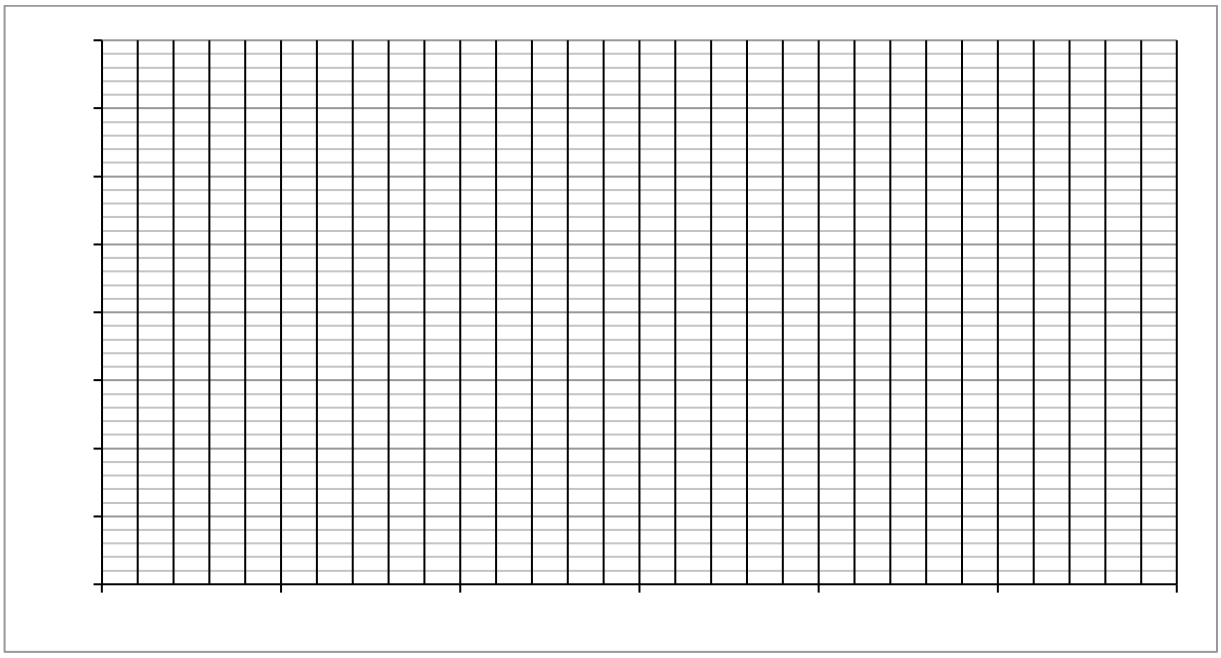
Name _____ Date _____

85	Hooke's Law Experiment

Elongation is the distance an object compresses or expands when a force is applied to it. In this experiment, you will examine the relationship between force and elongation for a spring. You will do 4 trials with 4 different masses. As you collect your data, fill in the chart. Create a graph of Force in Newtons vs Elongation in meters. Remember that weight was the force applied to the spring and that you are graphing the elongation in (m) not in (cm).

trial	mass (g)	mass (kg)	elongation (cm)	elongation (m)	weight (N)	constant (N/m)
x	0	0	0	0	0	x
1	100					
2	150					
3	200					
4	250					

Force vs Elongation



What is the slope of the trendline?	What does the slope of the line represent?	What is the equation of the trendline?

Questions

1) Is the relationship between force and elongation directly proportional?

2) How do you know this?

3) Does the slope of the line remain constant?

4) Explain how the slope of the line might be different for a spring that did not stretch as easily as the one you used.