



STORY OF WASTE

Description:

Students participate in a simulation activity to understand what happens to waste when it is littered, recycled, composted, or disposed of in the garbage.

Objective:

- Students will gain an understanding that some materials cause greater litter and pollution issues than others.
- Students will explore the paths waste can take after it is disposed of.
- Students will better understand the process of recycling.

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.

3rd Grade

- SS 3.3.3.c Explain the importance of Earth's natural resources.

4th Grade

- SS 4.2.3 Investigate how resources are used to make other goods and produce services.

5th Grade

- SC.5.13.4.C Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

7th Grade

SC.7.13.5 Gather, analyze, and communicate evidence of the flow of energy and cycling of matter associated with Earth's materials and processes.





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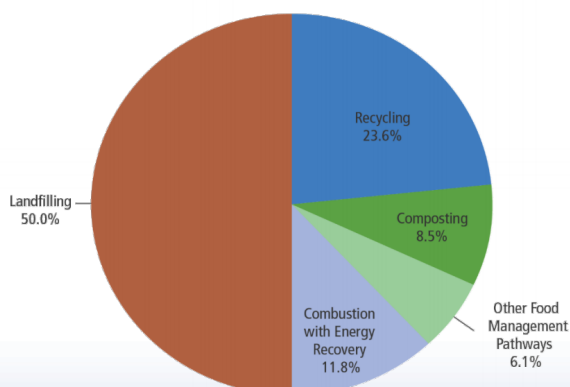
Materials:

- 18 labeled dice
- 19 station signs
- 1 landfill photograph
- 30 "object" pictures
- Masking tape
- Samples of recycled materials:
 - Toy made from recycled milk jugs
 - Bowl/plate made from recycled milk jugs
 - Pencil made from recycled denim and/or newspaper
 - Shirt made from recycled plastic

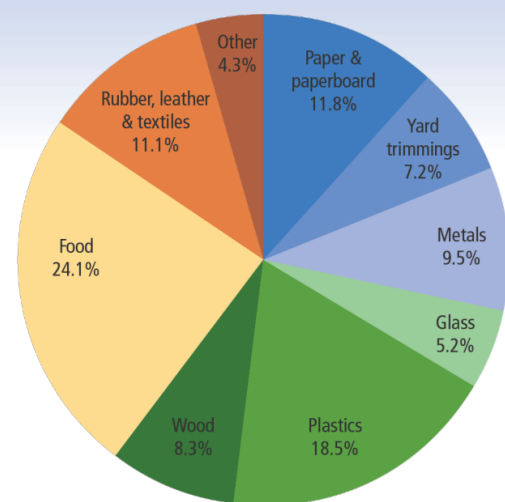
Background Info:

Americans live a very disposable life-style. We use a lot of single-use items and we are not very good at recycling. Average American person generates 4.4 pounds of trash per day – that's 1,606 pounds of trash per year. In fact, only about 25% of waste in the US is recycled. And of the plastics that we use, only about 9% are recycled. And 19% of what we throw *in the trash* is plastic. However, the biggest category of what we throw in the trash is food, which takes up 22% of our landfills. Additionally, 5% of what we throw in the trash is glass. And glass and plastic never break down in landfills. Amazingly, it takes less energy to recycled aluminum cans than it does to make new aluminum.

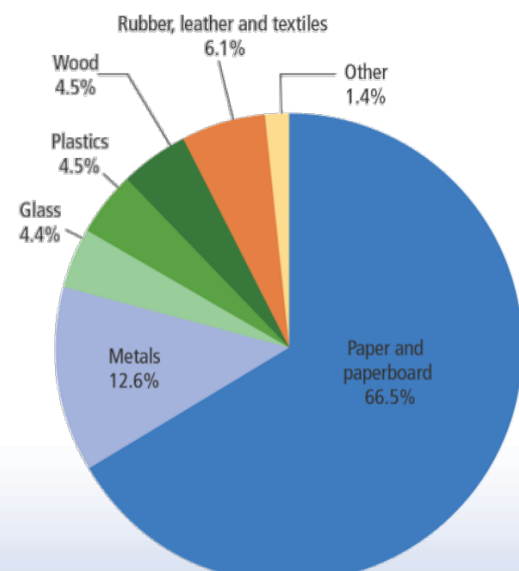
Management of Solid Waste in the US in 2018



Materials Landfilled in the US in 2018



Materials Recycled in the US in 2018





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Activity

1. Set up the activity pieces.
 - a. Place the 19 signs around the room in order. You can use the masking tape to tape them to the wall or you can simply place them face up on the floor. Start with numbers 1-6 spread out in the front of the classroom.
 - b. Place the corresponding dice at each sign - if you look in the lower corner of each die, the number will indicate which sign it belongs with. Note - there is no die for station 7.
 - c. Place the picture of the landfill on the floor near station 7.
2. Distribute student handout pages.
3. Inform students that they are going to pretend that they are a piece of trash. They are going to participate in a game to see what happens. As they go through the activity, they will complete their handout to record their journey and document their story.
4. Demonstrate what they will be doing.
 - a. Take one picture - this is the item you will "be" for the simulation. You will begin at one of the stations numbered 1-6 - exactly which station you begin at depends on what item is on your picture (if you are an aluminum can you start at #2, if you are a cereal box you start at #5, etc.).
 - b. Read the text at the station out loud to the class.
 - c. Roll the die. Read the text on the die out loud to the class. It will give you instructions, such as "You are thrown as litter into a park. Proceed to number 10."
 - d. Continue reading out loud and following the instructions to demonstrate one journey to the class. Some journeys may continue for a very long time if the item gets recycled a lot, so you may not be able to demonstrate the *complete* journey, but demonstrate enough rolls of the dice to help the students understand what they should do.
 - e. Make sure students know that they should be recording their journey/story on their handout. So as they do the activity, they should be taking their paper and a pencil around with them.
 - f. Make sure students know that where ever their journey ends, they should continue doing the motion, action, or task until you call stop. Some students may be wandering around the room, others may be curled up in a ball, etc.
5. Distribute one picture to each student. After they receive their picture, they can start.
6. After most students have had enough time to complete their journeys (some students may still be moving around, but most will be done), ask everyone to freeze right where they are.
7. Ask several students to share their journey with the class. They should share the following information:
 - a. What object did you start out as?
 - b. What happened to you along the way?
 - c. Where did you end up?





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8. Discuss the various journeys of the objects. If you completed the *Which is Best?* activity, ask students to consider/explain what should have happened in a best-case-scenario for each object.
9. Show students the objects made from recycled materials. Help them to understand that as important as it is to recycle, it is equally important to be sure to purchase items made from recycled materials so that manufacturers will continue to make them (supply and demand).

Optional extensions:

1. Watch [this video](#) about the recycling process at a facility in New York and discuss how it relates to the activity the students just completed.
2. For more advanced students, check out [this video](#) to understand the recycling process:
Note: Omaha uses single-stream recycling.
3. For younger students, check out [this video](#) to understand what happens to waste:

Assessment:

- Classroom discussion
- Completed student handout pages

