

Learning to Use Go! Motion

You can use Go! Motion to measure the position of objects as they move. In this activity, you will learn how to use Go! Motion.

OBJECTIVES

In this activity, you will


- Learn to use Go! Motion.
- Measure the distance between a book and the Go! Motion.
- Match a shape by moving a book up and down above a Go! Motion.

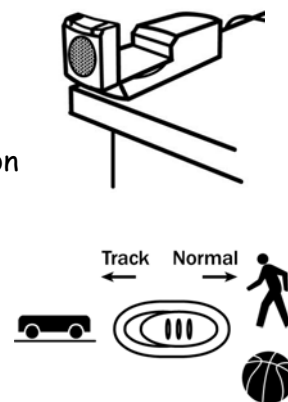
MATERIALS

computer with Logger Lite software installed
Go! Motion motion detector
book



PROCEDURE

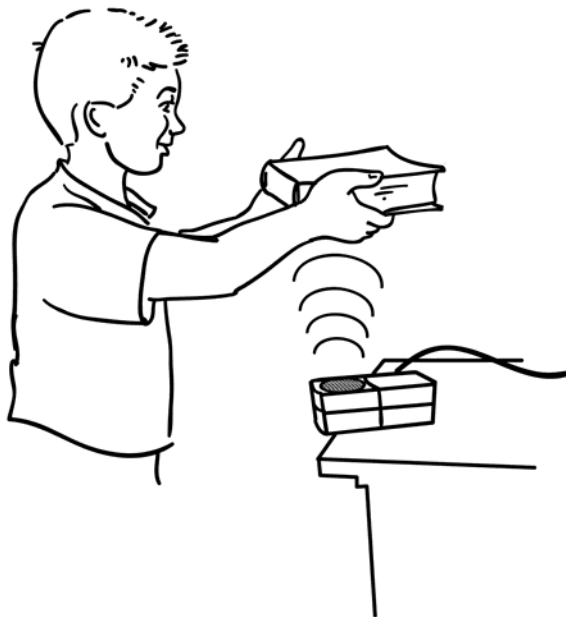
Part I Learn About Go! Motion

1. Do the following to set up the Go! Motion for data collection:
 - a. Make sure the Go! Motion is connected to the computer.
 - b. The detector (gold circle) is located on the part of the Go! Motion called the "head." Rotate the head open as shown here.
 - c. Locate the switch under the head and set it to the Normal position as shown here.
 - d. Rotate the head back down.
2. Start Logger Lite on your computer. If everything is attached correctly, the Logger Lite screen will display a graph, a data table, and a digital meter.
3. Open the file for this activity by doing the following:
 - a. Click the Open button, .
 - b. Open the folder called "Elementary Science."
 - c. Open the file called "20a Go Motion."



4. Collect data by following the steps below.


- a. Put the Go!Motion on a table or chair with the detector facing up towards the ceiling. Make sure there is nothing in the path of the signal coming out of the detector.
- b. Have one person stand holding a book about 0.5 meters above the Go!Motion.
- c. Look at the computer screen and click  Collect to start data collection.
- d. Slowly move the book straight upwards and watch what happens on the graph on the computer screen.
- e. Now slowly move the book down toward the sensor, but don't get closer than about 15 cm. Watch to see what happens when you move closer to the Go!Motion.
- f. Now, move the book upwards very quickly and watch what happens.
- g. Data collection will stop after five seconds.
- h. You can try it again by clicking  Collect again.





5. Use your experiences in Step 4 to complete the statements in the Observations Sheet below.

| Observations Sheet | |
|---|--|
| 1. When I slowly move the book up and away from Go!Motion, | |
| 2. When I slowly move the book down and towards the Go!Motion, | |
| 3. When I lift the book up very quickly the graph is different than when I move it slowly because | |

Part II Make a Snake with Go! Motion

6. Open the file for this activity by doing the following:
 - a. Click the Open button, .
 - b. Open the file called "20b Make a Snake."
7. In this part of the activity, you will match the shape of the snake that you see on the graph. Before you start, think about what happened when you moved the book in front of the Go! Motion. Fill in the blanks below as a plan for matching the shape on the Graph.

I will start with the book _____ meters above the Go! Motion. I will move the book _____ (up or down) so the book is about _____ meters above the Go! Motion. Then, I will move the book _____ (up or down) until it is about _____ meters from the Go! Motion. Then, I will move the book _____ (up or down) until it is about _____ meters from the Go! Motion. Finally, I will move the book _____ (up or down) until it is about _____ meters above the surface of the Go! Motion.

8. Click  Collect, then follow the plan you wrote in Step 7, trying to match the snake.
9. If the data you collected matches the snake shape on the screen, congratulations! If you want to try to match the snake again, just click  Collect and repeat the plan you wrote in Step 7.

Good job!