

Forces and Magnets - Year 3 - Unit 2

Scientific Enquiry



comparative & fair testing

Comparative testing means testing objects to rank them. We will test how objects move on different surfaces and make predictions for further tests.

Fair tests are enquiries that observe or measure the impact of changing one variable when all others are kept the same. We will test how objects move on different surfaces and make predictions for further tests.

identifying & classifying

Identifying means knowing what something is and naming it. **Classifying** means grouping things together if they have something in common. We will classify materials according to whether they are magnetic and present our results.

Working Scientifically

Asking scientific questions

Planning an enquiry

Observing closely

Taking measurements

Gathering and recording results

Presenting results

Interpreting results

Concluding (drawing conclusions)

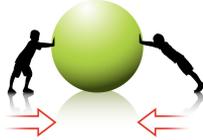
Predicting

Evaluating an enquiry

Subject Specific Vocabulary

force

Forces can be a push or a pull. A **force** can make things move, change their speed, or change their shape.



contact force

A **contact force** is a force that occurs when two things touch, such as a foot kicking a football.



Some forces can act at a distance. A magnet does not need to touch the object that it attracts.

magnet

A **magnet** is a rock or metal that pulls towards (**attracts**) or pushes away (**repels**) other materials.



Magnets vary in their shape and strength.

This is a horseshoe magnet.



This is a bar magnet.

This is a ring magnet.



This is a disc or button magnet.

magnetic

Magnetic materials are attracted to magnets. They are always made of metal. Not all metals are magnetic.

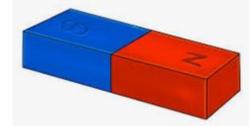
Examples of **magnetic materials** are iron, nickel and steel. Any object or material that has iron, nickel or steel in it will be attracted to a magnet.



Paperclips are often made from steel which is a **magnetic material**, so will be attracted to a magnet.

poles

Poles are the strongest parts of a magnet. Magnets have a **north** and a **south pole**. Sometimes these are labelled N and S or colour coded (often blue for south, red for north).



When two of the same poles are placed close together they **repel** each other (push each other away). When two different poles are close, they **attract** (pull towards) each other.



Things you learnt in previous topics

In Year 2 you found out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.



How this connects with future learning

In Year 5, you will explain that unsupported objects fall towards the Earth because of the force of gravity. You will identify the effects of air resistance, water resistance and friction. You will recognise that levers, pulleys and gears allow a smaller force to have a greater effect.