Lesson: Where Is Away?

Grade: K-3
Subject: English
Objectives:
Students will:

- recognize that there is no "away" in "throw it away"
- identify the destination of the waste they generate at home and at school
- identify the negative aspects of dumping or burning trash
- learn the "solid waste hierarchy" for best management of our trash

Teaching Time: 40 minutes

Materials: Read: "Sarah Cynthia Sylvia Stout" from *Where the Sidewalk Ends* by Shel Silverstein transparencies, Where Trash Goes and Oregon Waste Hierarchy; worksheets, Landfill! and Mining the Landill

Background:

Garbage, also called solid waste, is generated by people at home, at work, on vacation--well, everywhere! Most garbage is generated by businesses during the manufacture, processing and shipping of products. Although the exact percentage of business waste in Oregon is hard to calculate, it is estimated to be about 60%. In 1999, Oregon disposed of 2.8 million tons of garbage. This is equivalent to 4.6 pounds of waste per person per day. Of this total, 92% was disposed of in sanitary landfills; the remainder was disposed of by incineration in Marion and Coos Counties* (these incinerators monitor burning with computerized pollution control devices to protect air quality).

An unknown amount of garbage is disposed by people illegally dumping their garbage in rural or abandoned areas and by burning their garbage in their fireplaces or on their property. Illegal dumping is punishable by a fine. The practice of burning or burning certain types of materials is illegal in some areas. (See the Burning Factsheet in the Teacher Resource section for more information.) DEQ discourages burning anywhere because of certain hazards it poses. Burning is hazardous because it releases dangerous chemicals and metals into the air, often releases unpleasant odors into the neighborhood or community, but most importantly, burning poses serious health threats to people breathing the fumes.

Certain types of materials are banned from Oregon landfills and should not be placed in your garbage. (See the Landfill Bans Factsheet in the Teacher Resource section for more information.) Hazardous or toxic materials that come from people's homes are discouraged from being placed in the garbage because they can injure solid waste workers and cause serious threats to the environment. Improper handling and disposal of hazardous substances can result in the release of "persistent bioaccumulative toxins" (PBTs) such as polychlorinated biphenyls (PCBs), mercury, and many pesticides, herbicides, and insecticides. Most PBTs are known or probable human carcinogens. The best way to deal with potentially hazardous substances is to use safer alternatives and use all of the product as it was intended, whenever possible. The following is a list of materials that should be disposed of at hazardous waste facilities or community special collection events whenever possible:

- pesticides, weed killer, moth balls, flea killers, herbicides
- pool/spa chemicals
- batteries - lead acid or nickel-cadmium types (contain acids and heavy metals)
- electrical equipment containing polychlorinated biphenyls (PCBs) such as older televisions, refrigerators, hydraulic fluid, or coolant liquids
- paints/solvents
- products containing mercury such as thermometers, thermostats, fluorescent light tubes
- harsh chemical cleaners such as bleach, oven cleaner, drain cleaner
- materials that are flammable, reactive, corrosive or toxic

**As we go to press Coos Bay Incinerator is still operating. However, it may close in the near future because of other solid waste management options that have become available to the area and that may be more cost effective.*

Contact your local city or county Solid Waste or Public Works Department to find out how to properly dispose of potentially dangerous items in your area or call the Household Hazardous Waste Hotline 800-732-9253. (To follow up in more detail on hazardous items use the lessons in the Hazardous Waste section.) To learn more about priority PBTs go to: http://www.epa.gov/pbt/cheminfo.htm.

Fortunately, Oregonians are being educated to reduce, reuse and recycle as much material as possible. In 1999, Oregonians recovered 37% of the total waste generated. Of these recovered materials, 66% was recycled, 19% was burned for fuel, and 15% was composted.

Procedure:

- Read and discuss the poem, "Sarah Cynthia Sylvia Stout" by Shel Silverstein.
- **What do you think happened to Sylvia Stout? Why is it important to take the garbage out? Once it is out, where does it go--Where exactly is "away"?**
- **How do you think trash is disposed?** Tell them in Oregon, trash is usually landfilled and a small amount is burned at special factories or plants.
- **Is it okay to dump your garbage out in open areas, ditches, ravines or forests? NO! Why not?** Students should conclude reasons like: it looks ugly, it can pollute the environment, or hurt animals or people that might come in contact with the garbage.
- **Does anyone's family burn garbage at home?** Explain to the children that fumes and gasses coming from a trash fire is unhealthy. **Fumes can hurt your eyes and your lungs. Especially fumes from burning plastics--never, ever burn plastics!**
- **Never get close to the fire or breathe the smoke!** Point out that some chemicals cannot be seen or smelled, so it is not always obvious when something is harmful. Also, let them know that they should never set things on fire because it is bad for the air and for people and animals who breathe the polluted air.
- Show and discuss transparency, "Where Trash Goes."
- **What might happen if the landfill gets filled up? Where would we put the trash? Finding new land to build a new landfill is very expensive and difficult. And no matter how careful we are, sometimes landfills still cause pollution after many years, so we need to keep using the ones we have as long as we can.**
- Discuss with students what they might do to create less waste. Students should mention things like: not taking or using more items than you need (like paper in class or napkins in the cafeteria), returning soda cans and bottles for deposits, recycling newspaper and plastic, repairing broken objects instead of buying new ones, giving used clothes to others, etc.

- Show the transparency “Oregon Waste Hierarchy.” Oregon has a “waste hierarchy” for lessening the flow of waste to landfills. Teach students about “The 3 R’s” (Reduce, Reuse, Recycle). We want people to Reduce first, Reuse everything you can, Recycle what is possible, then properly dispose of waste as a final option!

Reflection/Response:

- What would happen if the garbage truck stopped coming? Have younger students illustrate a story. Older students might write an imaginative essay about such a story.
- Have students complete the worksheet, “Landfill!” and “Mining the Landfill.”

Extension:

- Invite the school custodian to class and ask about his or her trash removing duties.
- Visit a landfill. (See the Field Trip Guide for possible trips in your area.)
- Go on a virtual field trip to the Coffin Butte landfill in Oregon on the Internet by visiting their website at http://www.cof.orst.edu/cof/teach/for365/tours/lf_tour/.
- Have students design a motivational poster for the classroom illustrating the Oregon Waste Hierarchy using their own concepts. (See Lesson: Where is Away.)

Common Curriculum Goal:

English: Reading and Writing

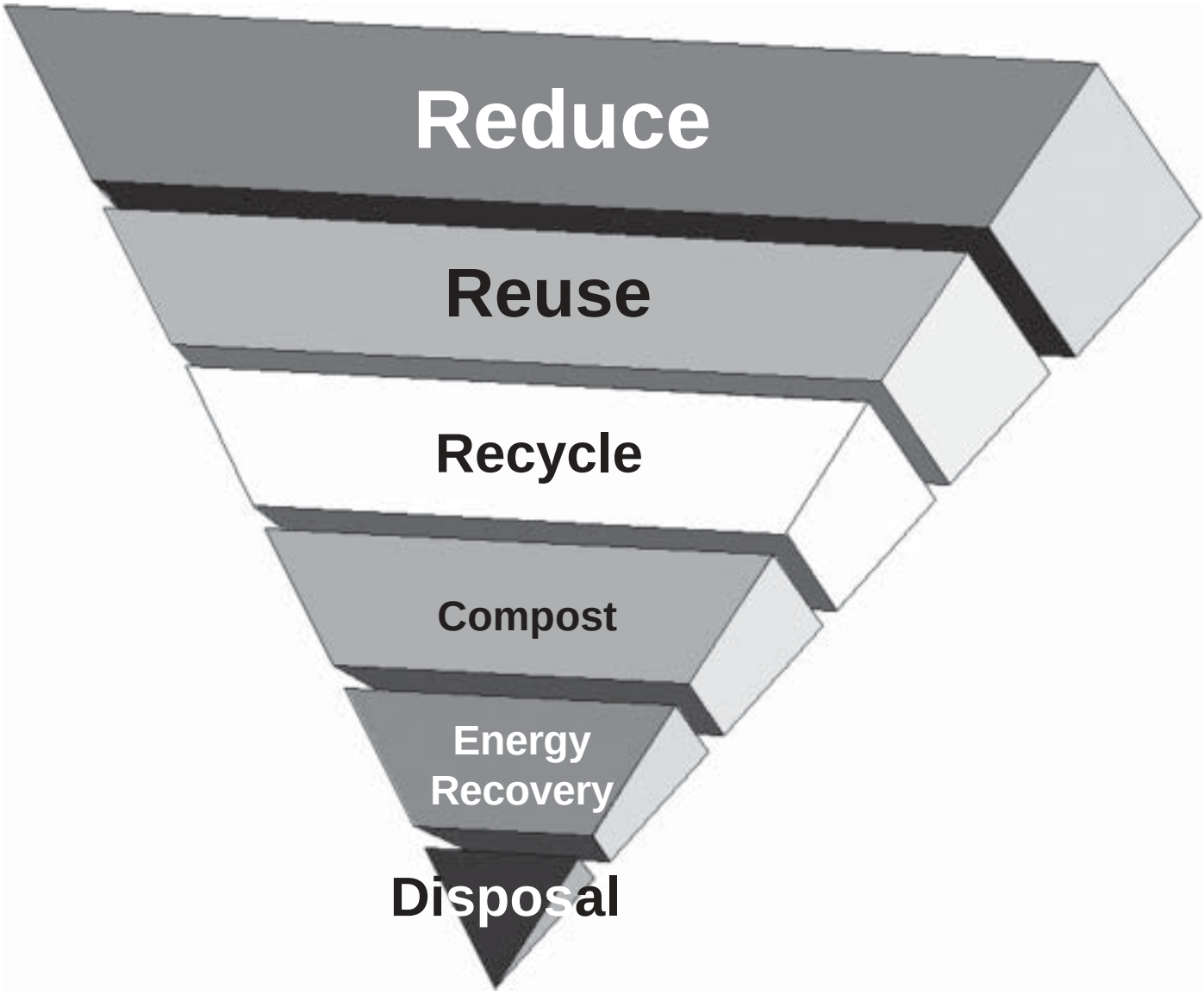
- Demonstrate inferential comprehension of a variety of printed materials.
- Use a variety of modes (e.g., narrative, imaginative, expository, persuasive) in appropriate context.

Grade 3 Benchmark:

- Identify cause and effect relationships and make simple predictions.
- Write in a variety of modes (e.g., narrative, imaginative, expository, persuasive).

An example of modern society's growing trash problem.

Overhead: The Oregon Waste Hierarchy

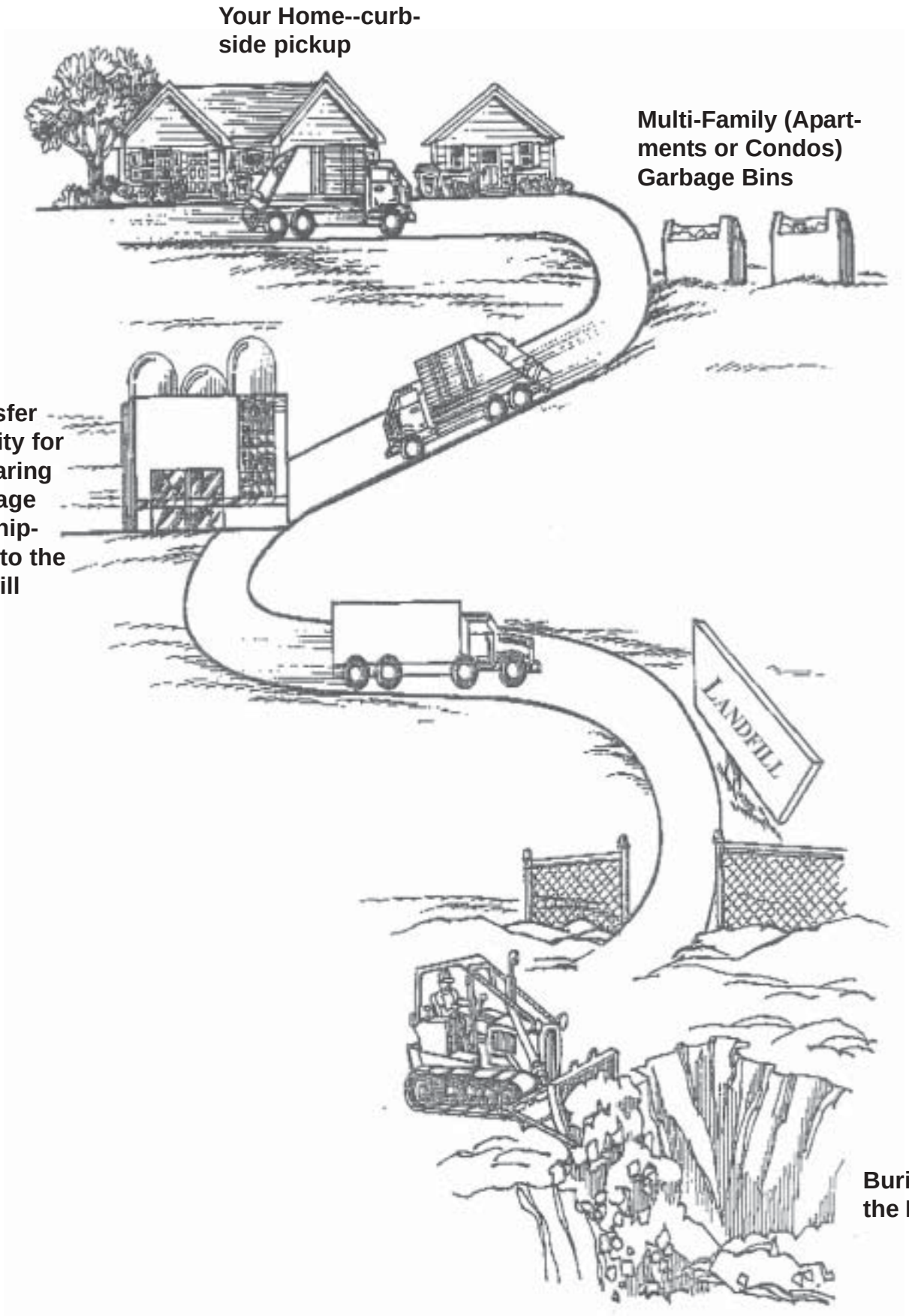


How the Trash Pile Grows

Written by Betty Miles, *Save the Earth Ecology Handbook for Kids,* 1974.
Borrowed with permission from *A Way with Waste,* Washington Department of Ecology (1990).

Buy it, try it, throw the trash away!
Take it, break it, throw the trash away!
Get it, use it, finish it , lose it.
Wear it, tear it, throw the trash away!
Soda pop, box top, once you start you can't stop.
Buy it, show it, nothing left but to throw it!
Throw the trash away!
(Oh, no—where is "away"?)

Overhead: Where Trash Goes



Source: South Carolina Department of Health and Environmental Control: *Action for a Cleaner Tomorrow* (1996)

Worksheet: Landfill!

Draw arrows to show each step from first, throwing a juice box away to finally, the juice box going into a landfill. Number and label each of the steps from first to last to show what is happening.

Source: Minnesota Office of Environmental Assistance: *Whata Waste K-6 Waste Management Education Curriculum*

Worksheet: Mining the Landfill

Help! Some very valuable things are on their way to the landfill.

Save them from being thrown away. Circle in blue, the things that can be recycled. Circle in green, things you could reuse. Some items may be both! Be sure to look for:

newspaper	tin cans	plastic bag	cardboard	jars
crayons	bottles	grocery bags	pencils	milk jugs
margarine tub	blank paper	old toys	box	art paper
brush	motor oil	aluminum	plates	sock

Can you find some bonus words too? What do they tell you?_____

_____

S O C K Y A R E D U C E L M N O P
V W X Y Z L X R E P A P K N A L B
G H I T B U T E N I R A G R A M J
F T X I P M I L K J U G S S Q R S
L P E N C I L S C O L D T O Y S A
U N E C V N R E U S E I C X M D X
N I T A M U S A V E C R A Y O N S
C E B N C M A B C B N Q R S T E R
H O W S U X P Q A T O M D R O G E
B A R S Z P Y G B S I X B L R A C
A R E L P L R M R O T B O X O B Y
G T U Z J A R S U P U O A K I R C
S P S K R T P K S M L T R D L A L
F A E L M E P E H O L T D M L G E
R P X Y Z S O P R C O L D O N T M
O E C Y T N E V E R P E W A S T E
G R O C E R Y B A G S S E R O X J

Source: South Carolina Department of Health and Environmental Control: *Action for a Cleaner Tomorrow* (1996)

Teacher's Key: Mining the Landfill

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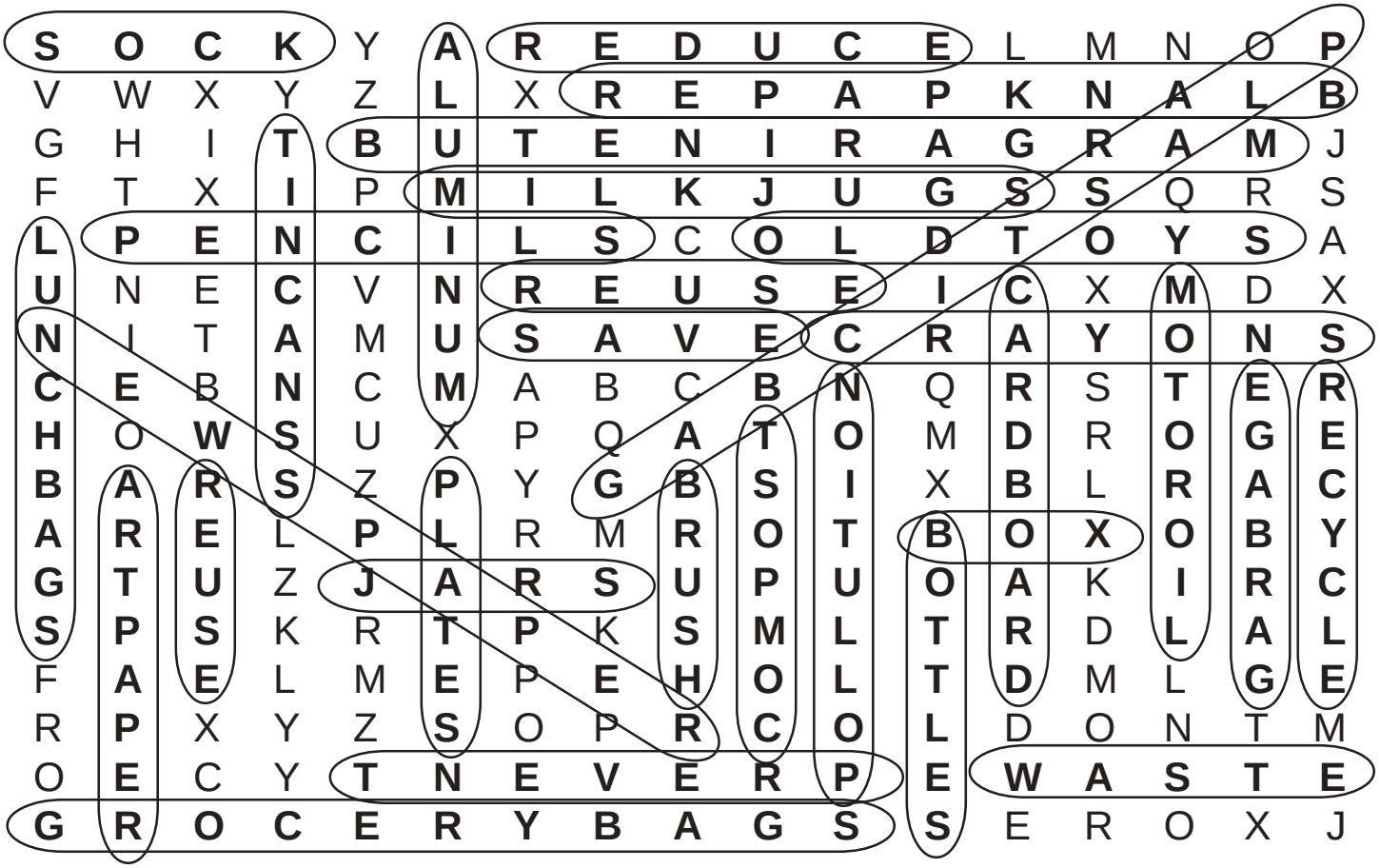
crayons	bottles	grocery bags	pencils	milk jugs
margarine tub	blank paper	old toys	box	art paper
brush	motor oil	aluminum	plates	sock

Can you find some bonus words too? What do they tell you? COMPOST GARBAGE,

REDUCE, REUSE, RECYCLE, PREVENT WASTE & POLLUTION, SAVE LUNCHBAGS



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