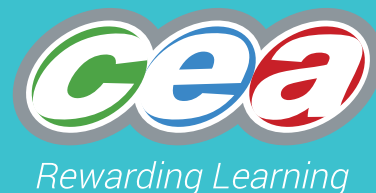


GCSE



CCEA GCSE TEACHER GUIDANCE
**Double Award Science
Practical Manual**

Unit 7: Practical Skills

P2: Investigating Hooke's Law

For first teaching from September 2017



Investigating Hooke's Law

- Investigate experimentally the extension of a spring and how it is related to the applied force, and recall that the extension of a spring is directly proportional to the force applied, provided that the limit of proportionality is not exceeded



Apparatus to investigate Hooke's Law:

Left – unloaded to measure natural length of the spring

Right – same spring with known mass suspended to measure extension (total length – natural length)



Method:

- Set up apparatus as shown in diagram
- Measure length of spring
- Add known weight
- Measure extension of the spring
- Repeat adding extra weights
- Record results in a table
- Draw graph of force (load) in newtons on the x-axis, and extension in centimetres on the y-axis
- Work out the spring constant k
- Identify on your graph the elastic limit if it is shown

Force applied/N	Extension/cm