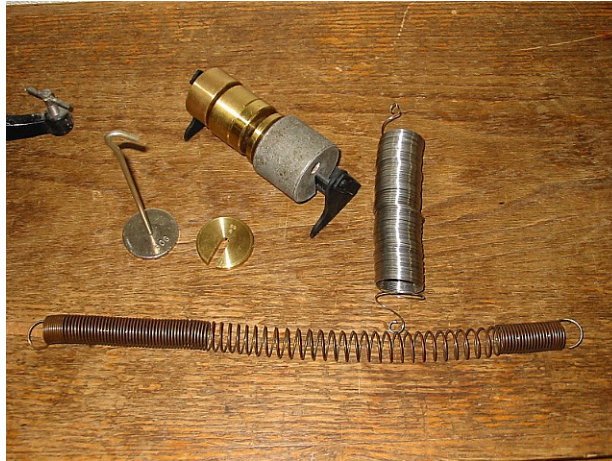


Hooke's Law



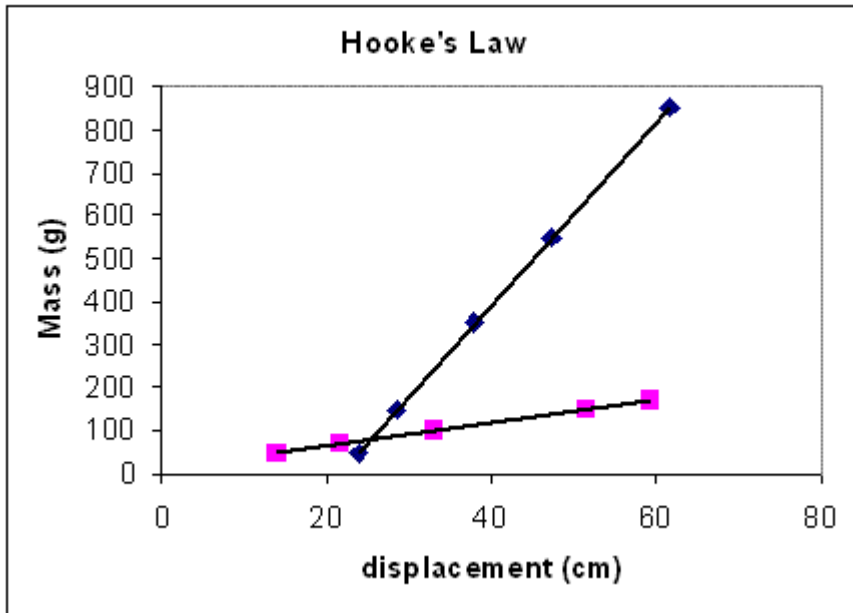
Purpose: Demonstrate Hooke's Law.

By adding weights and measuring the displacement, one can show the linear relation between force and extension of a spring. Two springs are supplied, weak and strong, so the idea of a spring's stiffness and the spring constant k can be introduced.

Note: The springs are linear enough for a demo. They were measured in a lecture-type way (guessing the displacement as they were still jiggling), and the results are shown below. When the slopes are multiplied by g , and converted to proper units,

$$k_{\text{weak}} = 2.61 \text{ N/m}$$

$$k_{\text{strong}} = 20.8 \text{ N/m}.$$



Extra Equipment: None.

Location: Shelf B4 (with stand).