

Contents



TEACHER GUIDE

- Assessment Rubric 4
- How Is Our Resource Organized? 5
- Bloom’s Taxonomy for Reading Comprehension 6
- Vocabulary 6



STUDENT HANDOUTS

- Reading Comprehension

1. Conservation	
2. Reduce and Reuse	

3. Recycling	7
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4. Composting	
5. Fresh Water Resources	
6. Conserving Fresh Water	
7. Clean Air Resources	
8. Sustainable Living	

- Hands-on Activities 12
- Crossword 16
- Word Search 17
- Comprehension Quiz 18



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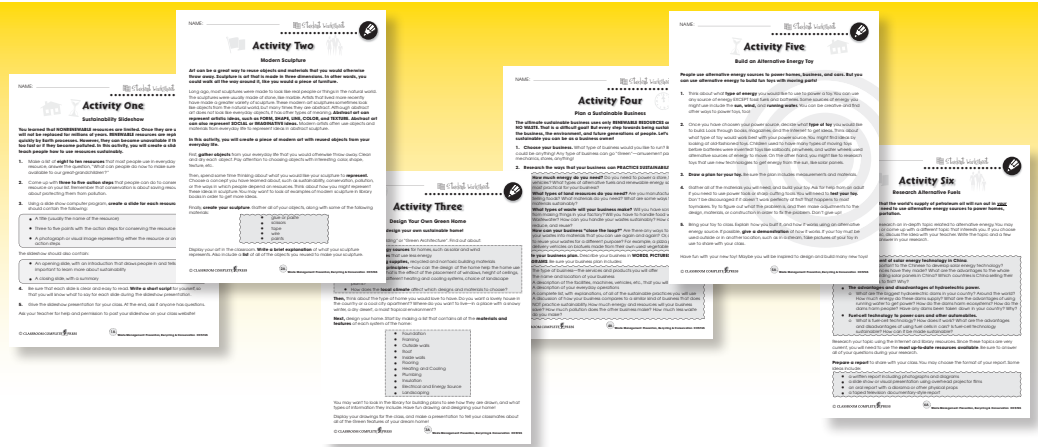
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Recycling



1. Do you have a recycling bin at home? Do you have one at school? What types of materials do you place in the recycling bins?

2. Complete each sentence with a word from the list. Use a dictionary to help you.

mixture chemical sort landfill toxic fibers

- a) A _____ substance can cause harm to people and wildlife.
- b) To _____ is to place different objects or materials into groups based on their similarities and differences.
- c) Two or more different materials placed together in a container is a _____.
- d) Long, thin strands of plant material are sometimes called _____.
- e) Matter is made from _____ compounds.
- f) A _____ is a facility where solid waste is buried.

3. Sort the words below into the three groups in the chart based on the materials that make up the objects.

can bottle foil cardboard magazine sandwich bag

Paper	Plastic	Metal



Recycling



How are materials recycled?

During recycling, products must first be sorted by material. Some of the sorting is done by people as they throw away waste. You might separate paper, glass, plastic, and metals in your own home and school. At the landfill or recycling facility, workers further sort the wastes by material.



Each recyclable material goes through a different **process**. Paper is shredded and mixed with water. The mixture is beaten into mush. Then, the water is removed, leaving only the paper fibers. These fibers are heated and pressed with rollers to make new paper.

Glass is crushed into small pieces and melted into liquid. Then it is molded into new glass containers. Aluminum and other metals are also melted down. Then, they can be formed into new products.

Did you know that most plastics have a number stamped inside of a recycle symbol? This number gives information about what type of **chemical compounds** that make up the plastic. It also determines the type of material the plastic can be made into when it is recycled.



Describe how bottles are recycled.

How can we "close the loop?"

Recycling bottles, cans, and paper is one way to practice sustainability. However, in order for recycling to reduce the amount of resources being used, people must also buy products made from recycled material. When you choose paper made from recycled paper instead of paper made from trees, you are conserving forest resources.

Buying recycled products is often called "closing the loop." The loop, or **product cycle**, begins with raw materials, such as metal. The metal is made into a product that is used, and then recycled. During recycling, the metal is melted down. Then, it is made into a new product. That product can be recycled, and the cycle continues.



Recycling



1. Fill in each blank with the correct word from the list below.

glass sorted sustainability recycling melt energy bauxite nonrenewable

- a) _____ is a process in which materials are turned into new products.
- b) _____ resources are limited.
- c) Aluminum is made from a mineral called _____.
- d) Recycling uses less _____ than getting raw materials.
- e) During recycling, objects are first _____ into groups by material.
- f) To recycle _____ it is first crushed into small pieces.
- g) The first step in recycling metals is to _____ them.
- h) Recycling is one way to practice _____.

2. Number the events from 1 to 7 in the order they occur in the cycle of aluminum products.

- a) Aluminum is melted down and made into frames.
- b) Bauxite is mined.
- c) Aluminum is made into foil.
- d) Aluminum foil is placed in a recycle bin.
- e) Aluminum is refined from bauxite.
- f) People buy foil in the store and use it to wrap food at home.
- g) People buy frames in the store.



Recycling



3. Explain how the following materials are recycled

- a) **paper:** _____
- _____
- b) **glass:** _____
- _____
- c) **metal:** _____
- _____

4. Do you think it is important to buy products made with recycled materials? Explain your reasoning.

Extension & Application

5. Learn more about plastics recycling. Research the meaning of the **plastics recycling number system**. You may use the Internet or library resources. Be sure to find out:

- the difference between each type of plastic
- the way in which each type of plastic is recycled
- examples of each type of plastic
- the products that each type of plastic are made into when they are recycled

Create a poster to display the information you learned. Cut out photographs of different plastic products from each group. Write labels for each group to describe the type of plastic, how it is recycled, and what it is made into.



Recycling Audit

An audit is like a check-up. It is a way to make sure everything is going the way it should be. For a recycling audit, you will check around your school to make sure everything that should be recycled is getting recycled.

1

Research the things that can be recycled in your area. Call your local waste management company and find out what things people can recycle. Ask if they have special recycling services for large groups, such as schools. Talk to your assistant principal or operations manager about what recycling programs are in place at your school. Be sure to ask about:

- Recycling paper, cardboard, and magazines
- Recycling metals—which ones are collected?
- Recycling plastics—what numbers are collected?
- How hazardous wastes are handled, and whether they have to be dropped off at a special site
- Whether programs are in place for composting organic matter such as food scraps and yard waste

2

Based on the information you learn, **write a checklist** for your audit. The checklist should contain a list of all of the recycling practices in each room (classrooms, lunch room, library, offices, etc). Which recycling bins are supposed to be placed in each room? Are they being used properly? Are there instructions on exactly what to place in each bin? Are there signs reminding people what to do with their hazardous or organic waste?

3

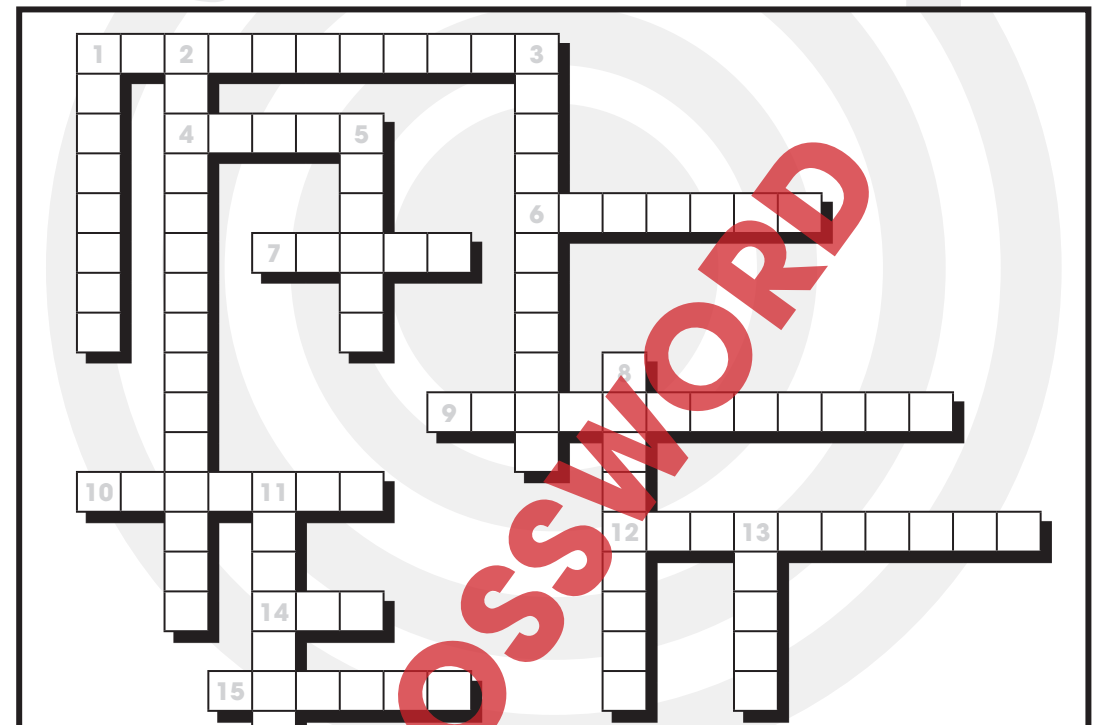
Conduct your audit. Be sure to use your checklist and check each room in the school. Once you have all of your checklists, analyze the results. What is being done well? What is being done poorly, or not at all? What trends have you observed?

4

Publish your results. Write a brief, one- to two-page report to hand out to all of the staff, and to post in each of the classrooms. In your report, include the answers to the above questions, as well as **recommendations** as to how your school community can improve in recycling.



Crossword Puzzle!



Across

1. recycling makes a resource _____
4. an important resource for drinking and washing _____
6. to turn a material from an old product into a new product _____
7. what you do when you refill a water bottle _____
9. the practice of saving and protecting natural resources _____
10. broken down organic matter _____
12. the water that flows down the drain _____
14. the gases in the atmosphere _____
15. how solids are taken out of wastewater _____

Down

1. a renewable resource that can power a home _____
2. what happens to wastewater _____
3. everything that surrounds you _____
5. to use less _____
8. a resource that is quickly replaced by nature _____
11. once-living _____
13. harmful _____

Comprehension Quiz

Part C

Answer the questions in complete sentences.

1. Explain the difference between **renewable** and **nonrenewable** resources. Give examples of each. 4
2. Explain how **recycling** is a way to practice sustainability. 3
3. What is the difference between **water purification** and **sewage treatment**? 3
4. Give examples of how burning fossil fuels harms the environment and human health. 3
5. Explain how going "Green" can help a business save money and help the environment. 3

SUBTOTAL: /16

Conservation Methods



Choose Renewable Energy



Compost Waste



Reduce Energy Usage



Recycle



Recycling



1. Fill in each blank with the correct word from the list below.

glass
sorted

sustainability
recycling

melt
energy

bauxite
nonrenewable

- a) is a process in which materials are turned into new products.
- b) resources are limited.
- c) Aluminum is made from a mineral called .
- d) Recycling uses less than getting raw materials.
- e) During recycling, objects are first into groups by material.
- f) To recycle , it is first crushed into small pieces.
- g) The first step in recycling metals is to them.
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- d) Aluminum foil is placed in a recycle bin.
- e) Aluminum is refined from bauxite.
- f) People buy foil in the store and use it to wrap food at home.
- g) People buy frames in the store.

1.

- a) recycling
- b) nonrenewable
- c) bauxite
- d) energy
- e) sorted
- f) glass
- g) melt

3.

Answers will vary

Answers will vary

4.

Answers will vary

5.

Answers will vary based on resources used

Answers will vary

2.

- a) 6
- b) 1
- c) 3
- d) 4
- e) 2
- f) 5
- g) 7

Answers will vary

10

11

15

12

13

14

Answers will vary



EASY MARKING ANSWER KEY