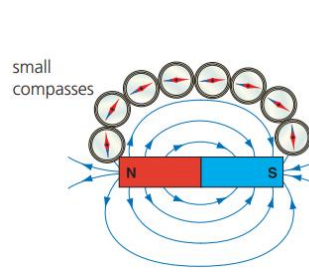
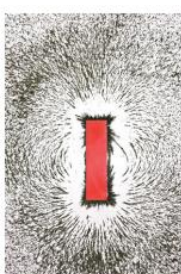


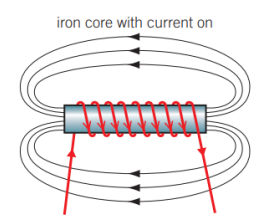
Magnets

1	Poles	Magnets have two poles – a north pole and a south pole
2	Magnetic materials	These will experience a non-contact force when placed into a magnetic field. The magnetic metals are: 1 – Iron 2 – Nickel 3 – Cobalt
3	Attract	North poles attract South poles South poles attract North poles
4	Repel	South poles repel South poles North poles repel North poles

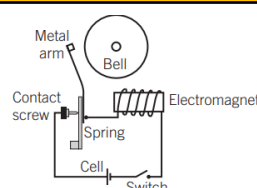
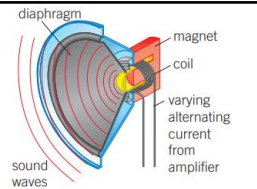
Magnetic Fields

1	Fields	Fields are regions around a magnet where a magnetic material experiences a force
2	Field lines	Field lines represent the field and always point away from the north pole and into the south pole.
3	Use small compasses or iron filings to find the shape of the field	 

Electromagnets

1	Wrap wire round an iron core to make one	
2	Advantages	1 – Can be turned on and off 2 – Can be made stronger than a permanent magnet
3	To make it stronger:	1 – increase the current 2 – increase the number of turns of wire 3 – Use a more magnetic material for the core

Using Electromagnets

1	Electric bells	
2	Loud speakers	
3	Circuit breakers	Devices which use an electromagnet to turn off the current in a house if the current gets too high

Key Vocabulary

1	Magnetic field	A region where a magnetic material will experience a force
2	Non-contact force	A force that does not need objects to be touching
3	Attract	A force that tries to pull objects towards each other
4	Repel	A force that tries to push two objects away from each other
5	Permanent magnet	A magnet that produces it's own magnetic field all the time
6	Electromagnet	A magnet created by wrapping wire with a current around an iron core
7	Core	The material in the middle of the electromagnet – usually made of soft iron
8	Current	The amount of charge flowing per second