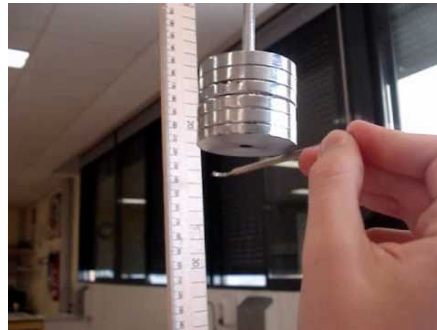
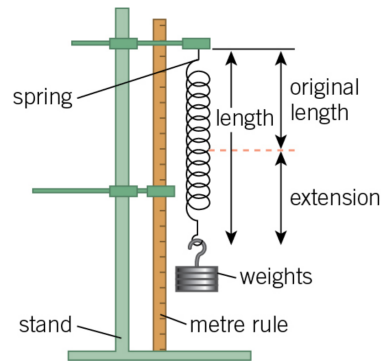


Year 7 - Ups, Downs and Arouns - Forces

In this unit, children will use force diagrams with arrows showing balanced and unbalanced forces, understand the forces associated with deforming objects (springs), measure stretch using Newton meters, and learn about the force-extension linear reaction (Hooke's Law).



Skills Development

Choose appropriate equipment to accurately and precisely take measurements, and begin to explain and understand when repeat readings are appropriate. Evaluate risks.

Confidently make predictions using scientific knowledge and understanding. Select and use appropriate techniques, apparatus, and materials during fieldwork and laboratory work, paying attention to health and safety. apply mathematical concepts and calculate results.

Independently interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions. understand and use SI units and begin to use IUPAC (International Union of Pure and Applied Chemistry) chemical nomenclature.

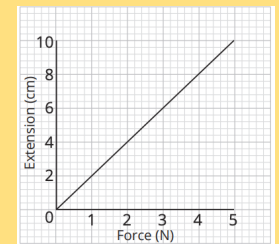
Key Knowledge

You can't see forces but you can see their effects. Force arrows show which forces are acting, the direction and the size of the force.

Mass is measured in kg. Weight is measured in N.

The extension of some elastic objects can be described by Hooke's law.

Hooke's law says that the amount of force you apply is proportional to the stretch.



Key Vocabulary

Spring	Extension
Weights	Force
Hooke's Law	Gravity
Newtons	Stretch
Resistance	Balanced / Unbalanced

How do forces affect the things around us?

Sequence of learning

Effect of mass on gravity
Mass vs. Weight
Elasticity
Hooke's Law
Friction