

Item #: \_\_\_\_\_

GPE/KE Marble Investigation

Name: \_\_\_\_\_

**Investigation Question:** What is the effect of \_\_\_\_\_ on potential energy of a marble at the top of a track?

**Identifying Your Variables—**

**Independent Variable** (what you are changing/testing) \_\_\_\_\_

**Control Variables** (keeping the same?) \_\_\_\_\_

**Dependent Variable** (what you are measuring) \_\_\_\_\_

Independent Variable	Dependent Variable (Distance the cup moved in centimeters)					Average
	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	

**Other Group's Averages/Data:**

Variable	Averages

Graph yours and the other groups averages (in order) →

**\*\*Be sure to LABEL the graph correctly!  
Remember "DRY MIX"**



**Answer the following questions using your data/graph.**

1) What trends do you see in your data?

Try to state your trend this way: "When the value of [the independent variable] is [increased/decreased], the value of the [dependent variable] [increases/decreases/stays the same]."

2) Make a CLAIM about the way the factor you investigated affects gravitational potential energy (GPE). Try to state your claim this way: "When [your factor] [increases/decreases], gravitational potential energy [increases/decreases/stays the same]."

3) Read pages 70-71. What are the two factors that affect an object's gravitational potential energy? How do these factors affect an object's kinetic energy as well?

4) Using your knowledge now, answer this question: If two objects were dropped from different heights—one object at 10 meters and the other at 4 meters--which object would have more KE?