Springs – Hooke's Law

Software
- VPython, Python and the graphical user interface (GUI) IDLE (or VIDLE)

Models are only as valid as the physics used to create them.

Objective

Gain experience writing VPython programs
- Create and use graphics windows to plot variables

Learn how to animate an object with non-constant force
Learn how to effectively search for help in tutorials and reference manuals

Group

Model your spring.
- Adjust the spring constant
- Adjust the mass
- Adjust the length of the spring

Check to make sure that the oscillation period is the same as what you measured in lab.

NOTE: Use the "*Mass on a Spring*" code as the starting the point.

Individual

This week you will test conservation of energy in a spring system.

- Using your model spring-mass system plot the potential, kinetic and total energies

Is the graph of the different energies what you expect?