



What is a force?

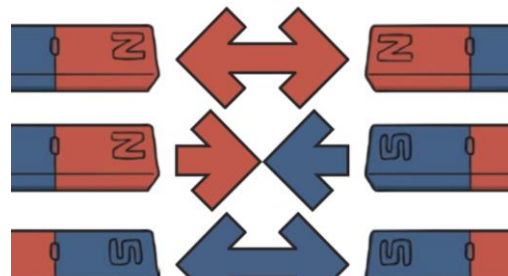
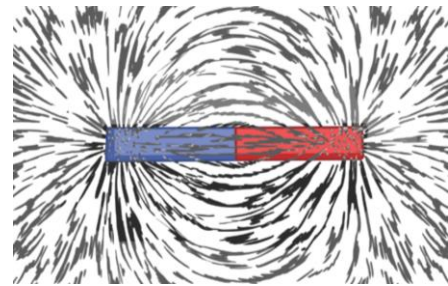
Background Information

Have you ever wondered what a force actually is and where you can see a force in action? A force is a push or pull acting on an object and this creates motion (movement). Forces can make objects stop or start moving. Interestingly, some forces are invisible, such as gravity. Gravity is the invisible force that pulls objects down towards the ground.

Friction is another force. It occurs when two solid surfaces rub together. To make an object move, you must apply force to it. This motion force has to overcome the force of friction, otherwise it will not move.

In this unit the children will:

- learn about what a force is
- investigate how different surfaces can affect the distance travelled
- explore what magnets are
- learn about what magnetic materials are
- investigate which materials are magnetic



Scientific Skills and Concepts

- To ask questions and set up enquiries.
- To answer these, making observations.
- Take measurements with a range of equipment.
- Record, present and analyse data.
- Use diagrams, tables and graphs.

Enquiry types





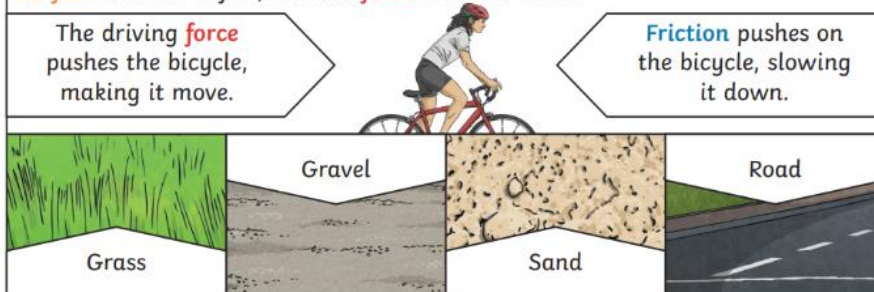
Key facts

Key Knowledge

Different **surfaces** create different amounts of **friction**. The amount of **friction** created by an object moving over a **surface** depends on the roughness of the **surface** and the object, and the **force** between them.

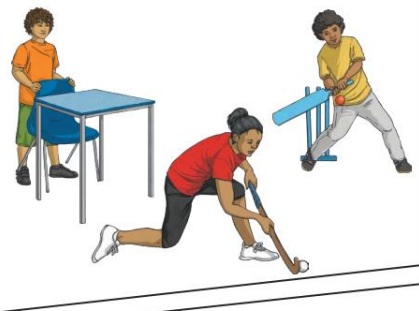
The driving **force** pushes the bicycle, making it move.

Friction pushes on the bicycle, slowing it down.

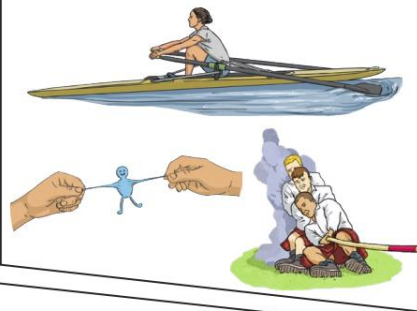


Key Facts

Pushes



Pulls



Forces will change the motion of an object. They will either make it start to move, speed up, slow it down or even make it stop.

Key Vocabulary

- **Attract:** A force that pulls objects together.
- **Force:** An energy that causes motion; a push, pull or twist.
- **Friction:** A force that acts between two surfaces.
- **Gravity:** A force that pulls things down to the ground.
- **Magnet:** An object that produces a magnetic field.
- **Magnetic:** Objects that are attracted to a magnet are magnetic.
- **Poles:** Two sides of a magnet (North and South) where the magnetism is strongest.
- **Pull:** A force bringing an object closer.
- **Push:** A force that moves an object further away.
- **Repel:** A force that pushes objects away from each other.
- **Surface:** A top outer layer of an object.