

Key Vocabulary

Gravity	Gravity is a force which tries to pull two objects toward each other.
Air Resistance	Air resistance is a type of friction between air and another material. For example, when an aeroplane flies through the air.
Water Resistance	If you go swimming, there is friction between your skin and the water particles.
Friction	Friction is a force between two surfaces that are sliding, or trying to slide, across each other.
Balanced Force	Forces acting on each other in the correct proportions.
Weight	A body's relative mass or the quantity of matter contained by it, giving rise to a downward force
Pulleys	Pulley is a simple machine and comprises of a wheel on a fixed axle, with a groove along the edges to guide a rope or cable.
Gears	Gears are wheels with teeth that slot together. When one gear is turned the other one turns as well.
Levers	A lever can be described as a long rigid body with a fulcrum along its length.
Newton	He developed the theory of gravity and made breakthroughs in the area of optics such as the reflecting telescope.

Year 5 Forces and Mechanisms

Children will learn about the force of gravity acting between the Earth and a falling object. They will learn to identify the effects of air resistance, water resistance and friction, that act between moving surfaces. Children will learn how levers, pulleys and gears, allow a smaller force to have a greater effect.

Background Knowledge

Children will know:

- Forces are pushes and pulls
- how things move on different surfaces
- that magnets attract magnetic materials, and that they have two poles which attract or repel each other
- that some forces need contact between two objects, but magnetic forces can act at a distance

Which Scientists studied Forces?

- Isaac Newton
- Galileo Galilee
- Albert Einstein



Key Facts

1. Gravity is the pulling force acting between the Earth and a falling object, for example when you drop something. Gravity pulls objects to the ground.
2. Air resistance is the force on an object moving through air, such as a plane moving through the sky. Air resistance affects how fast or slowly objects move through the air
3. Water resistance is the force on objects floating on or moving in water.
4. Surface resistance is the force on objects moving across a surface, such as an ice-skater skating on ice.
5. Frictional force is any force that is caused due to friction. An example of this might be when you put on the brakes on your bike.
6. That gears, levers and pulleys help, in everyday life, to maximise a small force to greater affect.

