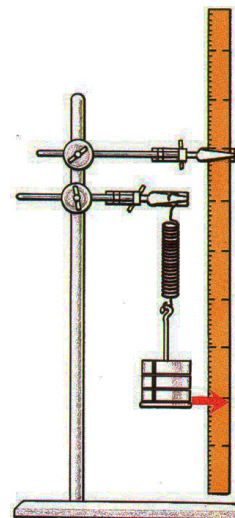


Laboratory: Measuring the extension of a spring (see book p 44)**Goal:**

Find a relationship between the extension of a spring and the force, which is pulling the spring

Experiment

1. Set up the apparatus approximately as shown in the figure. Use the benches, wire, masking tape and paper to do it. Fix the ruler, so it does not move during the entire experiment. With the paper make an indicator. Measure the length of the spring without a load. Add a load of 1 N (equals the weight of a mass of 100 g) to the spring. Measure how much longer the spring now is. You should record by how much the spring has stretched - not its actual length.
2. Repeat the measurements, increasing the load a little each time. Note the two values (load and extension) each time in the value table below. Do the same with another spring.



	Spring A			Spring B		
	Load [N]	Extension [cm]		Load [N]	Extension [cm]	
1						
2						
3						
4						

Observation:

Graphic analysis:

Plot your results as a line graph in your graph booklet. Put 'load' on the horizontal axis, and 'extension' - how much the spring has stretched - on the vertical axis.

Interpretation

Law:**Questions:**

- 1 What is the shape of your graph?
- 2 If your spring extended by 2.5 cm, what force was being applied to it?
- 3 If the load on your spring is doubled, what happens to the extension?
- 4 What would happen if the spring in a Newton meter went beyond its elastic limit? How is this prevented?