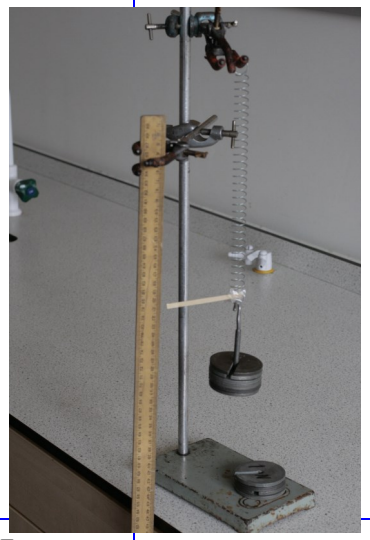
Organise the method used to measure force and extension of spring:

- Adjust the ruler so that it is vertical. The zero on the scale needs to be at the same height as the top of the spring.
- Attach the ruler to the bottom clamp with the zero on the scale at the top of the ruler.
- Take a reading on the ruler – this is the length of the unstretched spring.
- Add further weights. Measure the length of the spring each time.
- Hang the spring from the top clamp.
- Attach the splint securely to the bottom of the spring. Make sure that the splint is horizontal and that it rests against the scale of the ruler.
- Carefully hook the base of the weight stack onto the bottom of the spring. This weighs 1.0 newton (1.0 N).



Risk Assessment:

Suggest what the risks are in this experiment. Describe what you should do to minimise the risks.

1.

2.

3.

What can you do to minimise errors in this experiment. For each part of the experiment suggest how it has been minimised:

- Adjust the ruler so that it is vertical.
- Attach the ruler to the bottom clamp with the zero on the scale
- Hang the spring from the top clamp
- Make sure that the splint is horizontal

What are the variables in this experiment:

Independent:

Dependent:

Control (describe how you might keep these from affecting your experiment):

Plan

Without turning over (!) write a step by step plan for measuring the extension of a spring when weights are put on.

Measuring the Extension against force

Force on Spring (N)	Extension (cm)
1N	8 cm
2N	12 cm
3N	16 cm
4N	17 cm
5N	17 cm

As the force increases, the extension ……..

Until it reaches it's …… of proportionality at …….cm

Complete the sketch graph