

Roly-Poly Pre -Lab Data Analysis**HYPOTHESIS STATEMENT:**

H_1 : *The smaller the bug's mass, the faster it can pull a 1-gram weight.*

H_0 (null hypothesis): *The bug's mass will have no affect on its speed while pulling a 1 - gram weight.*

Table 1: Bug Mass vs. Distance Traveled

Bug Mass (grams)	Distance pulled in 2 minutes	Distance pulled in 4 minutes	Distance pulled in 6 minutes	Distance pulled in 8 minutes	Distance pulled in 10 minutes	Distance pulled in 12 minutes
A = 2.6	5.5 cm	12 cm	22 cm	24 cm	24 cm	33 cm
B = 5.3	4 cm	14 cm	18 cm	32 cm	35 cm	44 cm

GRAPH: (use the graph paper on the back)

Generate a graph for the above data. Make sure to label the axes with units, and a title. Hint: this graph will require two lines, one for each bug. Be sure to include a key (legend) showing their mass.

Answer the following questions.

- 1) What are the variables being tested? (Hint: look at the H_1 .)
- 2) List two possible controls for this experiment.
- 3) Which bug can pull a 1-gram weight faster? How do you know this? Discuss the data and graph.
- 4) Determine whether or not the hypothesis is correct or incorrect. Please support your response while referring to the graph, i.e. what does the graph tell you about the affects of bug mass on how fast they can pull a 1-gram weight?

