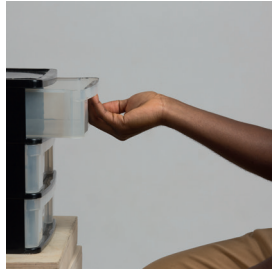


### Forces

When a force is applied to an object, it will cause the object to change its speed, direction, or shape.



A pushing force can move an object away from you

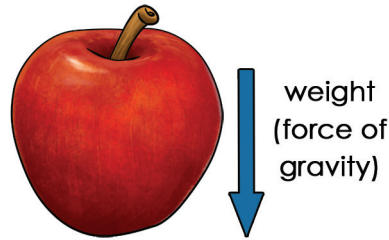


A pulling force can move an object towards you



A twisting force can cause an object to rotate

- Friction is a force which slows down moving objects. Different surfaces create different amounts of friction.
- Gravity is a force which pulls objects down to the Earth.
- Magnets produce a force which attracts magnetic materials.



### Magnetic materials

Magnetic materials:

- are usually metals (like iron and steel)
- are attracted to other magnets.

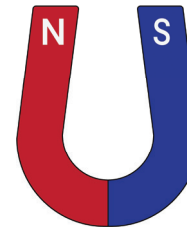
We can investigate the strength of different magnets using magnetic materials.

### Magnets

Magnets come in different shapes and sizes.

All magnets have two poles.

north pole      south pole

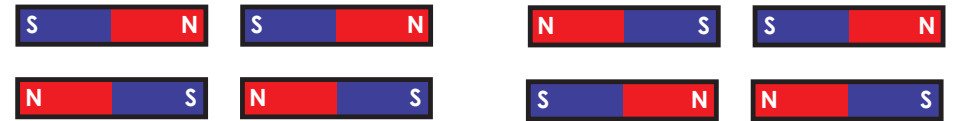


horseshoe

The poles of a magnet are where the magnetic forces are the strongest.

Opposite poles of magnets are attracted to each other.

Like poles of magnets repel each other.

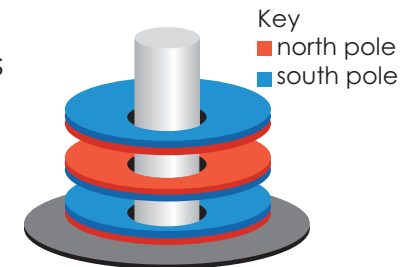


A magnetic field is an invisible area around a magnet where the material experiences a force. Magnetic forces act at a distance so they do not need to touch.

### Uses of magnets in real life

The magnet inside a compass helps people to know the direction they are travelling in.

The magnet inside a fridge keeps the door closed.



Word	Definition
attract	When objects pull towards each other.
compass	An instrument with a magnetic pointer which is used for finding direction.
force	Something that changes the direction, speed, or shape of an object.
friction	A force that slows down a moving object.
gravity	A force that pulls objects down to Earth.
magnet	An object that can attract other magnetic objects.
magnetic	If something is magnetic, it attracts pieces of iron or steel towards it.
magnetic field	The area around a magnet where a magnetic object experiences a force.
magnetic materials	Something that is attracted to a magnet.
pull	A force used to move an object towards you.
push	A force used to move an object away from you.
repel	To repel someone or something is to drive or force them away or apart.
twist	When you twist something, you turn it round.