

Magnetism

Magnets can be either temporary or permanent

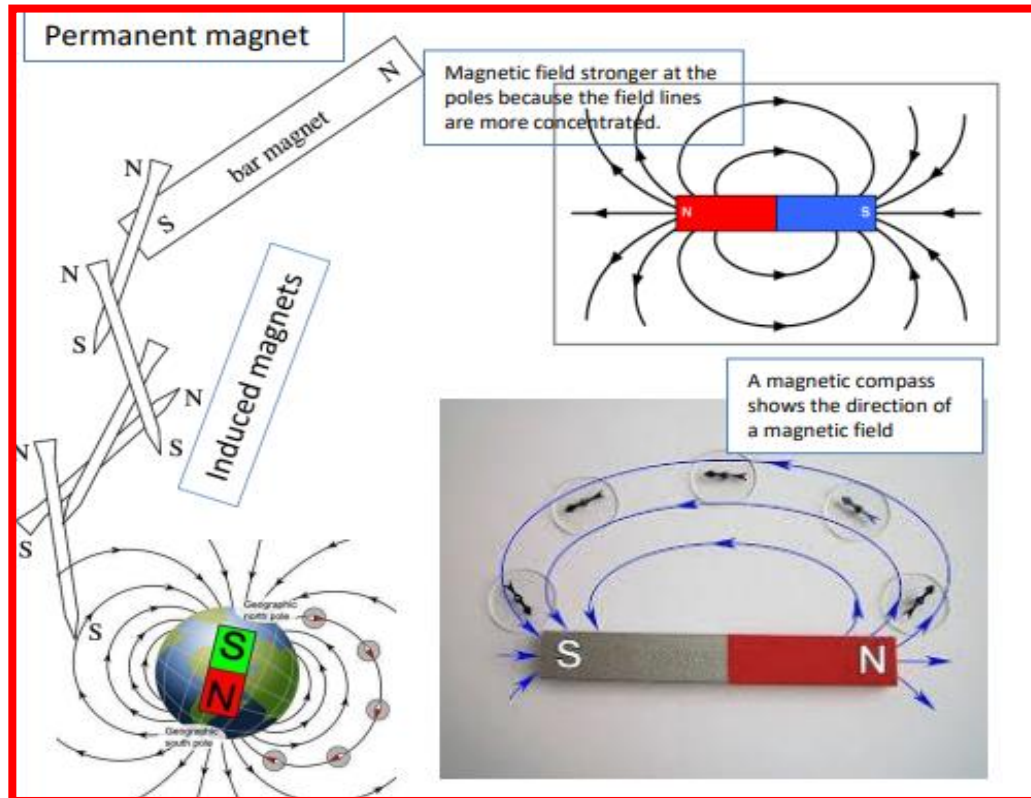
The poles of a magnet are where the magnetic forces are strongest.

This is because the magnetic field lines are most concentrated at the poles.

They exert non-contact forces.

If like poles (NN or S-S) are brought together, the force is of repulsion. If unlike poles are brought together (N-S), the force is of attraction.

Magnetic materials include; cobalt, nickel and iron



Electromagnetism

An electromagnet uses an electrical current to generate a magnetic field in a coil of wire.

Electromagnets can be switched on and off. They are only magnets while current is flowing through the coil. Electromagnets can be made stronger or weaker.

There are three ways to strengthen an electromagnet:

- increasing current
- increasing the number of turns of the coil
- adding an iron core

An electromagnet with a permanent magnet can be used to make motors, automatic locking doors and loudspeakers and headphones.

