Name: _____ Date: _____ Period: _____ Page: ___

Motion Lab

Objective: _____

Research:

Motion: _____

_____

Motion compares a _____ object to a _____ or

_____ object.

Marker: _____

Moving Object Fixed Object

Example: _____

_____

Distance: _____

Time: _____

Speed: _____

Velocity: _____

Acceleration: _____

_____

Hypothesis:

1. When the ball moves down the low ramp it will move faster/ slower than when it is moving down the high ramp.
2. The speed of the ball will be greatest after the low/ high ramp.

Activity:

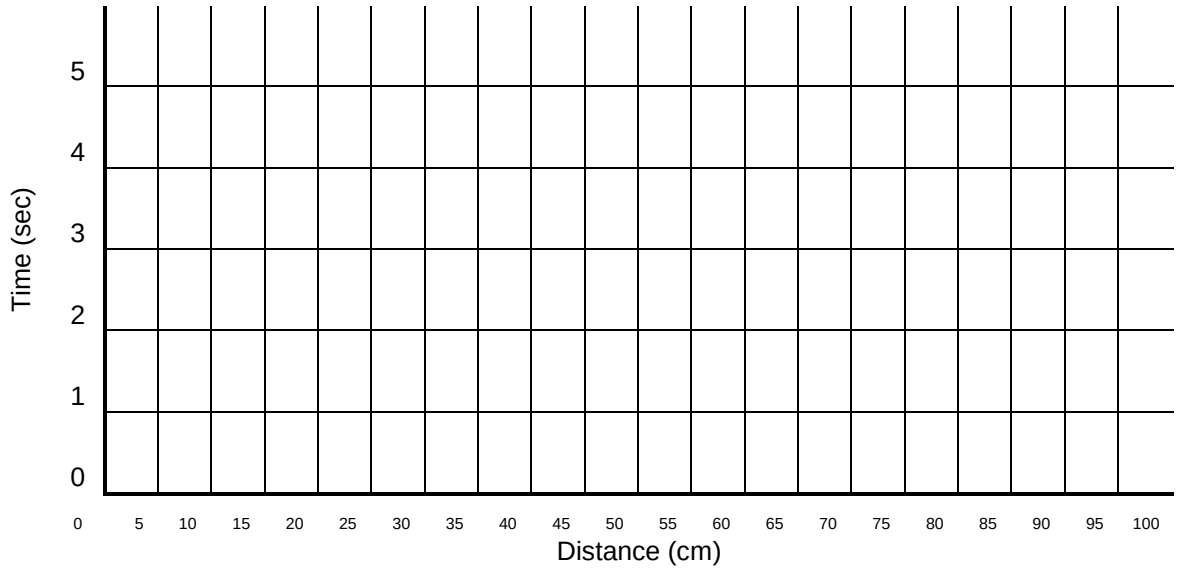
1. Follow the teacher's directions for setting up your ramp.
2. For each ramp height, make ***two*** trails in measuring the motion of the ball.
3. Find the ***average*** ***(add the two trail numbers together and divide by 2)*** distance for 1 second, 2 seconds, 3 seconds and 4 seconds, for each of the ramp heights.
4. Make two lines on the graph, one for each ramp.
5. Use **BLUE** for the **LOW** ramp.
6. Use **RED** for the **HIGH** ramp.

Data:

TIME (sec)	LOW RAMP			HIGH RAMP		
	Distance (cm)			Distance (cm)		
	Trial One	Trial Two	Average	Trial One	Trial Two	Average
1sec	+	=		+	=	
2 sec	+	=		+	=	
3 sec	+	=		+	=	
4 sec	+	=		+	=	
5 sec	+	=		?	?	?

Conclusion:

1. Prepare a distance – time graph using the data from the averages of your time trails.



2. Is the speed of the ball faster at the top or the bottom of the ramp?

3. What kind of change in motion is this?

4. When you are in a car how would you know that the car is not moving?

5. How would you know when the car is moving?

6. When you enter the science room and go to your seat, what are 4 objects that tell you that you are moving?

A. _____ B. _____ C. _____ D. _____

7. You are comparing objects in motion to fixed objects. What are the fixed objects called?