

Follow these steps to see how you can control variables.

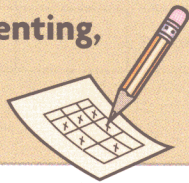
1 Decide What to Test

Think about what you want to find out. If you want to see if the shape changes how fast a parachute falls, then the size and material need to stay the same. Even the lines need to remain the same length. When doing a test, only one variable should be changed at a time.

2 Look for Other Variables

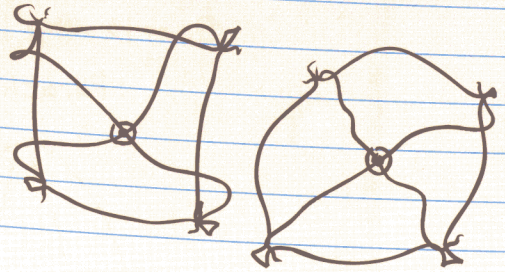
List all other variables that might change the experiment. These will need to stay the same.

TIP When experimenting, record your test results in a chart.



QUESTION: Does a round or square parachute fall faster?

TEST VARIABLE: Shape



Other Variables:

- size • number and length of lines
- material • weight • distance of fall

3 Do Your Test

Now do your test. Each time, change only one variable—the shape of the parachute. Record the results. Repeat the test several times to check your results.

USE THIS SKILL

Control Variables

Look at the photo of Kim's experiment below. She wondered if a lighter weight makes a parachute fall slower. List all the variables Kim should keep the same. List the variable that she should change.



TEST TIP

Some tests may ask questions based on data from experiments. Be sure to use the information in the experiment to answer the questions. Don't use your own opinion because it may not agree with the experiment.

Practicing Skill 6

HOW TO Control Variables

Read about the experiments on pages 11 and 12. Then answer the questions that follow.

One Experiment with Gravity

Eli stood in the center of the room. In one hand, he held a thick science book that measured 8 inches by 11 inches. In the other hand, he held a sheet of paper that measured 8 inches by 11 inches. He held both the book and the paper waist high and dropped them at the same time. His partners timed how long it took for each to hit the floor.

1. What was the variable that changed in this experiment?

2. List three variables in the experiment that stayed the same.

Read about the experiment below. Then answer the questions that follow.

Another Experiment

Dorianne observed Eli's experiment, and she thought she would do an experiment of her own. She took a thick science book and a sheet of paper that was smaller than the science book. She held both the book and the paper waist high and dropped them at the same time. Her partners timed how long it took for each to hit the floor. She repeated this activity several times. Then she placed the sheet of paper on top of the book. She was careful that none of the paper was hanging over the edges of the book. She dropped both of them at the same time. Her partners timed how long it took for each to hit the floor.

1. What was the variable that changed in this experiment?

2. List two variables in the experiment that stayed the same.

3. Why do you think Dorianne repeated the first test several times?
