



**Science Focus:**

Forces and Magnets

**Year 3**

**Term:**

## Contact Forces

What is a force?	A force is either: A push or A pull
Forces can make things...	Speed up Slow down Change shape Change direction
A force that speeds something up	The child is pushing the car to speed it up.
A force that slows something down	The girl is pulling the dog to slow it down.
A force that changes the shape of something	The can is being squeezed so it becomes smaller
A force that changes the direction of something	When the ball is hit with the racket, it will change direction.

## Working as a Scientist

- Explore the uses of magnets in everyday objects
- Group everyday objects into magnetic and nonmagnetic by testing with magnets
- Design a mechanism that requires a magnet to enable it to work

## Changing the movement of an object requires a force to be acting on it

Forces can push, pull or twist objects, making them change their motion or shape. The movement of objects is changed if the forces acting on them are not in balance.

## Objects can affect other objects at a distance

Magnets affect magnetic objects at a distance as they have a 'field of influence'. This is called a magnetic field.

## Diagrams and Symbols

Magnets only attract certain types of metals, other materials such as glass, plastic and wood aren't attracted.



Metals such as iron, nickel and cobalt are attracted to magnets.



Most metals however are not attracted to magnets, these include copper, silver, gold, magnesium, platinum, aluminium and more.



## Magnetic Forces

Why is magnetism different?	Magnetic forces do not need contact.	
Magnets have a North Pole and a	<b>South Pole</b>	<b>North Pole</b>
Magnets attract or repel each other	Attract:  Repel:  North and South attract. But North and North or South and South will repel.	

## Types of magnets

Bar	
Ring	
Button	
Horseshoe	

## What? (Key Vocabulary)

Spelling	Definition/Sentence
Squeezed	Firmly press (usually with the fingers)
Contact	Physically touching something
Magnetic	Can be attracted to a magnet
Attract	To come together
Repel	To force away/apart