

SAINT JOSEPH'S PREPARATORY SCHOOL
PHYSICS LAB EXERCISE
Spring Constants – Simple Harmonic Motion – Hooke's Law

NAME: _____ DATE: _____ PERIODS: _____

COLLABORATORS: _____

DATE REPORT IS DUE: _____

In this exercise, you are to determine a spring's constant in two ways.

1. Directly, hanging weights on the spring and plotting force vs. length and determining the slope of the curve.

The equation for Hooke's Law is: $F = -kx$

You must plot a graph of force (weight) vs. distance and analyze the graph to obtain the slope of the line. Graphing calculators and spreadsheets have the tools needed to do this.

	mass	weight	distance
1			
2			
3			
4			
5			
6			
7			

2. Indirectly, measuring the period of oscillation for simple harmonic motion. $T = 2\pi\sqrt{\frac{m}{k}}$

	Time for 20 cycles	T	m	k
1				
2				
3				
4				
5				
6				
7				

Mass of Spring: _____