



Endpoints for Science

Year 5 – Forces in Motion



We will revisit prior learning about forces and discuss the two types: contact and non-contact forces. We learn about gravity and observe it in action and revisit learning about friction and design a comparative test to explore its effect. We will learn in detail about the frictional forces of air and water resistance and conduct investigations to observe them in action. We will learn about mechanisms, including gears, pulleys and levers and follow instructions to investigate how these simple machines use forces to make tasks easier.

What I know and can explain

Gravitational force, or gravity, is a non-contact, pulling force between objects that have mass

Gravitational force increases as the mass of an object increases

Friction is a contact force between two surfaces as they move across each other

Friction always acts in the opposite direction to the movement, and it always slows an object down

Air resistance is a type of friction. It is a contact force and acts when an object moves through air

The larger the surface area of an object, the greater the air resistance it will have when it moves

Water resistance is a type of friction. It is a contact force and acts when an object moves through water

The larger the surface area of an object, the greater the water resistance it will have when it moves

Levers, pulleys and gears are simple machines that can provide a mechanical advantage by allowing a smaller force to have a greater effect

Useful Vocabulary

Air resistance - A frictional contact force that acts to slow an object's movement when it moves through air

Drag - A frictional contact force between a gas or liquid and another object

Force - A push or a pull that makes something move

Gravitational force/gravity - A non-contact pulling force between objects that have mass

Magnetism - The attraction and repulsion between two magnets or between a magnet and magnetic materials

Newton (N) - The unit used to measure weight

Weight - A measure of the gravitational force acting on an object