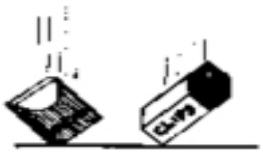
ACTIVITY 44: FALLING BODIES – DO SIZE, SHAPE, OR WEIGHT MAKE A DIFFERENCE?

Goal: To understand that high density objects fall at about the same rate of speed regardless of size, shape, or weight

Skills: Observing, describing, comparing, predicting, summarizing

Materials: Objects found around the classroom, for example:
Books of differing sizes
Tennis shoe
Box of paper clips, taped shut
Box of ends and pieces of old crayons, taped shut
Containers with sand used in the previous activity



Preparation: Place the objects where all students can see them.

Preparation Time: 1 minute

Lesson Time: 20–25 minutes

— Procedure and Questioning Strategy —

1. Let's review what we learned in the last activity when we tested the rate of speed at which containers fall. What was similar about the containers?
   They were the same size and shape.

2. What was different?
   They were different weights.

3. What did we find out from our experiments?
   The containers hit the floor at the same time when we dropped them from the same height at the same time.
   The containers fell at the same rate of speed.

4. When we dropped them, did the weights of the containers make a difference in their rates of speed?
   No.

5. Since we know that weight didn't make a difference, let's test some objects that have different weights *and* different sizes. Look at the objects. Which two have the same shape but are different in size and weight?
   The box of crayons and the box of paper clips. Two of the books.

Test the objects mentioned, dropping them from the same height at the same time. The bottoms of the objects need to be the same distance from the floor. Have the students watch to see if the distance appears to be the same.