



RIGHT PLACE RELAY

Description:

Students participate in a relay race to explore how to properly dispose of their waste using the options commonly available in Omaha: recycling, energy bag, and landfill.

Objective:

- Students will discover many things that people can do to help protect Earth's resources.
- Students will understand the right place to dispose of their waste.
- Students will understand the complexity of waste management and the options available to them in Omaha

Standards:

All Grade Levels

- SS X.3.3 Describe relationships between humans and the physical environment.
- SS X.1.2.a Identify and model rights and responsibilities of citizens at the community level.

Materials:

- 3 sets of "waste" items
- plastic containers - 3 brown labeled landfill, 3 blue labeled recycling, 3 orange labeled energy bag





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Background Info:

In Omaha, there are three main things we can do with our waste when we dispose of it.

- Landfill: Items placed in the garbage will go to our landfill.
- Recycling: There are many different ways to recycle in Omaha. The most common is the curbside recycling cart program, which is available to Omaha residents. Residents can also drop off recyclable items at a variety of locations. Items that are recycled are broken down into their base component parts and then made into something new.
 - In Omaha we can recycle the following in our mixed recycling curbside carts:
 - Hard plastics numbered 1, 2, 3, or 5;
 - Paper products, including newspaper, office paper, cereal boxes, cardboard boxes, magazines, cardboard drink and soup cartons, etc.
 - Aluminum cans
 - Tin/steel cans.
 - Many items in Omaha can be easily recycled at various drop off locations:
 - Some soft plastics (plastic bags, bubble wrap, etc.) go to stores (i.e. grocery stores) participating in the WRAP program for recycling.
 - Glass can be dropped off at glass recycling drop off locations around the city.
 - For a more comprehensive list of where to take recyclable items in Omaha, check out <https://www.keepomahabeautiful.org/resources/recycling-reuse-guide.html>
- Hefty® EnergyBags® - for non-recyclable, soft/flexible plastics
 - Once the orange bags are full of material and tied shut, residents can place the bags in their curbside green-lid recycling carts or take the bags to one of the **City's recycling drop-off sites**. Examples of non-recyclable plastics that are accepted by the Hefty® EnergyBag® program include candy wrappers, potato chip bags, toothpaste tubes, and shredded cheese bags.
 - Firstar Fiber Corporation states that initially when the Hefty® EnergyBag® program piloted in Omaha, a small quantity of material was sent to a cement kiln where it was used as a coal replacement, as this option burns hotter and cleaner than coal. However, this process was only considered a secondary market. The primary end market of this material now goes to pyrolysis facilities around the country. Pyrolysis is a thermochemical treatment in which plastic material is exposed to high temperatures in the absence of oxygen, and goes through chemical and physical separation into different molecules. This process converts plastic material into new products like transportation fuels, naphtha, and wax.
 - According to Firstar Fiber Corporation, material from the Hefty® EnergyBag® has also been used to make other products such as plastic lumbers like fence posts, railroad ties, and ceiling board.





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Background Info Cont:

In order to best use our resources, when we are considering waste disposal, recycling is the best of these three options, as it allows materials to be used over and over again. However, it is very important to recycle right. Placing non-recyclable items in the recycling bin can contaminate other recyclables. Just because something is placed in your recycling bin, doesn't mean that it will be recycled. The energy bag program allows our waste items to have another life besides the landfill, so it is better than simply sending waste items to the landfill.

Activity:

1. Discuss with students the disposal options in Omaha.
 - a. Ask students what they can place in their curbside recycle bins. Prompt them with clues until they arrive at the answers: Plastic (specify what kinds of plastic), paper products, tin/steel, and aluminum. If possible, use common classroom items to demonstrate each item (milk cartons, a plastic water bottle, a plastic hand sanitizer bottle, etc.)
 - b. Ask students if they know about Omaha's Energy Bag program. Explain that this orange bag program is for non-recyclable plastics.
 - c. If your school composts, ask students to consider what they do with compostable materials at home (although some may compost, most will likely put their compostable materials in the landfill. (NOTE: although commercial composting is available in Omaha, it is not a public option and therefore not used for this activity.)
2. Divide students into 3 groups.
3. Give each group a bag of waste items (trash, recycle curbside or dropoff, and energy bag).
4. Place the empty plastic bins at the end of an open area. Each group of students should have one landfill, one recycling, and one energy bag bin.
5. Have students line up in their groups at the opposite end of the open area.
6. One at a time run one item to place the items in the appropriate bin (blue for recycle, brown for trash, orange for energy bag).
7. For each turn, a participant can either run an item to the end OR correct an item that is in the wrong bin.
8. The first team to have all the items in the correct spot is the winner. NOTE: if students have items in the incorrect bin, but they don't know what is wrong, you can choose to give them hints or not. However, they should work as a group to figure out the mistake and correct it.



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Activity cont:

Items and Answers:

- Landfill
 - Tin foil (tin foil is an alloy that is difficult to recycle)
 - Baby diaper (too soiled to recycle, and it is a mix of materials)
 - Coffee cup (the mix of materials used in making coffee cups makes them challenging to recycle)
- Recycle (curbside or dropoff)
 - Plastic bottle (even if it doesn't have a number, almost all plastic water bottles are #1 plastic)
 - Aluminum can
 - Newspaper
 - Drink carton
 - Glass jar (cannot be placed in a curbside bin, but is recyclable in drop off locations around Omaha)
 - Plastic bag (cannot be placed in a curbside bin, but is recyclable in drop off locations around Omaha)
- Energy Bag
 - Straw (too small for recycling)
 - Plastic utensil (too small for recycling)
 - Food/drink pouch (soft plastic)
 - Styrofoam (#6 plastic)
 - Snack bag/wrapper

9. After the relay, discuss the following questions as a group. Students can write their answers on their handout page as you discuss the questions.

- a. Think about what you have put in the garbage can recently (in the past day or week). Think about what you put in the recycling bin. What could you have recycled that you did not? Could you have reduced this waste or reused it somehow?
- b. Sometimes the grownups in our home don't do such a great job recycling. How could you encourage the grownups you live with to recycle better?
- c. Why is it important to think about where we dispose of our waste items?

Suggested extension: watch and discuss the following video about recycling.

- Recycling Center Video Tour - <https://www.youtube.com/watch?v=8GvJL4nmt1c>
 - NOTE: this recycling facility is NOT the one we use in Omaha, but the processes are similar and the materials recyclable are the same.

Assessment:

- Participation in the relay game
- Completed *Student Page*

