

CHAPTER DISCOVERY

What Is Motion?

A Walk in the Park

Background Information

Although you may never have given much thought to your activity the last time you walked from one place to another, you were actually obeying important physical laws. You exhibited motion. Motion is movement from one place to another in a certain amount of time. In this activity you will take measurements to describe your motion and determine a relationship that can be used to describe motion.

Materials

stopwatch
meterstick
masking tape

Procedure

Part A

1. Place a small piece of masking tape on the floor or ground in an open area where you can walk freely.
2. Use a meterstick to measure 5 m from the tape. Mark this spot with another small piece of masking tape.
3. Hold the stopwatch and stand at either piece of tape. Start the stopwatch as you begin to walk at a normal pace in a straight line toward the other mark.
4. Stop the stopwatch when you reach the mark. Record the time it took you to walk 5 m.
5. Repeat steps 3 and 4 walking more rapidly than your normal pace. Record your time.
6. Repeat steps 3 and 4 walking more slowly than your normal pace. Record your time.

Part B

1. Leave only one piece of tape in place. Stand on that mark, holding the other piece of tape and the stopwatch.
2. Start the stopwatch and begin walking. Stop walking after 5 sec.
3. Mark the spot where you stopped with the tape. Use the meterstick to measure the distance you walked. Record your measurement.
4. Repeat steps 2 and 3 walking more rapidly than your normal pace.
5. Repeat steps 2 and 3 walking more slowly than your normal pace.

Observations
Part A

Data Table

	Distance (m)	Time (sec)
Trial 1	5	
Trial 2	5	
Trial 3	5	

Part B

Data Table

	Distance (m)	Time (sec)
Trial 1		5
Trial 2		5
Trial 3		5

Analysis and Conclusions

1. Was your time the same for each of the trials in Part A? If not, why do you think the times varied?

2. How would all of the times have changed if the distance between the two marks were increased? Decreased?

3. Was the distance you walked the same in each of the trials in Part B? If not, why did it vary?

4. How would the distance walked change if the length of time you measured were increased? Decreased?

5. Describe a relationship between the distance you walk, the time it takes you to walk, and how fast or slow you walk.

