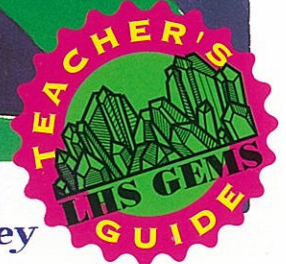
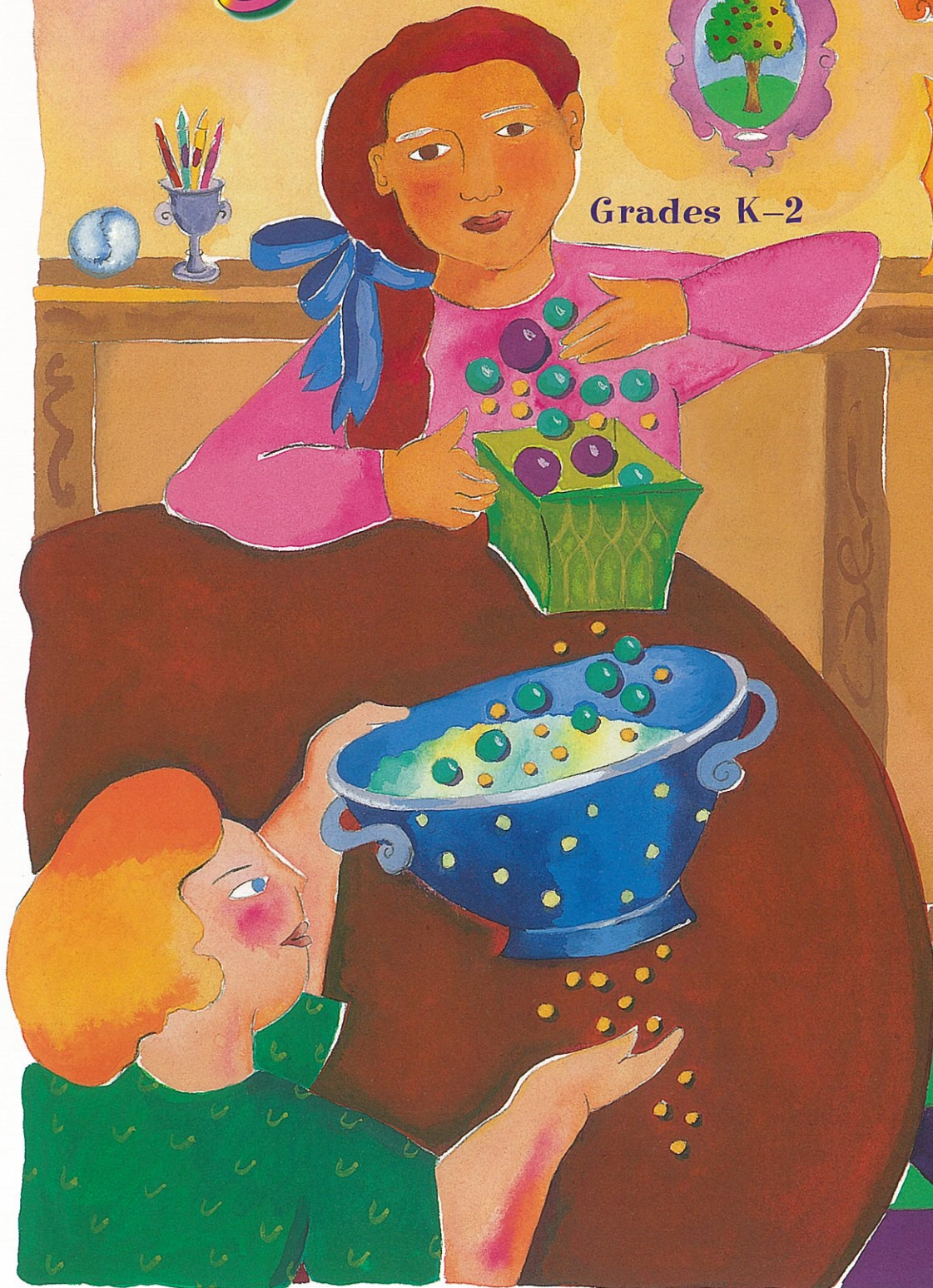


# Sifting through Science

Grades K-2



# Activity 1

## What You Need

### For the class:

- 1 clear plastic sweater box or similar plastic container, at least 4" deep
- 1 permanent black marker (wide-tipped, if available)
- 1 roll masking tape
- 1 yardstick or meter stick
- 1 real-object graph, at least 9' long and 1' wide (see "Getting Ready Before the Day of the Activity" for details)

### Note: The additional items below are needed for the pictorial graph, for first and second grade students only:

- 1 sheet of paper, any color, about 6' long and 1' wide
- about 20–25 3" x 3" post-its, all the same color *OR* paper and a glue stick
- a pencil or crayon for each pair of students

### For the learning station:

- 20–25 objects for students to test in the water, about half that will sink and half that will float. (If possible, test them yourself ahead of time, since you may not always be sure of which float and which don't!) Be sure to include:
  - \_\_ crayon that floats\*
  - \_\_ wax candle
  - \_\_ strawberry basket
  - \_\_ rock about 3" in diameter
  - \_\_ ball that floats
  - \_\_ cup with a removable lid
  - \_\_ film canister with lid
  - \_\_ oil-based clay
- 3 cafeteria trays
- 1 restaurant bus tub *OR* 2 standard dish tubs *OR* a water table (Whichever you use, it must be at least 6" deep.)
- water (enough to fill the tubs to about 4")
- 2 file folders
- glue
- sink and float station signs (1 each—masters on pages 20 and 21)
- 1 copy of the Activity Task Card for Volunteers (master on page 22)
- a stack of newspaper or old towels for spills
- (*optional*) a large sheet of plastic to put under the station for spills

## Activity 2

### What You Need

#### For the class:

- 16–32 magnets, including at least 8 magnets that are bigger than 1"  
NOTE: You'll need 8 to 12 of the magnets for the learning station. In the concluding activity, you'll need one per student, or you can get by with one magnet for each pair of students if necessary.\*
- the real-object graph from Activity 1
- broom and dust pan
- a chalkboard or large piece of paper that can be saved

#### For the learning station:

- 30 objects for students to test with magnets, at least half should be magnetic and half non-magnetic. Be sure to include several pieces of paper, plastic, wood, and wax (including birthday candles), paper clips, and a metal spoon. Use only a couple of metal items which do NOT stick to magnets, such as an aluminum can and a piece of aluminum foil.
- 2 cafeteria trays
- 1 restaurant bus tub OR 2 standard dish tubs OR a sand table
- sand (enough to fill the tubs to about 4")\*\*
- 2 file folders
- glue
- magnetic and not-magnetic station signs (1 each—masters on pages 33 and 34)
- 1 copy of the Activity Task Card for Volunteers (master on page 35)
- (optional) a tarp to put under the sand table

## Activity 3

### What You Need

#### For the class:

- 1 two-liter clear, colorless plastic soda bottle
- 1 pair of sharp scissors to cut the two-liter soda bottle
- 2 clear cups (each about 1 cup volume)
- several paper towels (coffee filters, about 10" in diameter, flat or cone-shaped may be substituted) for the class demonstration
- 1 paper towel for each pair of students
- broom and dust pan

### For the learning station:

- 1 restaurant bus tub *OR* 2 standard dish tubs *OR* a sand table from Activity 2
- sand (enough to fill the tubs to about 4")
- at least 5 colanders/sifters/strainers with different-sized holes (for example, berry baskets with differing mesh, flour sifter, salad spinner basket, colander, various strainers). Find sifters first, and then choose beans. See "Getting Ready Before the Day of the Activity" for more information.
- at least 3 different-sized beans (lima beans, split peas, red kidney beans, etc.) See "Getting Ready Before the Day of the Activity" for more information on the sizes of beans you'll need.
- 4 plastic cups for scooping sand
- 4 box lids or cafeteria trays to catch sand as students sift
- 1 copy of the Activity Task Card for Volunteers (master on page 46)
- (*optional*) newspaper or a sheet to cover the sand table
- (*optional*) a tarp to go under the sand table
- (*optional*) tiny shiny confetti stars or other shapes

## Activity 4

### What You Need

#### For the class:

- 1 waterproof tray with 1" high sides, at least 9" x 13"
- black construction paper to fit on the bottom of the tray
- 1 pair of sharp scissors to cut the two-liter soda bottles
- towels or newspaper in case of spills

#### For each group of four students:

- 4 magnets (or 2 per group if students are sharing)
- 4 clear plastic cups, 8–10 oz. each
- 4 wax birthday candles
- sand, about 4 tablespoons
- salt, about 4 teaspoons (kosher salt is preferable)
- 20 metal paper clips
- 4 plastic spoons
- 2 paper cups (small, 3 oz. size is fine)
- 1 water bottle or cup with pour spout, at least 16 oz. capacity
- 1 two-liter plastic soda bottle cut to make a funnel (clear plastic bottles are preferable but not required)
- 1 paper towel (a coffee filter, about 10" in diameter, flat or cone-shaped may be substituted)
- (*optional*) 1 cafeteria tray for equipment