



Forces Year 5

Learning outcomes with context

- To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
- To identify the effects of air resistance, water resistance and friction
- To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect
- To explore the effects of air resistance by observing how different objects such as parachutes and sycamore seeds fall
- To explore the effects of friction on movement and find out how it slows or stops moving objects
- To find out how scientists such as Galileo Galilei and Isaac Newton helped to develop the theory of gravitation

Learning outcomes without context

- To plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- To take measurements, use a range of scientific equipment, with increasing accuracy and precision, take repeat readings when appropriate
- To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- To use test results to make predictions to set up further comparative and fair tests
- To identify scientific evidence that has been used to support or refute ideas or arguments
- To explore and talk about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically
- To draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings
- To understand how mechanical systems such as cams or pulleys or gears create movement

Key vocabulary children should know by the end of the topic

Gravity	A pulling force which pulls everything towards the centre of the Earth.
Upthrust	A pushing force which pushes objects away from the centre of the Earth.
Newtons	How force is measured, named after Sir Isaac Newton.
Water resistance	A pushing force which slows objects as they travel through water.
Air resistance	A pushing force which slows objects as they travel through air.

