**Inquiry and use of the Scientific Method**

On a SEPARATE paper, write the provided problem and then complete all the following steps.

**Problem/Question:** How can I tell how fast my marble is going?

**Background Resarch:** What do you think velocity depends on?

**Hypothesis**: Prior to releasing the marble, what is your answer to the problem/question?

 **Observations**: What did you observe?

**Procedure**: Choose a fixed ramp height and record.

** (Sample Data YMMV)**

 Position

 0m .3m .6m .9m .11m

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ C

 0s 1s 2s 3s 4s

 Time

Record time with respect to distance from point B to point C where the marble is roughly constant. Try to attain five data points.

**Data**: Now that you have the procedure, you must create a data table so that you can record data.

* Title the data table
* Label each column with variable measured and unit of measure

**Analysis**:

 Create a Ticker tape diagram for your run using the large sheets of paper.

Create a Distance vs time graph

* What does your data show?
* Do you notice any trends or patterns?
* Create a graph from the data

**Conclusion**: Read the problem/question again. What do you think?

* Was our hypothesis supported?
* Explain what you can infer from the data.
* Explain what you can infer from the graph.

Sample Ticker Tape.

The object is represented by the dot.



Place your ticker tape diagram below:

Graph:



Analysis Cont:

Label the graph Independent Variable, Dependent Variable, Title, and units. Include proper scaling.

Slope of Line=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Units\_\_\_\_\_\_\_\_\_\_\_ What does the slope tell you?