
Waste Stream Dice Game



Background Information:

A **waste stream** is defined as the flow of waste from generation, through separation and collection, to final disposal. Consumers have a great hand in determining the life cycle of an object, such as a plastic bottle or piece of paper. Will it be used once and go right to the landfill? Will it be reused in a creative way? Will it be recycled or composted and turned into something new?

This game takes students on a first-hand exploration of how our choices affect the paths of everyday items. By playing along, they will get the opportunity to see the steps and processes of the waste stream.

Important Vocabulary:

Consumer – someone who buys something at a store.

Factory – a place where products are made from new and recycled materials. After leaving the MRF, recyclable materials are sent to a factory to be cleaned, shredded, and turned into pellets. Those pellets are then sold to manufactures to be made into new products.

Landfill – a place to dispose of waste by burying it and covering it over with soil.

Material recovery facility (MRF) – a specialized processor that receives, separates, and prepares recyclable materials for marketing to end-user manufacturers.

Recycling Bin – where you put items that can be recycled.

Store – a place where items made from new and recycled materials are sold.

Trash Can – where you put items that cannot be recycled.

Materials:

All items below are included in the *Don't Waste It!* Educator Check Out Program.

- Game dice (7)
- Cones with signs (7)
- Colored beads (7 colors- in a small container for each station, the beads matching the cone color)
- Pipe cleaners (30 included)

An alternative to the beads and pipe cleaners is to have students mark their journey on My Waste Stream Map. Use paper copies or laminate and use dry erase markers (one per student; 10 included).

Instructions:

1. Set up the cones in a large circle with corresponding dice, beads, and signs.
2. Before playing the game, introduce students to the vocabulary above if they have not yet learned about it.

3. Tell students to pretend that they are a recyclable item, such as a can, piece of paper, water bottle, or other common object.
4. Give each student a pipe cleaner and have them wrap a little loop at one end so the beads won't fall off. Tell them they will be creating a "wastelet" (waste bracelet) on their journey through the waste stream. Alternative: have students use My Waste Stream Map instead of beads and pipe cleaners. They should draw arrows to trace their path and put a tick mark each time they roll the dice.
5. Everyone will then pick a cone to start at or the teacher can assign a starting cone. Make sure they are not all starting at the same spot; try to even it out between the cones.
6. Once at their respective cones, students take turns rolling the die. Each die will tell students where to go, such as the recycling bin, landfill, or store. They are responsible for reading the die when they roll and following its instructions.
7. **Every time** a student rolls the die, they will collect a bead of that cone's color to add to their pipe cleaner. Each color of bead represents that particular station, whether it's the landfill, MRF, or store. Even if they end up getting "roll again" and staying at that station repeatedly, they will need to collect a bead each time the die is rolled. If they get "roll again" and there is a line they need to go to the back of the line.
 - a. Note: Students will easily get stuck at the landfill, as there is only one side of the die that sends them elsewhere. While this is part of the game, after the same students have been through numerous times and are not leaving, you may need to go in and say several of them were rescued by a seagull or employee and placed in a recycling bin! (Or anything else you can think of.)

Follow-up:

After playing for at least 10 minutes, bring students together to discuss their experiences. Ask questions such as:

- What did you notice about your travels as an object?
- Study the pattern of your beads. Why do you think it looks the way it does?
- How would you describe the flow of the waste stream? How is it different for different items?
- What was your favorite place to be?
- What happened to you at the landfill?
- Why is it important to recycle things that are recyclable?
- How would you describe the flow of the waste stream? How is it different for various items?