

Waste Watchers

Understanding Source Reduction and Reuse

Objectives

Students will be able to 1) identify opportunities to reduce waste in the classroom; and 2) evaluate their waste prevention solution(s).

Web-Directed Research

These activities correlate with the Keep America Beautiful “Clean Sweep U.S.A.” web site targeted to grades 6-8, and are designed to expand on the objectives in this lesson. The web site can be found at www.kab.org/cleansweepusa.

1. Define the terms “**source reduction**,” “**waste prevention**,” and “**light weighting**”. Have students cite their online sources.
2. Find examples of products, containers, or packaging that have been source reduced. This might include items that have been “light weighted” (e.g., cars; steel cans; beverage containers made of aluminum, plastic, or glass), a concentrate, a refillable, higher mileage tires, etc. Report back on one specific item.
3. Locate one or more places in their community that can accept items for reuse (e.g., computers, clothing, furniture, cell phones, etc.) Have students describe a “waste exchange” and locate a waste exchange in their state or a nearby state.
4. Find out about the Earth Day Groceries project. Help students initiate this as a class project or as a mentoring activity with grade school students.

Web sites to consult:

- U.S. Environmental Protection Agency Office of Solid Waste (<http://www.epa.gov/osw/>)
- Earth 911 (www.earth911.org) environmental glossary and “green” shopping tips
- California Integrated Waste Management Board Waste Prevention World (<http://www.ciwmb.ca.gov/wpw/>)
- Steel Recycling Institute (www.recycle-steel.org)
- Glass Packaging Institute (www.gpi.org)
- American Iron and Steel Institute (<http://www.autosteel.org/ulsab/>)
- Can Central (<http://www.cancentral.com/enviro5.htm>)
- American Plastics Council (www.PlasticsResource.com)
- Earth Day Groceries Project (<http://www.earthdaybags.org/> or www.afandpa.org)

In Class Activity

Method

Students will brainstorm ways to reduce waste in the classroom and evaluate these ideas using a critical thinking chart.

Materials

writing materials, copies of Critical Thinking Chart (provided)

Vocabulary

reduce, reuse, source reduction

Procedure

1. Lead a discussion with the students on how the class might reduce waste in the classroom. Use the following questions to assist:
 - What are some ways we might reduce waste or trash in our classroom?
 - Would it be difficult or relatively easy to do these things? Why or why not?
 - What behaviors and/or attitudes might require change to reduce waste. Why?
 - Would we be able to do these things for free or at low cost? If we needed money to reduce waste, how would we raise the funds?

2. Divide students into working groups with at least three members. Assign the following roles to each group:

Recorder: fills out the chart as the group prepares its report

Quality Check: checks to be sure that everyone understands the instructions and that all are given a chance to participate

Reporter: reports the group's work to the class

3. Have the groups first brainstorm as many different ways as possible to reduce waste in the classroom. The recorder should keep a list. Explain to the class that when you are brainstorming, every answer is recorded and considered. The time for evaluation and discussion will occur later.
4. After about 15 minutes of brainstorming, ask the groups to now select five answers on which they all agree. Students are encouraged to discuss and question all the selections.
5. Using the Critical Thinking Chart, students are to rate each of their solutions with the given questions and ratings scale. (See Critical Thinking Chart, included in this section.)
6. Lead a class discussion on the best solution with the highest rating from each small group. Create a master chart using the solutions that received the highest total from each group. List these in order, from highest rank to lowest. If any solutions have the same total, take a class vote to break the tie.
7. Ask the class if they agree or disagree with any of the solutions. Then ask:
 - As a class, are we prepared to implement all five solutions, or should we begin with one or two?
 - Could we actually implement these solutions? Why or why not?
 - Do we need approval and/or cooperation from others in this building to make these strategies work? List specific individuals and discuss their roles.
8. Select one or more solutions and determine the feasibility of implementation.

Assessment

Students will give three examples of how group interaction supports problem-solving. Students will give three reasons why charting and applying criteria can help in the decision-making process.

Standards of Learning

The North American Association for Environmental Education (NAAEE) Guidelines for Excellence in Environmental Education can be found at <http://naaee.org/npeee/learnerguidelines/8th.html>. The Guidelines for Learning which correlate to this lesson are: Strand 1 A, B, C, D; Strand 2.4 A, B; Strand 3 A, B, C; Strand 4, A, B, C, D.

Critical Thinking Chart

Directions:

1. In your group, brainstorm ways to reduce waste in your classroom. Write each solution in the chart.
2. Using the scale below, rate five solutions according to how you would answer the question in the chart.
3. Add the ratings for each solution to find its total. The highest total indicates the best solution.
4. Assist the reporter in your group to present these solutions to the class.

0 1 2 3 4 5
(no maybe yes)

SOLUTIONS	Will it be easy to do?	Will it have a low cost?	Will it interfere with learning?	Will it be effective	TOTAL
1.					
2.					
3.					
4.					
5.					