

PRACTICAL 1.3.4 -2

- ✓ **Describe** the relationship between force and extension for a spring obeying Hooke's Law.
- ✓ **Select** and **apply** the equation $F = kx$ where k is the force constant of the spring or the wire.

You are to investigate the behaviour of a spring that obeys **Hooke's Law**. Set up one spring using a retort stand and clamp.

- How will you avoid parallax errors?
- How will you record accurate and precise results?
- How many 100g masses can you safely add?

Once you have recorded your results you are to plot a graph of force on the y-axis and extension on the x-axis. Calculate the gradient using an appropriate method.

Force / N	Length / m	Extension / m
0		0

The gradient is called the Spring Constant, k .

Spring Constant = _____ Nm^{-1}

Equipment Required:

- **SAFETY GLASSES (SPRINGS CAN SNAP AND FLY INTO EYES)**
- Retort stand, clamp and boss
- Spring
- Metre rule, set square
- 100g slotted masses

