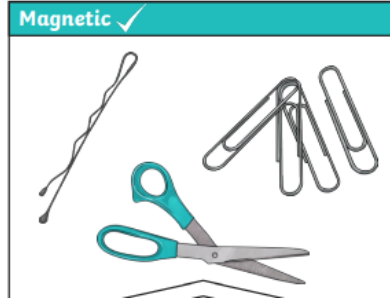




## Year 3—Forces and Magnets

### What I should already know

- Knowledge from Year 1 and 2 of everyday materials
- Describe the properties of everyday materials
- Compare and group materials
- Identify and compare the suitability of a variety of everyday materials.



### Sticky Knowledge

- ◆ A force needs two objects where one pushes or pulls the other to make it move. Forces are used all of the time to move things and to make ourselves move.
- ◆ The rougher the surface the harder it is for an object to move as there is more friction acting between the object and surface.
- ◆ Some forces require direct contact between two objects while some forces do not. Gravity and magnetism are two examples of forces that do not require contact between two objects to make them move.
- ◆ A magnet has a magnetic field around them. This is an invisible force that allows them to pull objects towards them or push objects away from them without any direct contact.
- ◆ Magnets have two poles—a north pole and south pole. Opposite poles will attract and the same poles will repel.
- ◆ Metals are the only material that is magnetic however not all metals are magnetic. Iron and steel are metals that are magnetic. Magnets have many uses.

### Vocabulary

force	A push or pull acting on an object.
newton	The unit used to measure forces.
Isaac Newton	The first man to explain gravity.
friction	A force between two surfaces that are sliding, or trying to slide, across each other.
gravity	A force that pulls everything towards the centre of the Earth.
magnet	An object which produces a magnetic force to pull objects towards it.
magnetic field	An area around a magnet where there is a magnetic force which will pull magnetic objects towards it.
magnetic	A material that is attracted to a magnet.
attract	Attraction is a force that pulls objects together
repel	Repulsion is a force that pushes objects away.
surface	The top layer of something
non-magnetic	A material that is not attracted to a magnet.

### Working Scientifically

- Compare how different things move and group them; raising questions and carrying out tests to find out how far things move on different surfaces, and gather and record data to find answers to your questions.
- Explore the strengths of different magnets and find a fair way to compare them; sort materials into those that are magnetic and those that are not.
- Looking for patterns in the way that magnets behave in relation to each other.