

THE INTEGRATED APPROACH



Contact Information

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Grades

5-12

Objectives

Students will be able to: 1) identify the five options for solid waste management: source reduction, recycling, composting, waste to energy, and sanitary landfills; 2) identify appropriate methods of waste management for items commonly found in the municipal solid waste stream; and 3) learn that these methods can vary for different areas.

Method

Students will participate in a relay race in which they will select waste items and identify how they should be handled.

Materials

Items from the trash list at the end of the lesson, printed on 35 index cards or note paper backed with a re-usable adhesive (is using index cards, use masking tape or other adhesive.)

Vocabulary

Compost, light weighting, recycle, sanitary landfill, source reduction, waste-to-energy.

Procedure

1. Before class, post the items from the trash list on the chalkboard or a wall in the classroom. Make sure that the items are arranged randomly.
2. Discuss with students the five methods of managing municipal waste listed in the objectives box. Have students describe each method. Clarify any misconceptions students may have about what each method involves.
3. Explain to students that they will be playing a game in which they have to decide how to handle various waste items.

4. Divide the class into five teams. Assign each team one of the five methods of waste management. For example, Team 1 would be the Source Reduction team and Team 2 would be Recycling, etc. Line each team up relay race fashion across from the chalkboard where the trash items are posted.
5. Instruct students that on your mark the first person in each team will race to the chalkboard and choose a waste item that would be appropriate for their group to handle. For example, the compost team would choose a banana peel, but not a glass jar. If necessary discuss two or three examples with the students. Some extra explanation may be necessary for the Source Reduction team. The items they will choose will primarily be objects that could be reused rather than disposed of. After the first player from each team has an item, they race back, tag the next racer, and go to the end of the line. The race continues in this manner until all of the waste items have been removed from the board. Some teams may run out of choices before others.
6. When all of the items have been removed from the chalkboard, have students return to their seats. On the chalkboard draw five columns, one for each team (representing each waste management method), and label them at the top with each team name. Now ask each team to come forward, one at a time, and place their cards in the correct columns. Each team may designate one player to do this, if you prefer.
7. When all of the columns are completed, tally the team scores as a class. The team earns one point for each item that was chosen appropriately. One point is deducted for each item that is chosen incorrectly. At the point some lively discussion should be generated. Some of the items on the list should obviously be recycled, composted or landfilled, etc. Some of the items can be handled in a number of ways. For instance, automobile tires can be reused as swings or playground equipment.

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(continued)

They can be ground and recycled into a number of products. They are also a very desirable source of fuel for waste-to-energy facilities. For items such as this, ask the class to reach a scoring consensus based on what waste management options are available in your community. Remember that waste management options may change from time to time.

8. Ideally, this activity will lead to a great deal of discussion about how waste is handled in your community. After the scores are tabulated, explain that actually everyone is a winner. When municipal solid waste is handled in the most appropriate manner for each community, we are all winners.

Trash List

Aluminum beverage can	paperback book
Apple core	pencil stub
Ash	PETE soda bottles
Automobile tire	aluminum siding
Automotive oil	2x4 lumber
Cereal box	plastic container
Chicken bones	plastic grocery bag
Clock	pumpkin seeds
Coffee grounds	rubber band
Doll	shirt button
Egg shell	steel can (soup)
Glass jar	t-shirt
Grass clippings	telephone book
HDPE milk jug	used bandage
Hub cap	used dental floss
Music cassette	used facial tissue
Newspaper	
Notebook paper	
Orange peel	
Paper clip	
Paper egg carton	
Paper grocery bag	