**Rolling Through Motion**

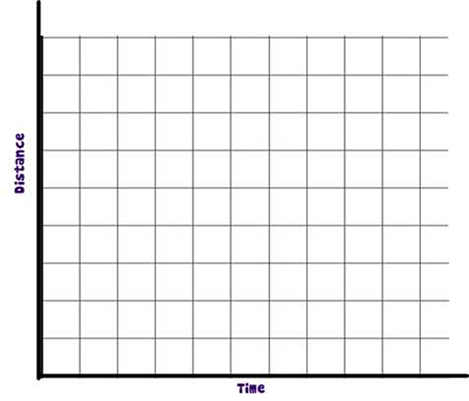
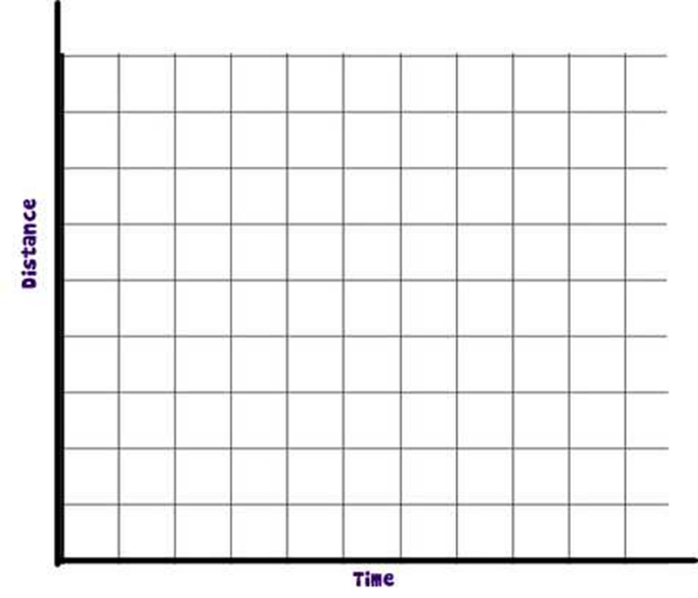
Names:

Learning Target- I will be able to visualize what the path of the object(s) used will be when rolled on an incline. Then I will be able to use a motion detector with a graphing calculator to create a graph that represents the path in relation to time and distance of the object(s).

Introduction Task-

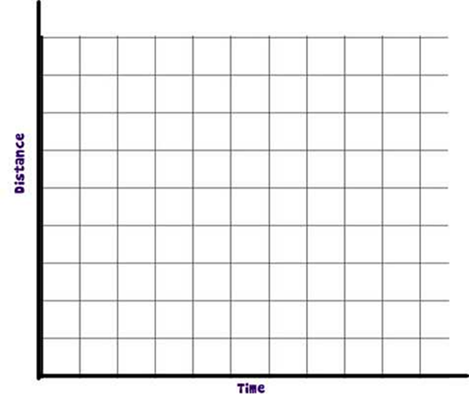
1. Roll the tennis ball up the incline, not to let it go off the edge, and let it roll back to the bottom.
2. Draw a graph of what you think the path of the ball, in relation to distance and time, will look like.
3. Now repeat the task for the toy car. (Hint: The speed of the car may be different than the ball)

Tennis Ball Car



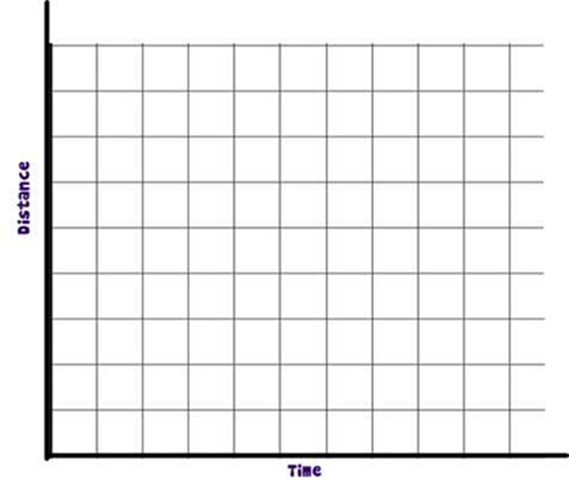
Procedure- Using the motion detector, placed at the top of the ramp, and a TI-84 Plus graphing calculator, do the following:

1. Roll the tennis ball up the incline, not to let it go off the edge, and let it roll back to the bottom.
   1. Observe the graph on the calculator and sketch it below.
   2. Explain what you have observed from the graph and the movement of the ball.



Explain:

1. Push the toy car up the ramp and let it roll back down, similar to the first part.
   1. Observe the graph on the calculator and sketch it below.
   2. Explain what you have observed from the graph and the movement of the toy car.



Explain:

1. Compare the two objects rolled up the ramp. What is the difference? Same? What factors may have caused them to be different/similar?