

# What Is The Scientific Method?

## Ball Bounce

**Background:** Almost any material, when in the shape of a sphere, will bounce when dropped onto a firm surface. Some materials seem to bounce higher than others do. Many different questions can be asked about the height of the bounce of different materials. Some questions that might be asked: How high will a wooden sphere bounce? Will a steel ball bounce? Would it make any difference in the height a ball would bounce if one ball was solid and another was hollow? Today let us look at another question.

**PROBLEM:** How high will a rubber-ball bounce when dropped from various heights?

**HYPOTHESIS:** Make a prediction as to what you think will happen to the height of a bounce if a rubber-ball is dropped from different heights. In a way you need to make an educated guess as to how high each bounce will be.

### EXPERIMENT:

#### MATERIALS:

two people  
rubber-ball

meter stick  
hard surface

#### PROCEDURE:

1. One person should drop the ball, and another person should observe how high the ball bounces.
2. Record your observations in your data table. To be consistent always place the bottom of the ball at the level from which it is going to be dropped from. Then observe the height at which the bottom of the ball bounces.
3. Repeat steps 1 and 2 for each trial at each height.
4. Graph your results.

### OBSERVATIONS:

Make a data table to record your observations for each of the following heights.

(What are your dependent and independent variables?)

10 cm 25 cm 38 cm 50 cm 63 cm 75 cm 88 cm 100 cm  
113 cm 125 cm

### CONCLUSION:

What part of this experiment was the variable?

How did your hypothesis compare to the pattern of different bounces?