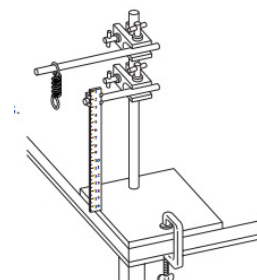


Make a force meter – inquiry activity

A spring can be used to make a force meter

Apperatus

- Stand and 2 clamps
- Metre rule
- Spring
- Mass holder and masses
- G clamp
- Objects to weigh



Before a spring can be used to make a force meter it needs to be calibrated. This means you will need to find out how much the spring stretches for particular weights.

Method

- ① Set up your apparatus as shown in the diagram.
- ② Draw a table of results using the headings as below

Mass (g)	Weight (N)	Length (cm)	Extension (cm)
----------	------------	-------------	----------------

- ③ Measure the length of the spring without anything hanging on it. This is the measurement for zero mass.
- ④ Add masses and measure length of the spring each time.
- ⑤ Fill in the weight column of your table. Weight = mass x 10
- ⑥ Work out the extension of the spring for each weight. The extension is the length of the spring minus the length for zero mass.
- ⑦ Plot the graph of weight (along the bottom) and extension (up the side)
- ⑧ Now you can use your force meter to weigh other things. Hang an object on the spring and measure it's length. Work out the extension and then use your graph to find it's weight. For example:

