Name _____ Date _____ Period _____

Graphing Homework # _____

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A pendulum is created by hanging a weight from a pivot point. When the pendulum is released it will swing back and forth. The suspended weight is called a bob. As the bob oscillates it is constantly changing Kinetic Energy into Potential Energy and then back into Kinetic Energy again. Gravity is the force that causes a pendulum to swing. Eventually, friction with the air will slow a pendulum down and cause it to stop swinging.

The time it takes for a pendulum to make one complete oscillation is called the period of the pendulum. Typically period is measured in seconds. The factor that controls the period of a pendulum is the length of the string. The longer the string is, the longer it takes the pendulum to complete one swing. Pendulums have been used in clock for many years. One of the most famous pendulums is called the Foucault Pendulum. In 1851 Jean Foucault created a 220 foot pendulum in the Pantheon in Paris France. He was able to demonstrate that the Earth rotates on its axis by using this pendulum.

The data below shows how different lengths change the period of a pendulum.

What is the weight on a pendulum called?

_____

Name two forces that affect a pendulum.

_____

What determines the period of a pendulum?

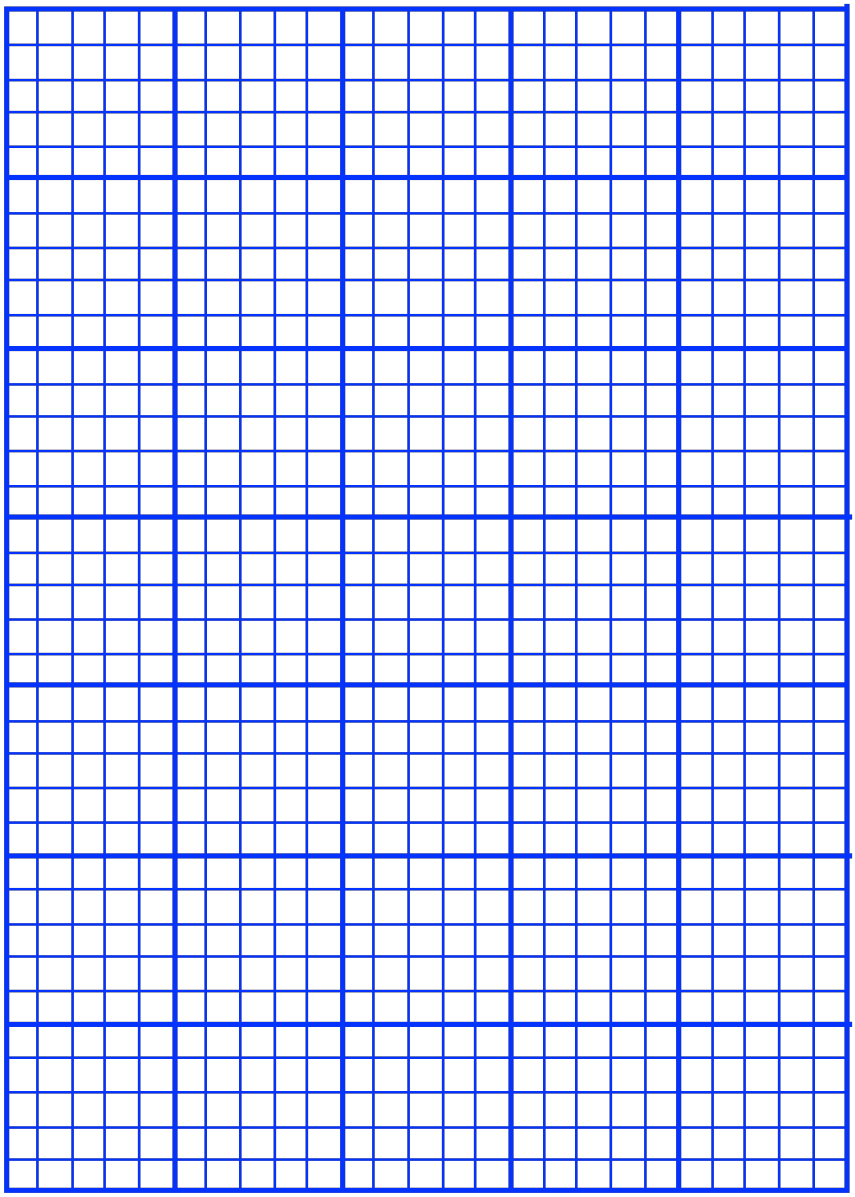
_____

Length of String (cm)	Pendulum Period (seconds)
100	2.01
200	2.84
250	3.17
300	3.48
400	4.01
500	4.49

Create a line graph from the data table on the Graph Paper on the back.

- create a uniform scale for Length of String on the x - axis (2 points)
- label the x - axis with both a label and a unit. (2 points)
- create a uniform scale for Period of Pendulum on the y axis. (2 points)
- label the y - axis with both a label and a unit. (2 points)
- plot all six points on your graph (2 points)
- connect the points to draw your line (1 point)
- put an appropriate title on top of your graph. (1 point)

Created using Graphing HW template by Ken Abbott



(2 pts)	x- axis	y - axis
Range		
Boxes		
Divide		
Round up		

Answer the questions below in Complete Sentences (2 points each)

1) As the length of the string increases, what happens to the period of a pendulum?

2) Estimate the period if a 350 cm string was used. (draw a line in highliter on your graph to show how you found your answer)

3) What length of string would make a pendulum with a period of 2.4 seconds? (draw a line in highliter on your graph to show how you found your answer)

4) What did the Foucault pendulum demonstrate?