

Gravity Lab

Name _____ Date _____ Group _____ Period _____

In the last activity you discovered that the Car accelerated as it moved down the Ramp. This acceleration was due to the effect of **gravity** pulling the Car down. Gravity pulls all objects towards the center of the earth with a force we call **weight**. In this lab we'll determine if the weight of a rolling object has any affect on how fast it rolls down a ramp or hill.

Problem: What effect does increasing the weight of a car have on the car's speed as it rolls down a ramp ?

Hypothesis: If _____

Variables: By the time you finish this experiment , you will need to identify the different types of variables present in this investigation. Consult your notes for definitions of the types of variables.

Independent Variables: _____

Dependent Variables: _____

Controlled Variables: _____

Question 1. Try rolling Cars with different numbers of weights down the Ramp. Does the weight seem to make a difference in the speed. (Answer yes or no)

Procedures:

- 1- Connect one Clamp to input A of the Timer and put it about half way down the Ramp. **Leave the Clamp in the same place for the rest of the experiment.**
- 2-Roll the Car down from the very top of the ramp.
- 3-Record the time of the Car from the timer measurement you get from Clamp A.
- 4-Add one weight on the Car and roll it down again.
- 5-Repeat steps 2-4 for all four possible combinations of weight.

Number of weights on the car	Distance traveled by the car to the nearest 0.1 cm	Time from Clamp A (to 0.0001 seconds)	Speed of Car (Round to nearest .1 cm/sec)
0			
1			
2			
3			

