^ Lab copy. Do not write on this paper.

Name _____ Class _____ Date _____

Activity 9 lab 3

QUICK LAB Guided Inquiry

Create a Distance-Time Graph

In this lab, you will create a distance-time graph to show the speed of an object, or its distance traveled over time. Your teacher will give you an index card with a written scenario; you'll turn that scenario into a distance-time graph. When you finish, you'll swap your graph with a classmate, and analyze the graph they created.

OBJECTIVES

- Create a distance-time graph.
- Understand that the slope of the line on a distance-time graph directly relates to speed.

MATERIALS

For each student

- index card (with pre-prepared distance-time scenario)
- paper, graphing
- pencils, colored (2)

PROCEDURE

1. Your teacher will give you an index card with a scenario on it. Read the card carefully.
2. Use the graph paper to create a distance-time graph to show how the object(s) in your scenario move(s) over time. Remember that the *y*-axis represents the distance traveled by an object, and the *x*-axis represents time. Include the appropriate units on your graph.
3. When you have finished your graph, find a partner who graphed a different scenario. Swap distance-time graphs with your partner.
4. Study your partner's distance-time graph. Use a pencil of one color to circle the point on the graph where the object had the greatest speed. Use a pencil of a different color to circle a point on the graph where the object had the least speed.
5. Answer the following questions while looking at your partner's distance-time graph. At what point in the graph did the object have the most speed? What was the speed?

_____

_____

Quick Lab continued

6. At what point in the graph did the object have the least speed? What was the speed?

_____

_____

7. What does a steep slope on a distance-time graph indicate?

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8. How would you describe the motion of an object when there is a flat line on the distance-time graph?

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