

Designing Environmental Solutions

Materials List

Chapter 1, Garbage In, Garbage Out!

Engage Materials

For each student:

pens or pencils of different colors

Explore Materials

For each team of 4 students:

1 garbage bag (optional; see Advance Preparations and Getting Started)
garbage from a 24-hour period (optional; see Advance Preparations and Getting Started)
balance (optional; see Advance Preparations and Getting Started)
4 copies of Master 1-1, *Waste Generation Rates*
2-4 pairs of scissors
glue or tape
pens or pencils of different colors
1 copy of Master 1-2, *Scenarios from the Past*

Explain Materials

For each class of 30 students, teams of 3:

10 plastic boxes with clear sides
white sand, enough for a layer 2.5 cm deep in 8 of the boxes (about 15 lb)
light-colored clay cat litter, enough for a layer 2.5 cm deep in 2 of the boxes (about 7 lb)
10 Tbsp or packets of powdered drink mix, red, without sugar
10 wood or plastic blocks, approximately 2.5 cm high
10 spoons or craft sticks
10 paper towels
10 plastic spray or squirt bottles
1 clock, large, with a second hand that is visible to all students (or 1 stopwatch per team)
water source
10 rulers
10 graduated beakers
trash bags

Elaborate Materials

For each class of 30 students:

- 10 copies of Master 3-3, *Making Choices about Garbage Game Board*
- 10 large bowls, such as margarine tubs
- 30 tokens for moving along the game board, such as colored paper clips, coins, sticky notes, and so on.
- 10 spinners (see Advance Preparation)
- 600 plastic pieces or beans
- 10 transparency or dry erase markers
- 8.5" × 11" paper (optional; see Step 11)

Evaluate Materials

For each student:

- pens or pencils of different colors
- 1 copy of Master 3-4, *Hazardous Waste*