

# PRACTICE PROBLEMS

1. Identify the independent variable and the dependent variable.

- a. Michael put 100 red seeds, 100 brown seeds, and 100 yellow seeds in his bird feeder. He counted the number of seeds of each color that remained after 2 days.
- b. Leticia timed how fast apple slices turned brown after being dipped in different preservatives, such as lemon juice, fruit freshener, and lime soda.

2. Identify the independent variable, dependent variable, and constants.

- a. Elizabeth tested how high 5 different brands of new tennis balls would bounce when dropped from a height of 2 meters. She dropped the balls so that they hit the same floor tile each time.
- b. Maria wondered if different colors of plastic wrap affected the time for bread to mold. She wrapped a slice of bread in clear plastic wrap. Before wrapping the bread she placed 5 ml of water in the center of the bread. She repeated the process with a slice of bread using red plastic wrap and a slice of bread using blue plastic wrap. The bread came from the center of the same loaf. In each case she used the same amount and same brand of plastic wrap. She wrapped the different slices of bread in the same way.

3. Identify the independent variable and dependent variable in each hypothesis.

- a. If liquids are placed in containers with sides of different heights, then they will evaporate faster in the container with the lower sides.
- b. If a greater amount of soap is added to water, then fewer drops of water can be placed on a penny.

4. Determine if the hypothesis is supported by the data.

Katherine thought that people would be able to taste small amounts of sugar more easily than vinegar or salt. She found that people could detect 2 ml of salt in a liter of water. However, they needed only 1.5 ml of sugar per liter of water and 0.5 ml of vinegar to taste the substance.

5. Make a hypothesis about the following.

- a. How hard rock, rock and roll, and classical music affect pulse rate
- b. The greatest distance a cat would react to a hand clap