

INCREDIBLE, EDIBLE LANDFILL



Materials

- Chocolate cookies, crushed
- Graham crackers, crushed
- Instant chocolate pudding, prepared
- Instant vanilla pudding, prepared
- Red licorice
- Coconut dyed green with food coloring
- Peanuts or pistachios
- Small clear cups
- Spoons

DIRECTIONS

Landfills are built to protect human health and the environment. They are both expensive and complicated to build. In this activity, students will build a replica of a landfill from everyday food items.

1. Begin with a few questions:

What happens to the garbage in your neighborhood? Where does it go after you throw it away?

Explain that much of our garbage, also called *solid waste*, is put in landfills. These store garbage so it won't hurt the environment or people.

2. Have each student build a landfill. Begin by giving each one a cup and a spoon.

- **Layer 1:** Put a spoonful of crushed cookies into each cup. This represents the clay liner that keeps liquid waste, or *leachate*, from seeping through the landfill wall into nearby groundwater.

- **Layer 2:** Place two 1" pieces of licorice on top of the cookie crumbs. These represent tubes that collect and drain the leachate.
- **Layer 3:** Add a spoonful of crushed graham crackers to each cup. This represents the sand and gravel filter layer.
- **Layer 4:** Spread a thin layer of vanilla pudding over the graham crackers. This represents the first layer of solid waste.
- **Layer 5:** Cover the vanilla pudding with a few peanuts. These represent large garbage items.
- **Layer 6:** Spread a thin layer of chocolate pudding over the vanilla pudding and peanuts. This is the second layer of solid waste.
- **Layer 7:** Add another layer each of vanilla and chocolate pudding.
- **Layer 8:** Insert a 2" piece of licorice vertically into the completed layers. This represents a methane gas

collector, which removes built-up hazardous gas from the site.

- **Layer 9:** Sprinkle green coconut over the top of the chocolate pudding. This represents the grass planted over the final layer of soil.

NOTE: Be sure to check for food allergies before beginning this project.

Questions:

- What does each food item represent?
- What purpose does each food item serve in the landfill?
- What are some of the problems with burying solid waste in landfills?
- What happens to the garbage that is put in a landfill?
- Would you want a landfill near your home?
- Where is the closest landfill?
- Landfills should be the last option to get rid of waste. What else could you do with your garbage?

Credit: Working on Waste, Minnesota Cooperative Extension Service