

## How Far Will a Ball Roll?

In this lesson students will explore the way objects roll, and what could affect the distance each rolls.

### **Materials Needed:**

- PVC pipe cut lengthwise
- Several balls of various sizes and weights
- Tape measure
- Masking tape
- Large chart paper to record measurements

### **Directions:**

Step 1: Divide students in to small groups and provide them with a ramp made from PVC pipe cut lengthwise and several balls of various sizes and weights, made of a variety of materials.

Step 2: Have the students angle the ramps using books or small boxes.

Step 3: Let the children explore by rolling each ball down the ramp and placing a piece of masking tape to show where the ball stopped. Students should keep the ramp at the same angle for each of the balls.

Step 4: After each one has been rolled and measured, change the angle of the ramp by adding more books or placing the ramp on a desk.

Step 5: Repeat the activity by rolling and measuring each ball as it rolls down the ramp. Children may change the angle of the ramp as many times as you would like.

Discuss with the children whether or not changing the height of the ramp changes the distance each ball will roll.

Discuss if the material or weight of the ball affected the distance a ball would roll.

**Summarizing:**

Choose one of the following options:

- Have students write in their journals what effects how far a ball will roll.
- Record a video journal. Have each child communicate orally what the experiment was about and what they discovered about motion from their experimentation. You can replay the video often to help them to recall their conclusions.