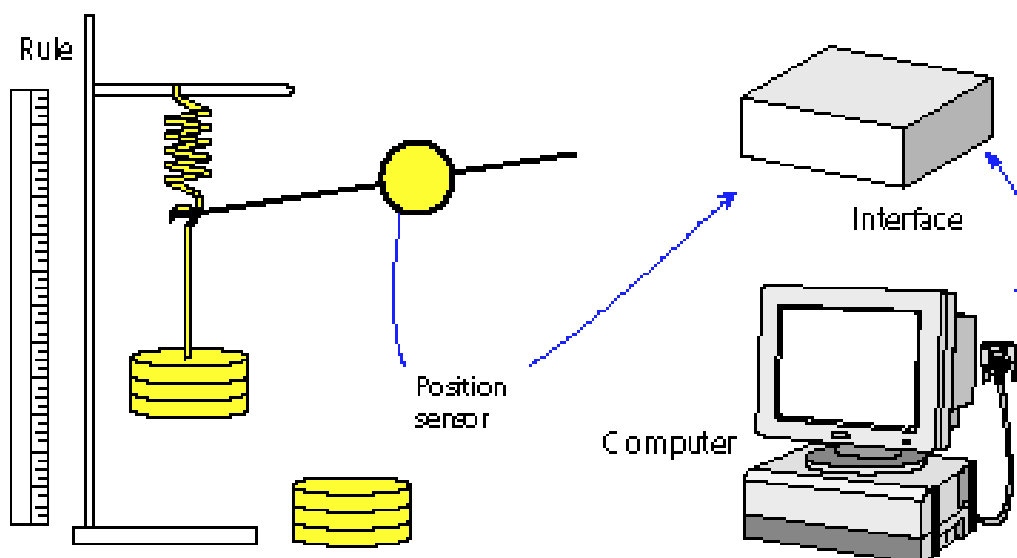


Extension of a spring



A position sensor is attached to a weight and spring assembly as shown. This can be used to graph the extension of the spring with increasing mass.

Apparatus

Clamps & stand, ruler, spring and masses, interface and position sensor.

Setting up

Connect the sensor to socket 1 on the interface. Set up the position sensor, spring and masses as shown. You may need to do a trial run to arrange the position sensor so that, with no mass, the arm rests near the top of its range.

Some systems recognise the sensors you attach automatically, in others you do this yourself. You may be able to calibrate the movement of the sensor in absolute distance units.

The software also needs to know that you will be entering masses, of say, between 0 and 50 g via the keyboard.

Recording the data

Start recording - you should be prompted to enter a mass value at the keyboard. With no mass on the spring, type 0 for the mass.

Add a mass to the carrier. Type in 10 for the new mass. Continue adding masses and entering the total mass each time.

Using the results

How is an increasing load on the spring shown on your graph?

How does the extension of the spring change with mass?

Save your data on disk. Print the graph.

