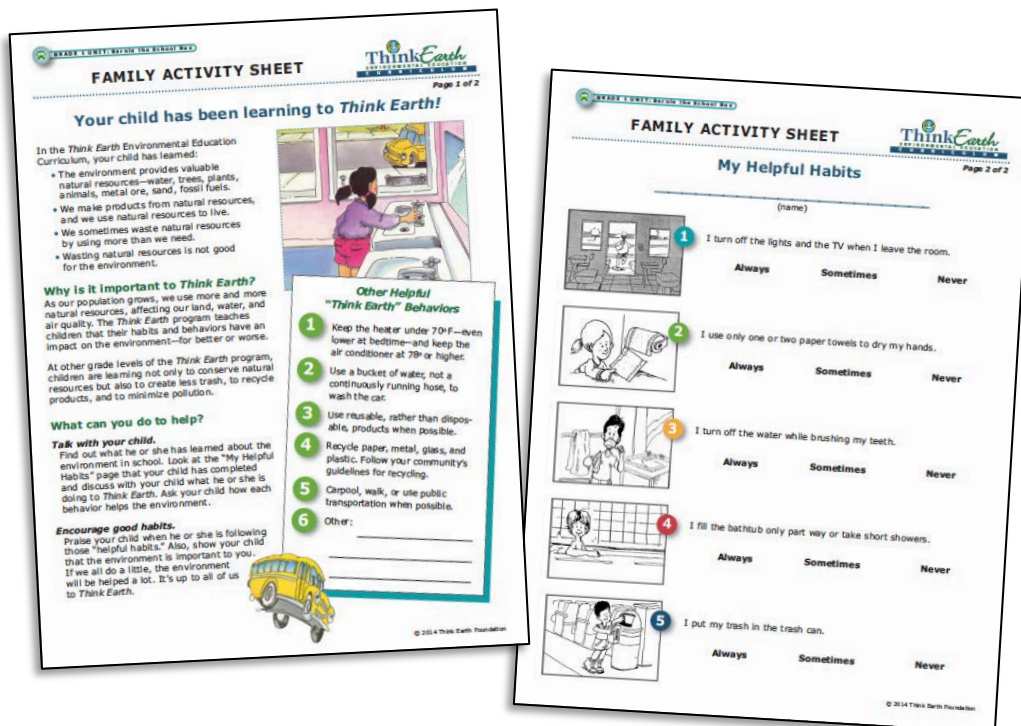
(Patricia tells Francisco that leaving the refrigerator door open wastes electricity, which wastes natural resources. They should decide what they want for a snack before opening the refrigerator door. Then they can open the refrigerator quickly and get what they want.)

Ask: Why do you think people waste electricity?

(People may not realize that it often takes fossil fuels to make electricity. They may not know that wasting electricity wastes natural resources and is not good for the environment.)

C. Discuss the Family Activity Sheet

- Hand out a copy of the **Family Activity Sheet** to each student. Have students write their names on both sides of the sheet. Tell them that they are to take this sheet home so that their families can learn about the environment and about how to *Think Earth*. (Alternatively, project the pages and tell students that you will be emailing the Family Activity Sheet to their families or posting it online for their families to download.)
- Have students look at page 2, “My Helpful Habits.” Explain that the five pictures show ways that they can help the environment.
- Put the words “Always,” “Sometimes,” and “Never” on the board and have students read each one. Use the following examples to help students understand each term:
 - I go to bed at night. (*Always* or *almost always*)
 - I dream when I sleep. (*Sometimes*—for most students)
 - I stay up all night without sleeping. (*Never* or *almost never*)
- Ask students to describe what is happening in each picture and, if possible, to read what it says next to each picture. Ask students how often they do each behavior. If students are completing the sheet in class, have them circle “Always,” “Sometimes,” or “Never” after each statement.
- Have students take the Family Activity Sheet home and share it with their families. Tell students that they will share in class what happened at home when they looked at the Family Activity Sheet with their families.




D. Administer the Posttest

- Distribute the **Posttest** and administer in the same manner as the Pretest.
- Collect the completed tests. Later, correct the Posttests and compare scores to the Pretest. Calculate the average percent correct for the class to record later on the Teacher Response Form.
- Return the tests and go over them the class. Congratulate students on learning to *Think Earth*.









GRADE 1 UNIT: Bernie the School Bus

POSTTEST



Name _____ Date _____

Directions: Circle YES or NO after your teacher reads each question.

	1 Do we make products from natural resources?	<input checked="" type="radio"/> YES <input type="radio"/> NO
	2 Is water a natural resource?	<input checked="" type="radio"/> YES <input type="radio"/> NO
	3 Is glass made from metal ore?	<input type="radio"/> YES <input checked="" type="radio"/> NO
	4 Is paper made from sand?	<input type="radio"/> YES <input checked="" type="radio"/> NO
	5 Do we use natural resources to heat our homes?	<input checked="" type="radio"/> YES <input type="radio"/> NO
	6 Do people sometimes waste natural resources?	<input checked="" type="radio"/> YES <input type="radio"/> NO
	7 Should you leave the water on while you brush your teeth?	<input type="radio"/> YES <input checked="" type="radio"/> NO
	8 Is it OK to leave a small gum wrapper on the ground?	<input type="radio"/> YES <input checked="" type="radio"/> NO

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Note: Upon completion of this curriculum unit, please fill out and submit the online **Teacher Response Form**.



Note: Use the following activities during the remainder of the year to reinforce the unit objectives and to help the students develop strong environmental attitudes and behaviors.

- **Read stories.** Read students other stories about living in the environment. A [literature list](#) is included on the *Think Earth* website.
- **Conduct more role playing.** Create other situations for students to act out. Some suggestions are:
 - throwing a newspaper in the trash instead of recycling it
 - littering the playground
 - leaving lights or TV on
 - wasting water by letting the faucet run to get a cool drink
- **Review helpful habits.** Write the five behaviors from the [Family Activity Sheet](#) on the board. Have students identify how each behavior helps the environment.
- **Make a conservation mural.** Title the mural “Conserve Natural Resources” and have students draw or find or take pictures that show people conserving natural resources.
- **Keep water and electricity logs.** Make a list on the board of how students use electricity and water. For example:

Electricity

- hair dryer
- lights
- television

Water

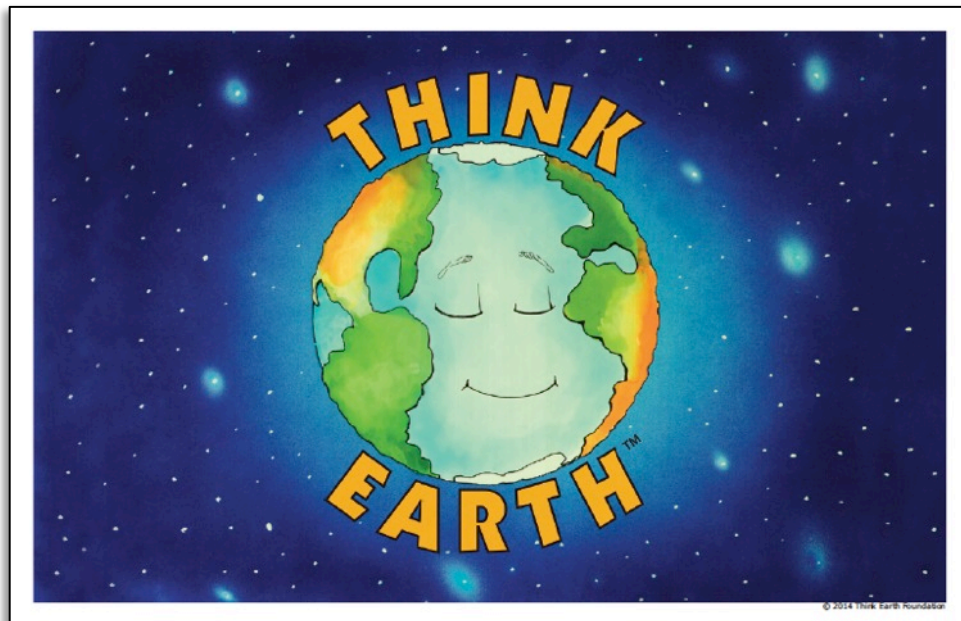
- bath
- drinking
- toilet

Have students put a check mark next to each item every time they use electricity or water in that way. At the end of the week, compare check marks to see what was used the most and what the least.

- **Start a conservation campaign.** Have students make posters and signs and put them up around the school. Have them create a skit about conserving natural resources and perform it for other classes.
- **Review the *Think Earth* video.** Show the *Think Earth* video again to reinforce all concepts, skills, and behaviors taught in this unit. Select from the three options below based on your students’ verbal skills and mastery of the unit outcomes.
 - Option 1: Reshow the [narrated version](#) of *Think Earth* in its entirety and review the questions in Lesson 1, Procedure B.
 - Option 2: Show the [unnarrated version](#), following the indicated stops and discussion questions in Lesson 1, Procedure B.
 - Option 3: Show the [unnarrated version](#). Choose students to narrate short segments of the video as the class watches. Review the discussion questions in Lesson 1, Procedure B.



- **coal** – a solid substance we get out of the ground and use for energy
- **conserve** – not to waste; to use wisely
- **electricity** – energy used to make light and heat and to run appliances
- **environment** – everything living and nonliving that surrounds us
- **fossil fuels** – sources of energy (coal, oil, natural gas) that formed in the earth from the remains of prehistoric plants and animals
- **litter** – trash where it is not supposed to be
- **metal ore** – a substance we take out of the ground to make metals
- **natural gas** – a gas we get out of the ground and use for energy
- **natural resources** – things in nature, such as trees and water, that we use to make products and to live
- **oil** – a liquid we get out of the ground and use for energy
- **valuable** – something important or worth a lot





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Evergreen Level: \$20,000 or more

Edison International



Joseph Stanley Leeds Foundation



Sanitation Districts of Los Angeles County

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