**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**The Science of Swinging: Graphing Worksheet**

1. Choose four different lengths of string, and count the number of swings of the pendulum in 15 seconds. Don’t forget to start from the same angle for each test!

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|  |  |
| --- | --- |
| **Length of String (cm)** | **# of Swings** |
| 10 |  |
| 20 |  |
| 30 |  |
| 40 |  |

1. Based off of your results above, can you predict what the motion (# of swings) is when the pendulum string is 50 cm and 60 cm in length?
2. Does the angle that you start the pendulum at affect the number of swings? Take out a protractor and give it a try! For one length of string, start the pendulum at 4 different angles and count the number of swings that occur in 15 seconds?

|  |  |
| --- | --- |
| **Release Angle** | **# of Swings** |
|  |  |
|  |  |
|  |  |
|  |  |

1. In the space below, draw a line graph showing the length of the string on the x-axis vs. the amount of times that the pendulum swings on the y-axis.