

# Measuring Constant Speed

## Problem

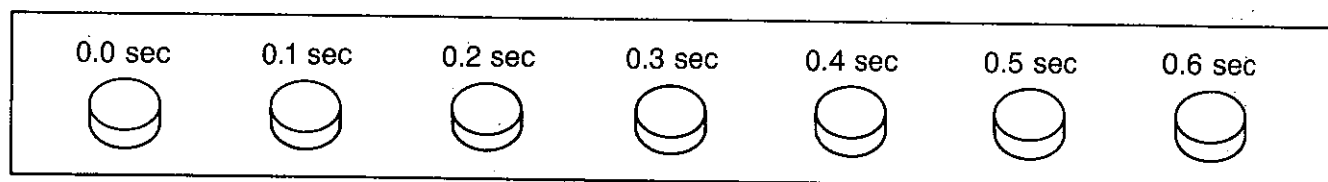
What is the shape of a distance–time graph of constant speed?

## Materials (per student)

pencil  
 graph paper  
 metric ruler

## Procedure

1. The illustration on this page represents a series of flash shots taken of a dry-ice puck sliding across the floor. The time between each flash is 0.1 second. Study the illustration carefully.
2. Position the 0-cm mark of the metric ruler on the front edge of the first puck. This position will represent distance 0.0 cm at time 0.0 second. Record this data in the data table.
3. Without moving the ruler, determine the distance of each puck from the first one.
4. Record each distance to the nearest 0.1 cm in the data table.



## Observations

Time (sec)	Distance (cm)
0.0	0.0
0.1	
0.2	
0.3	
0.4	
0.5	
0.6	

Make a distance–time graph using the data in the table. Plot the distance on the vertical, or Y, axis and the time on the horizontal, or X, axis.

## Conclusions

1. What is the shape of the graph?

2. Is the speed constant? Explain your answer.

3. Calculate the average speed.