

Acceleration experiment



Name: _____

Date: _____ Per: _____

Assign No. _____

Problem: How is the distance vs. time graph for a cart moving at constant speed different from the graph of a cart rolling downhill?

Predict:

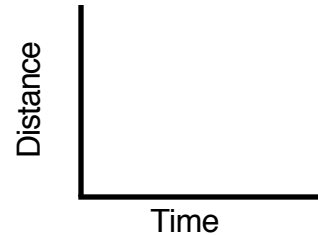
What will happen to the speed as the cart rolls across the table? _____

What will happen to the speed as the cart rolls down a ramp? _____

Draw what you think the graphs will look like:

Label one: Across table

Label the other: Down ramp



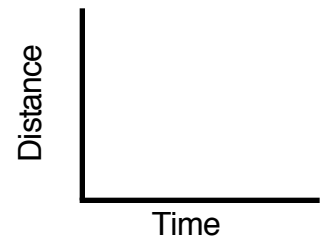
CONSTANT SPEED

Roll the cart at a constant speed (use ramp with rulers)

Sketch the shape of the graph ONLY when the car was on the flat part of the table.

Give the graph a title:

TITLE: _____



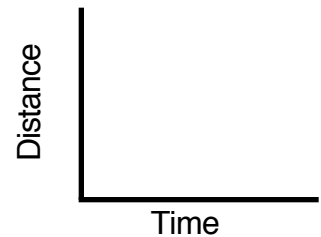
ACCELERATION

Follow teacher directions for using computer motion sensor and rolling cart down the metal ramp. Make runs until you get a fairly smooth curve.

Sketch the shape of the graph.
Label the x and y axes.

Give the graph a title:

TITLE: _____



CONCLUSION

1. Describe the speed of the cart in words, as it moves from the top to the bottom of the ramp until it stops. _____

2. How is the shape of the graph different from graphs of constant speed? _____

3. How does the slope (steepness) of the graph relate to the speed of the car? _____