Physics Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Penny Lab

**Materials:**

25 Pennies

Ruler

**Procedure:**

1. Begin measuring the height of a stack of pennies. Start by finding the height of just one penny. Record your measurement in the data table.
2. Add another penny to the stack and again measure the height of the stack of pennies and record.
3. Repeat until you have measured a stack of 25 pennies.
4. Plot a graph of Height vs. # of Pennies. Please note that the Height is the dependent variable and should be plotted on the y-axis. Be sure to use an appropriate scale.
5. Draw the line of best fit.
6. Choose two points on the line of best fit, circle them and label their coordinates (x,y).
7. Calculate the slope of the line and be sure to show this calculation right on the graph.

**Question:**

1. What is it that the slope of the graph you made really represents in the physical world?

**Data:**

|  |  |
| --- | --- |
| # of Pennies | Height of Pennies (cm) |
| 0 | 0 |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |
| 7 |  |
| 8 |  |
| 9 |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |
| 17 |  |
| 18 |  |
| 19 |  |
| 20 |  |
| 21 |  |
| 22 |  |
| 23 |  |
| 24 |  |
| 25 |  |