

Teaching Cloverleaf Books™ **Planet Protectors**

cloverleaf books™

Interest Level: Grades K–2

Reading Level: Grade 2

Standards

Next Generation Science Standards

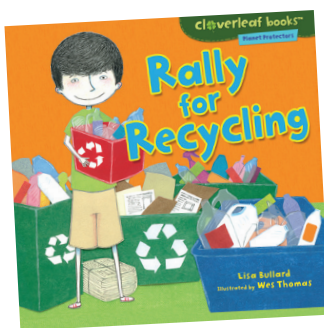
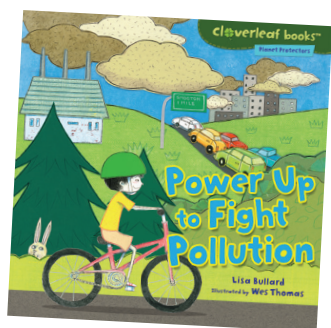
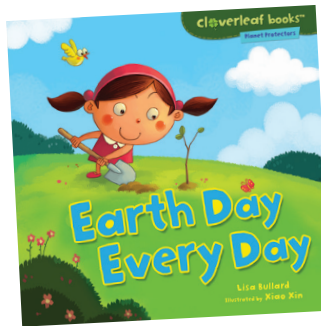
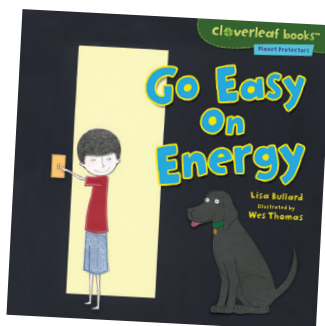
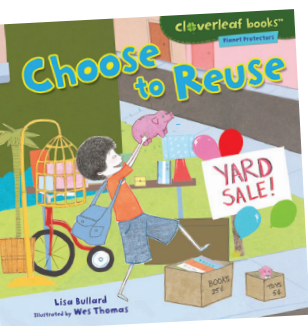
- **K-ESS2-2** Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.
- **K-ESS3-3** Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.
- **4-ESS3-1** Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

Common Core Reading (Informational Text)

- Key Ideas and Details
- Range of Reading and Level of Text Complexity
- Use information gained from the illustrations and text to demonstrate understanding

Multiple Intelligences Utilized

- Verbal-linguistic, visual-spatial, bodily-kinesthetic, interpersonal, intrapersonal



Lesson 1 Reduce, Reuse, Recycle

Purpose

Students will identify reusable and recyclable waste at school and home.

Materials

- Planet Protectors series
- Trash Chart p. 6
- pencils

Prepare

- Copy Trash Chart p. 6 for each student.
- Bring in samples of recyclable items (plastic bottles, glass jars, newspapers, and cans)

Pretest

- What do you do with things you don't need anymore? What could you do instead of throwing them away?

Read

- Read the Planet Protectors series.

Model

- Ask students what they throw away in the classroom or at lunchtime. List these items on the board.
- Ask students which items on the list could be recycled. Show examples of recyclable plastic, glass, metal, and paper.
- Discuss which items could be reused or are already being reused. Are they used for the same purpose or something new (arts and crafts, for example)?
- Which items could be used less often, or reduced?
- Demonstrate how to fill in the sections of Trash Chart p. 6 with the information on the board.

Practice

- Give each student a copy of Trash Chart p. 6. Students will look for trash at home.

- They will fill in their Trash Charts p. 6 with the trash and recycled and reusable materials they discover.
- Students will think of ways to reduce, reuse, and recycle in their homes.

Discuss

- Invite students to share what they learned with the rest of the class. Did they discuss their charts with their families? Will any students try new, less wasteful ways of dealing with their trash?
- What kinds of trash fit into the "Other" category? What options do we have for dealing with those?

Evaluate

- Review students' Trash Charts p. 6 to assess their understanding of the series content and trash-sorting lesson.

Lesson 2

Junk Mosaic

Purpose

Students will make a classroom mosaic from items that would otherwise be thrown away.

Materials

- Planet Protectors series
- bottle caps, lids, old or broken costume jewelry, beads, buttons, old clothing, broken toys
- several large pieces of cardboard
- pictures of tile mosaics to show as examples
- scissors
- glue

Prepare

- Collect various small pieces of junk, as described in the Materials section. Invite students to bring in similar clean items from home.
- Tape the large pieces of cardboard

to the floor in an open classroom space. Divide students into small groups, and assign each group to a piece of cardboard.

Pretest

- What does reuse mean? When we reuse something, do we always use it in the same way as we did the first time?

Read

- Read the Planet Protectors series.

Model

- Explain that old “junk” that people normally throw away can be made into fun arts and crafts projects.
- Demonstrate how students can

take apart or cut up pieces of junk, such as old costume jewelry or clothing.

- Show students how to glue items to the cardboard, to make a mosaic.

Practice

- Students will work in small groups to plan and glue their mosaics.

Discuss

- What other kinds of art projects could you make with old junk? What did you like about this project?

Evaluate

- Observe students’ participation during the mosaic building project.

Lesson 3

Where Does Energy Come From?

Purpose

Students will learn to categorize renewable and nonrenewable sources of energy.

Materials

- Planet Protectors series
- Which Kind of Energy? p. 7
- old magazines
- scissors
- glue

Prepare

- Make six copies of Which Kind of Energy? p. 7 for each student.
- Staple each set of Which Kind of Energy? p. 7 along the left edge to make a booklet.
- To do less photocopying, you might use blank paper for this lesson instead. Students can write the correct type of energy on each page.

Pretest

- What is energy? Where does energy come from?

Read

- Read Planet Protectors series.

Discuss

- Explain that energy comes from the sun. We feel it in heat and see it in light.
- Invite students to suggest things at home or school that produce heat and light. Write a list of their suggestions on the board.
- Ask students about the different sources of energy. Explain the difference between renewable and nonrenewable energy and give examples of each.

Model

- Hand out Which Kind of Energy? p. 7 booklets.
- Show students how to write the name of one kind of energy on each page: oil, natural gas, coal, sunlight, food, and wind.
- Demonstrate how to cut out a picture from a magazine that represents oil, such as a car or a gas station, and glue it to the oil page.
- Explain that different energy

sources will go on different pages. Each page will have pictures representing that type of energy.

Practice

- Help students and answer questions as they cut and glue magazine pictures into their booklets.

Discuss

- Which kinds of energy were easiest to find pictures for? Which kinds were difficult?
- Review the difference between renewable and nonrenewable energy. Which kinds of energy are renewable? Which are nonrenewable?

Evaluate

- Assess students' Which Kind of Energy? p. 7 booklets to evaluate comprehension.
- Observe student participation in class discussions.

Assessment *Protecting the Planet*

Purpose

Students will demonstrate their knowledge of helping and hurting Earth.

Materials

- Planet Protectors series
- Protecting the Planet p. 8
- pencils

Prepare

- Make a copy of Protecting the Planet p. 8 for each student.

Pretest

- What kinds of actions hurt Earth?
- What kinds of actions help Earth?

Read

- Read Planet Protectors series when directed in the teaching guide.

Model

- Follow the lesson plans to effectively utilize the Planet Protectors series.

Practice

- Have students answer the questions on Protecting the Planet p. 8.

Discuss

- What were your favorite activities from this unit?
- What was the most interesting fact you learned during the unit?

Evaluate

- To evaluate reading comprehension, students answer the questions on Protecting the Planet p. 8 after reading the Planet Protectors series.
- To assess student understanding of the unit, evaluate after completing the lessons in the Planet Protectors teaching guide.

Name _____

Trash Chart

Directions: Sort the trash your family makes. Which items can be reused, recycled, or reduced? Write them in the correct section of the chart. If an item doesn't fit one of these groups, put it in the Other section.

Reuse	Recycle
Reduce	Other

Name _____

Which Kind of Energy?

Kind of Energy: _____

Name _____

Protecting the Planet

Directions: Choose a word from the box to fill in each blank.

coal	reuse	energy	recycling
conserve	Earth	thrift	pollution
sort	littering	coal	

1. When we use something again, we _____ it.
2. People use _____ to heat buildings, light rooms, and make lunch boxes.
3. _____ is when people throw their trash on the ground or in the water.
4. The black or brown rock that people dig up and burn to make power is called _____.
5. Driving cars and dumping garbage in lakes and rivers causes _____.
6. _____ means "changing something we don't need into something we can use."
7. At a recycling center, workers _____ materials into groups.
8. Lots of trash is bad for _____.
9. You can buy used clothing and toys at a _____ store.
10. Turning off the faucet while you brush your teeth can help _____ water.