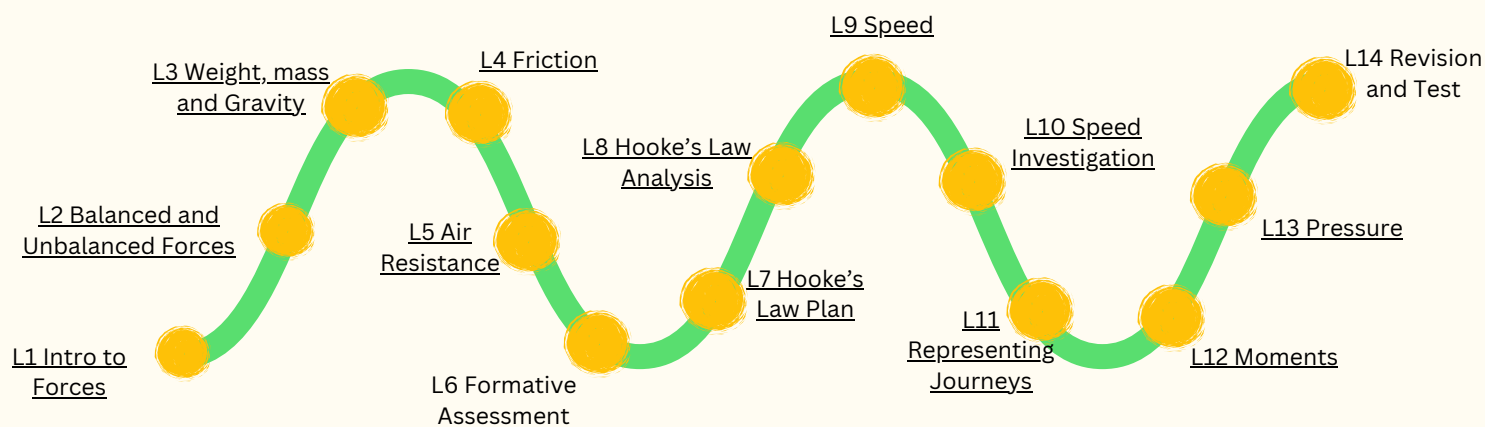


In this topic, you will learn that forces can change the motion or shape of objects and are divided into contact and non-contact forces. You will explore different types of forces, such as gravity, friction, and air resistance, and how they act on objects. You will also learn how to measure forces, use force diagrams, and understand balanced and unbalanced forces. Later in the unit, you will investigate how forces cause turning effects (moments), how pressure acts in solids and fluids, and how to calculate speed.



Prior learning link: KS1&2 Uses of everyday materials, Forces and Magnets.

Key words

- **Force** – An interaction that can change the motion or shape of an object; measured in newtons (N).
- **Contact Force** – A force that acts when two objects are touching (e.g. friction, air resistance).
- **Non-Contact Force** – A force that acts at a distance without touching (e.g. gravity, magnetic force).
- **Gravity** – A non-contact force that pulls objects towards each other, especially towards the Earth.
- **Friction** – A contact force that resists motion between two surfaces rubbing against each other.
- **Air Resistance** – A type of friction acting against objects moving through the air.
- **Balanced Forces** – Forces that are equal in size and opposite in direction, resulting in no change in motion.
- **Unbalanced Forces** – Forces that are not equal, causing a change in an object's motion.
- **Newton (N)** – The unit used to measure force.
- **Resultant Force** – The overall force acting on an object after all forces are combined.
- **Force Diagram** – A diagram showing all the forces acting on an object, usually with arrows.
- **Moment** – The turning effect of a force around a pivot point.
- **Pressure** – The force applied per unit area; calculated as $\text{force} \div \text{area}$.
- **Speed** – A measure of how fast something is moving; calculated as $\text{distance} \div \text{time}$.
- **Mass** – The amount of matter in an object; does not change with location and is measured in kilograms (kg).

Revision Resources

[BBC KS3 Forces](#)