

Grade 1

SWA Classroom Presentation Pre Lesson Plan

Objectives:

- 1) Students will learn how garbage is processed in Palm Beach County.
- 2) Students will gain an understanding of how recycling reduces the amount of garbage that has to be thrown away.
- 3) Students will understand that the amount of garbage they throw away has an effect on animals and plants.

Sunshine State Standards: Science:

How Living Things Interact With the Environment

Standard 2: Benchmark 2:
Knows that the activities of humans affect plants and animals in many ways.

Language Arts:

Listening, Viewing and Speaking

Standard 1: Benchmark 1:
Listens for a variety of informational purposes, including curiosity, pleasure, getting directions, performing tasks, solving problems, and following rules.

Materials:

- 1) Illustration of Transfer Station
- 2) Pictures of recyclables
- 3) Soda can or any other product with a recycle symbol on it

Time:

45 minutes

Evaluation:

Assess students' understanding of the material presented by questioning them throughout the lesson.

Check students' answers during the "Recycling Race" activity.

Homework:

Ask the students to find out which day the recycling truck comes to their neighborhood to collect recyclables.



Background for Teachers:

The garbage from your home, apartment or townhome is collected by garbage trucks and taken to one of five transfer stations located throughout Palm Beach County. At the transfer station, garbage is transferred onto large semi-trailer trucks. The large trucks can hold 4 truck loads of the smaller ones. *(This procedure allows the smaller trucks more time on their route, it reduces traffic on the highway and saves fuel.)*

After the garbage is loaded into the larger trucks, it is driven to the Solid Waste Authority of Palm Beach County's Waste-to-Energy facility in West Palm Beach. The lightweight garbage is shredded and burned so that it can be used as a fuel source to generate electricity. The ashes leftover from the burning process are placed in a sanitary landfill along with any unburned garbage. *(Sometimes people say that garbage goes into a dump; however, dumps are no longer used because they were not environmentally-friendly. State and federal regulations require landfills to have many environmental protective systems installed and maintained. In addition, the landfill is monitored on a regular basis.)*

The landfill is filling up rapidly because so many people throw away a lot of garbage. One way to stop the landfill from filling up is to recycle as much of the garbage as possible. Right now in Palm Beach County, the following items are recyclable at home:

Place in the recycling bin for containers:

*aluminum cans
aluminum foil
aluminum trays
glass bottles & jars
milk cartons
juice cartons
drink boxes
all plastic containers*

Place in the recycling bin for paper:

*newspapers
magazines
catalogs
phone books
brown paper bags
corrugated cardboard*



Procedure:

1. Elicit responses from students as to what happens to garbage after the garbage truck comes to collect it at their houses.
2. Briefly explain how garbage is processed (*refer to "Background" section and use illustration of Transfer Station*).
3. Stress the fact that landfills are filling up quickly and that means more land will be used for this purpose instead of providing homes to animals, people and plants. Emphasize that we can reduce the amount of garbage we throw away by recycling.
4. Draw the recycling symbol on the chalkboard. Write the word "Recycle" and explain what recycling means. Show a recycle symbol on a product.



5. Tell the students that we can recycle many things. Show pictures of the recyclables (*use enclosed pictures*) accepted in Palm Beach County's recycling program.
6. Write the words "Blue recycling bin" on the board. Ask the students to tell you as many items they can think of that go in the blue recycling bin. Write their answers on the board.
7. Write the words "Yellow recycling bin" on the board. Ask the students to tell you as many items as they can think of that go in the yellow recycling bin. Write their answers on the board. At the end of the activity, erase the board.
8. Explain to the students that the next activity is called "Recycle Race". Explain the activity directions to the students:

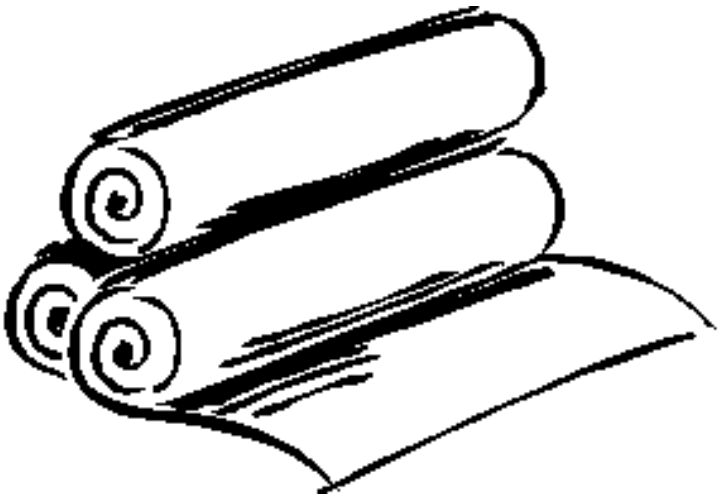
"RECYCLE RACE" GAME

Directions: The whole class will be racing against the clock. They will have a total of 3 minutes (or whatever time limit you would like to set) for everyone to take one turn. The object is to "beat the clock". There will be one single-file line. Show the first student a picture of a recyclable (use the enclosed pictures that you used in the beginning of the lesson). The student will look at the picture and say where it belongs: either the yellow recycling bin or the blue recycling bin. If the student answers incorrectly tell him to try again. The student must answer until he gets it correct. (This will waste time, so the object is to have the students answer as quickly as possible and move on to the next student so they can all finish before time runs out.) After the student answers correctly, he returns to the end of the line and the next person goes. After the team has finished, check to make certain the clock has not run out. If the class has beat the clock, they have won the game.

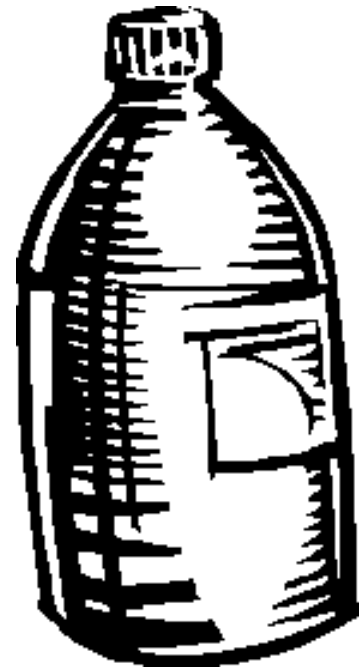
9. Ask the class to get in a single-file line. Then play two times.
10. After the activity, ask the students the following:
 - (1.) How does recycling reduce the amount of garbage that is thrown away?
 - (2.) Why is it important to stop throwing away so much garbage?
 - (3.) Why is it important to recycle?
11. Explain the homework assignment.



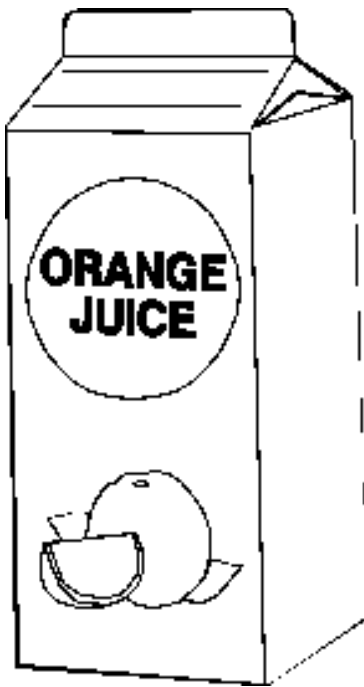
PICTURES OF RECYCLABLES



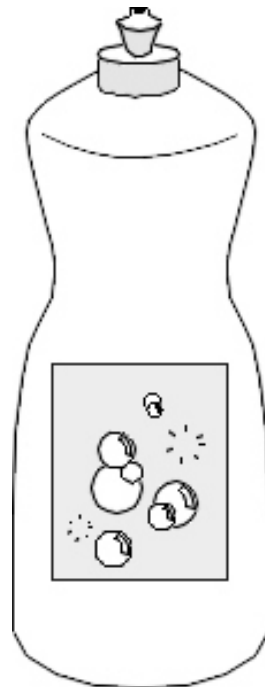
aluminum foil



plastic soda bottle



juice carton

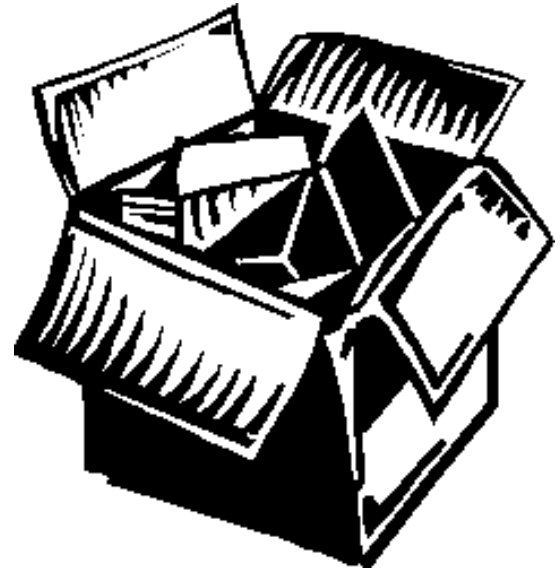


plastic bottle

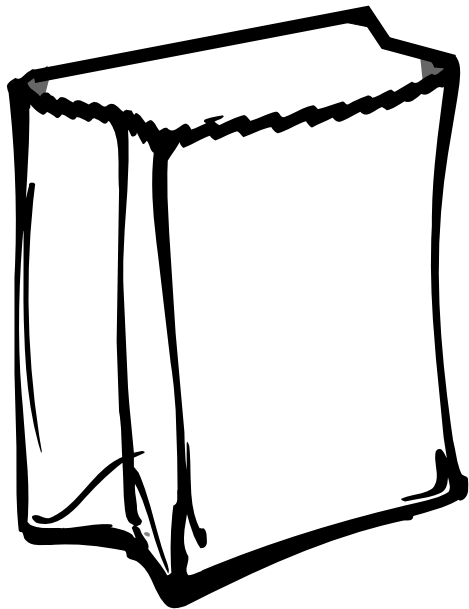
PICTURES OF RECYCLABLES



catalog



**corrugated
cardboard box**

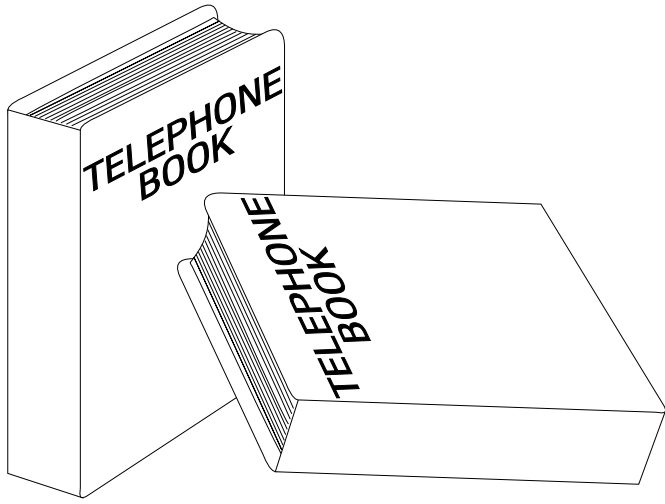


brown paper bag



Newspaper

PICTURES OF RECYCLABLES



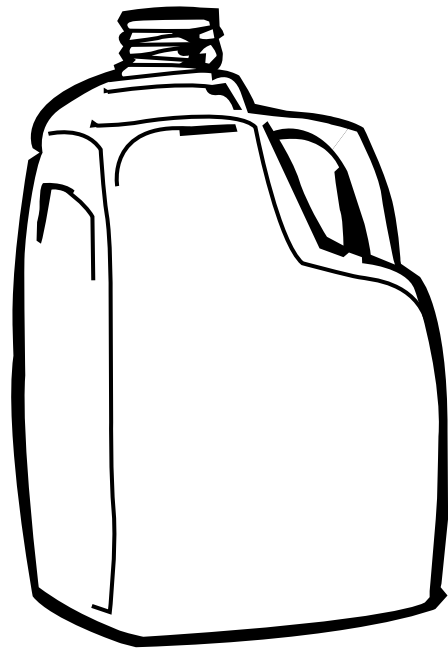
telephone books



magazine



aluminum can



plastic jug

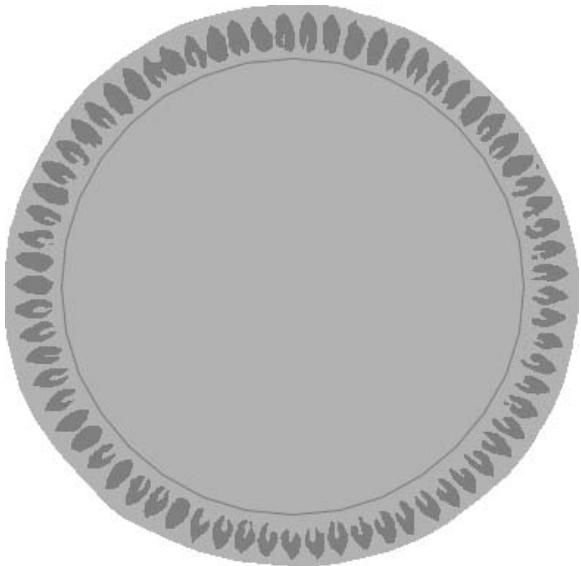
PICTURES OF RECYCLABLES



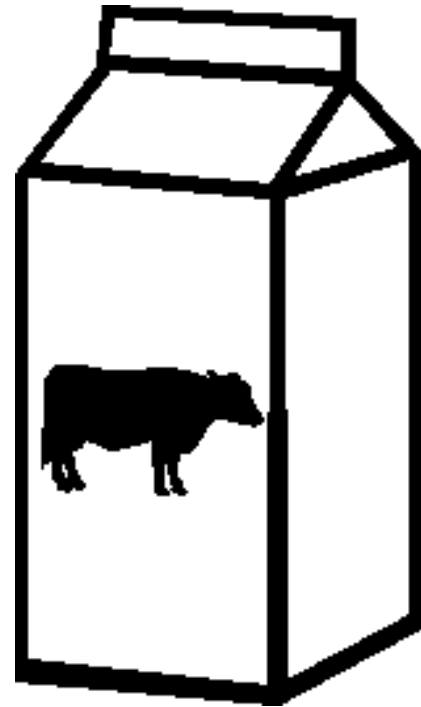
glass jar



plastic bottle

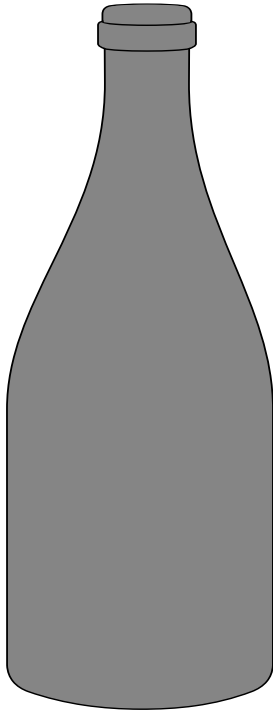


aluminum foil tray

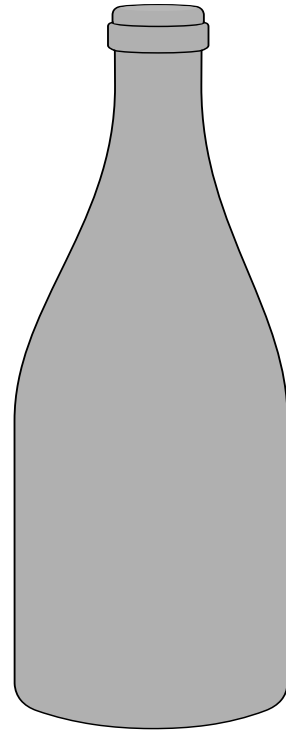


milk carton

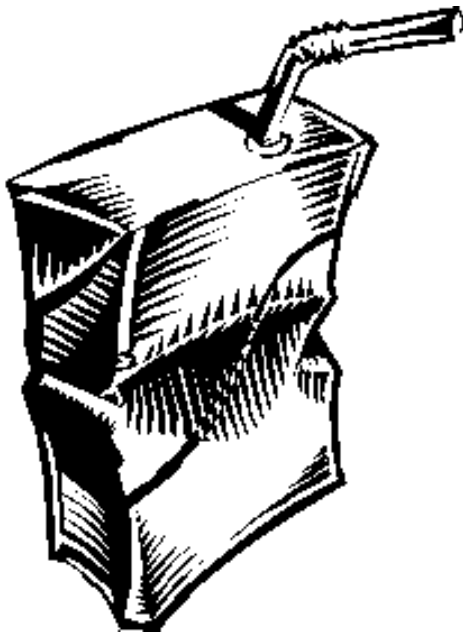
PICTURES OF RECYCLABLES



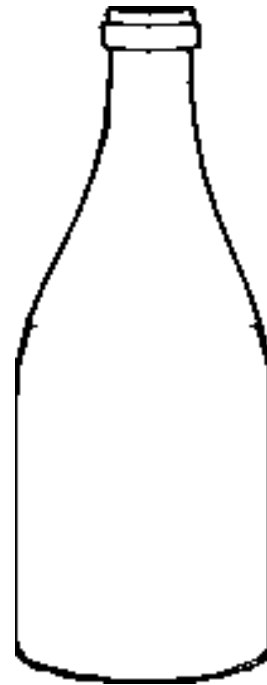
brown glass bottle



green glass bottle



drink box



clear glass bottle

Transfer Station

Garbage enters on upper level.

1

4

2

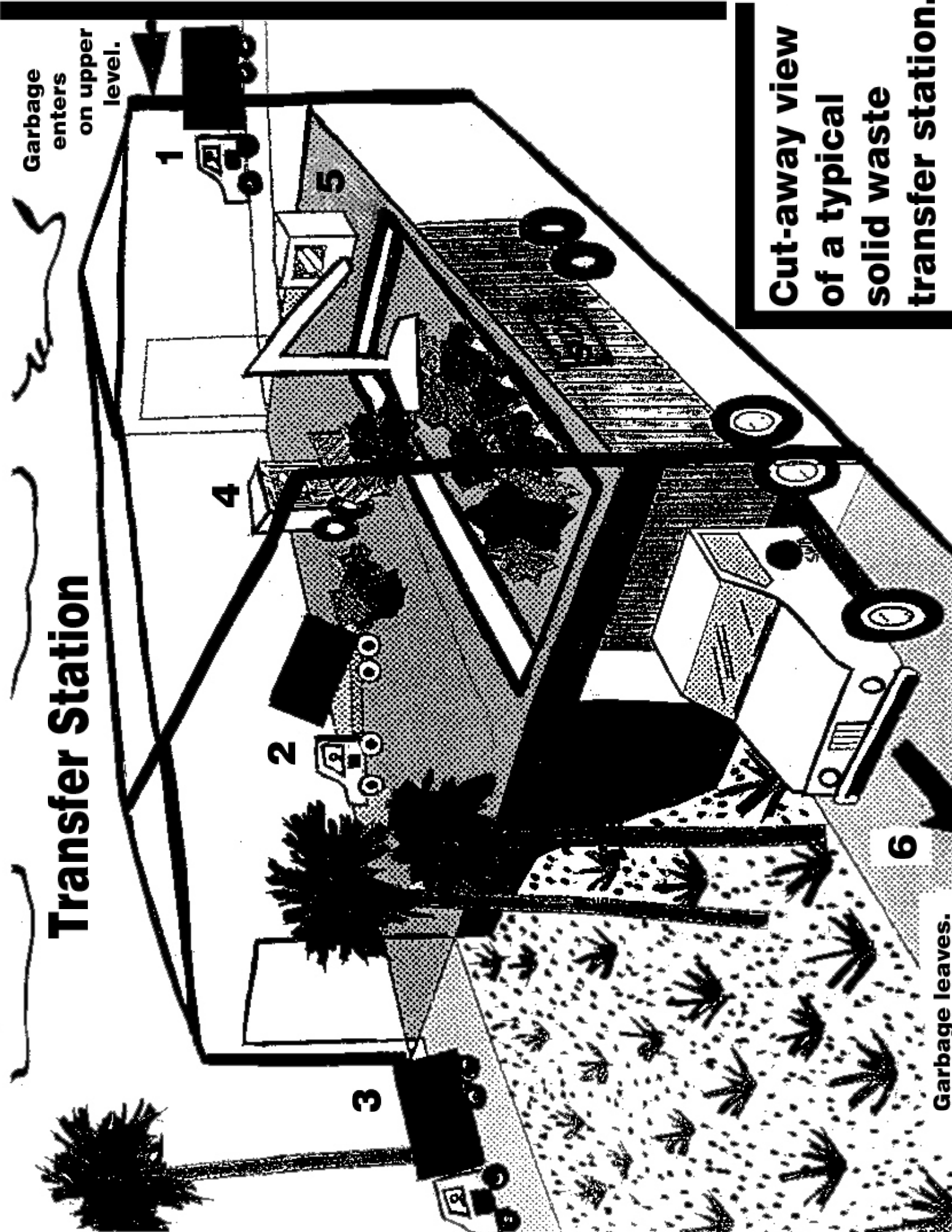
3

5

6

Cut-away view of a typical solid waste transfer station.

Garbage leaves.



Grade 1

SWA Classroom Presentation Post Lesson Plan

Objectives:

- 1.) Students will review the items that are accepted in Palm Beach County's recycling program.
- 2.) Students will add and subtract whole numbers using objects to solve real world problems.

Sunshine State Standards:

Math:

Number Sense

Concepts & Operations

Standard 3: Benchmark 3:

Adds and subtracts whole numbers to solve real-world problems using appropriate methods of computing such as objects, mental mathematics, paper and pencil and calculator

Materials:

- 1) "I Recycle Right" certificates
- 2) "Boomin' Aluminum" activity sheet
- 3) "Boomin' Aluminum" activity answer sheet

Time:

30 minutes

Evaluation:

Assess students' understanding of the material presented by listening to their group activity work.

Check students' answers on the "Boomin' Aluminum" activity sheet.

Homework:

Ask the students to find four items at home that have the word "Recycle" on it and to write the four items on a piece of paper.

OR

Ask the students to use magazine pictures to create a collage of things they can recycle at home.



Background for Teacher:

Recycling is beneficial for the environment because it saves natural resources, conserves landfill space, and conserves energy. For example, aluminum is made from a non-renewable resource called bauxite ore. It is most prevalent in Australia. Much pollution is created and much energy is used when bauxite ore is mined and extracted from the earth. On the other hand, when aluminum is recycled, much energy is saved and bauxite ore, a precious natural resource, is saved.

In Palm Beach County's recycling program, we can recycle many items at home, at school, at work, at parks and even beaches. Our program is among the top in the country. Through the active participation of residents, approximately 50% of the waste generated in the county is recycled. This percentage will continue to increase in the future because children today recycle out of habit, making it a part of their daily routine. That means the landfill will not fill up as quickly. In one year, recycling saved the equivalent of 2 acres of landfill space 74 feet high from being filled in Palm Beach County. Recycling matters!

Procedure:

1. Review the importance of recycling.
2. Review the items that can be recycled at home and at school.
3. Distribute the "Boomin' Aluminum" activity sheet.
4. Explain the directions for side one of the activity sheet and allow the students time to complete side one of the activity sheet.
5. Review the answers to side one.
6. Explain the directions for side two of the activity sheet and allow students time to complete it.
7. Review the answers to side two.
8. Distribute the "I Recycle Right" certificates to students.
9. Encourage the students to tell family members and friends to recycle.
10. Assign and explain homework.





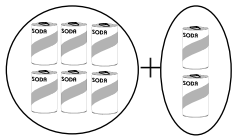
Boomin' Aluminum Activity Sheet



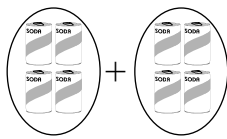
Name: _____ Date: _____

Count the cans to make addition problems and then solve them.

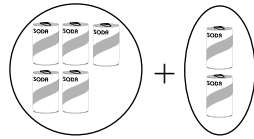
Example:



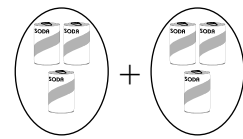
$6 + 2 = 8$



$4 + 4 = 8$



$5 + 2 = 7$



$3 + 3 = 6$

Solve the recycling word problems.

1. Melissa recycles 7 newspapers every week. Mike recycles 4 newspapers every week. How many newspapers do Melissa and Mike recycle all together in one week? _____
2. David put 3 soda cans in the blue recycling bin. His mom put 5 soda cans in the blue recycling bin. How many cans are in the blue recycling bin? _____
3. Edward put 4 glass bottles in the blue recycling bin. His brother put 5 glass bottles in the blue recycling bin. How many glass bottles are in the blue recycling bin? _____

Color the recycling bin blue. Look at the pictures carefully and color only the ones that belong in the blue recycling bin.



Color the recycling bin yellow. Look at the pictures carefully and color only the ones that belong in the yellow recycling bin for recycling.





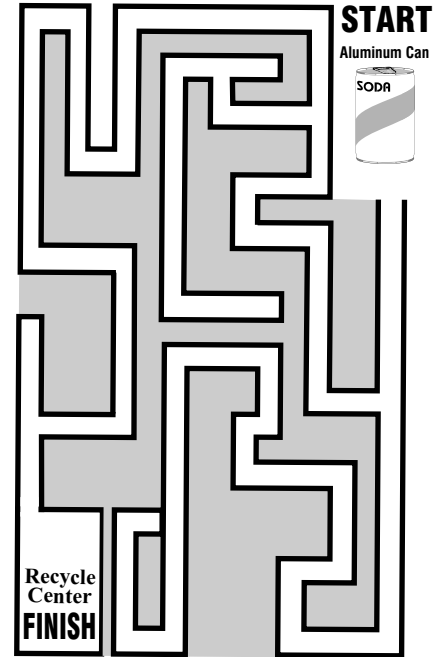
Boomin' Aluminum Activity Sheet



Name: _____ Date: _____

When you recycle, you help the earth.
Write the word "recycle" two times.

Find the path to the recycling center.



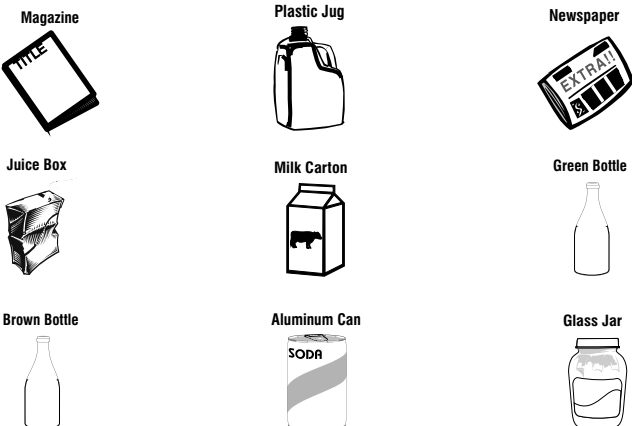
Color the recycling bin blue.



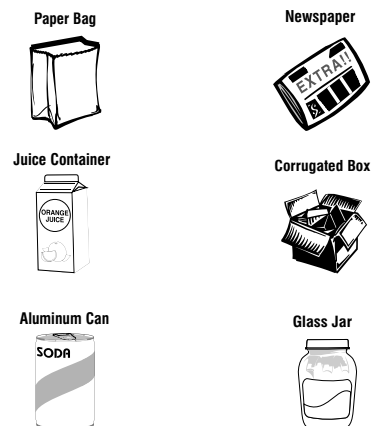
Color the recycling bin yellow.



Color the items that you can recycle in the *blue* recycling bin.

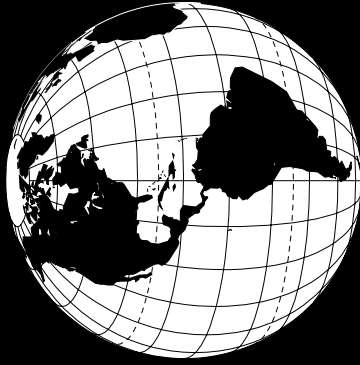


Color the items that you can recycle in the *yellow* recycling bin.

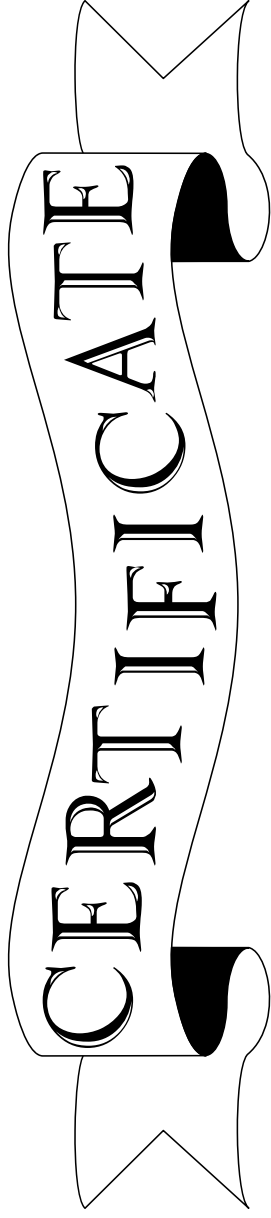




**Recycling Saves
Resources
and
Energy.**



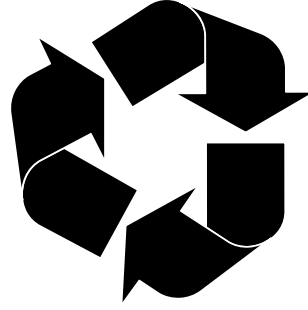
**Recycling Helps
the Earth.**



I

Recycle Right

Name _____



Signed _____

Date _____

