



Forces

Science
Year 5
Autumn Term

Overview

During this topic, pupils will explore and investigate different forces and how they act. They will identify the effects of different forces and begin to measure them.



Knowledge & Understanding

In this unit, the pupils will:

- explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
- identify the effects of air resistance, water resistance and friction, that act between moving surfaces
- recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

Enquiry Skills & Concepts

In this unit, the pupils will be:

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions.
- identifying scientific evidence that has been used to support or refute ideas or arguments.

Home – School link project

During this topic pupils can choose to:

- Create your own pulley or lever out of house hold objects.
- Test different forces around the house

Topic Vocabulary

air resistance – the force air exerts against a moving object

force – an interaction that, when unopposed, will change the motion of an object

friction – a force between two surfaces that slows or stops the motion

gravity – the force by which all objects are attracted to each other

mechanism – the working or moving part of a machine or device

newton – a unit of force

newton metre – a device used to measure forces in newtons

water resistance – the force water exerts against a moving object

Working Scientifically

accuracy – how close a result comes to the true value

analyse – explore why something happened the way it did

comparative test – a test that compares one event to another and identify different outcomes

data – information collected for a specific purpose

evaluation – examining how your test could be improved / changed in the future

fair test – a test that controls all but one variable when attempting to answer a scientific question

prediction – to use prior knowledge to state the outcome before it has happened

variable – can change and not constant