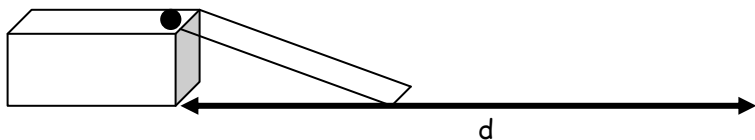


## Don't Lose Your Marbles!

The purpose of this activity is to determine the correct height at which to place the top of the ruler in order for the marble to travel a given distance,  $d$ . The team whose marble travels as close as possible to the given distance will win a prize!!! You won't be told the required distance until just before the competition begins so you need to determine a model that will allow you to quickly set up your marble at the right height.



**Material Needed:**

- ↗ ruler
- ↗ marble
- ↗ tape measure
- ↗ books or other materials to vary the height

Perform at least 8 trials to determine the relevant relationship(s) between the initial height of the marble and the distance it travels.

Use the following table to compile your data:

Trial #	Height	Distance Traveled

Explain what you will do with the data in order to obtain a model:

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How do you know if your model is a good one?

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Our model: \_\_\_\_\_

Given height: \_\_\_\_\_ Predicted distance: \_\_\_\_\_