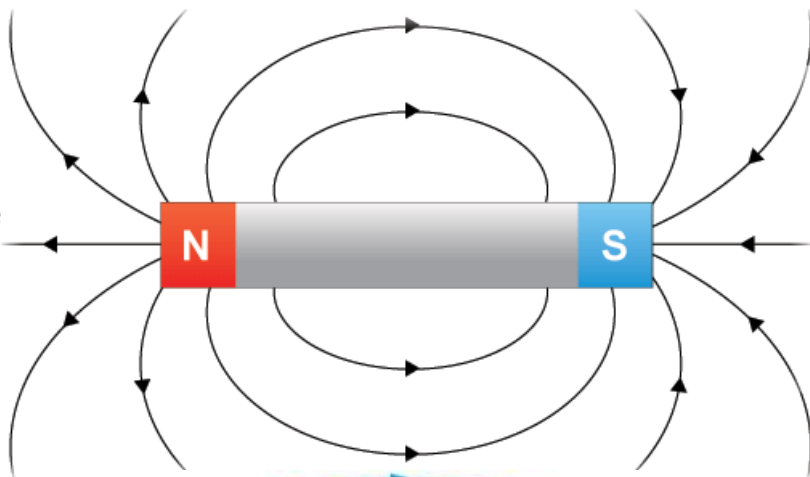


Physics 7: Magnetism and Electromagnetism

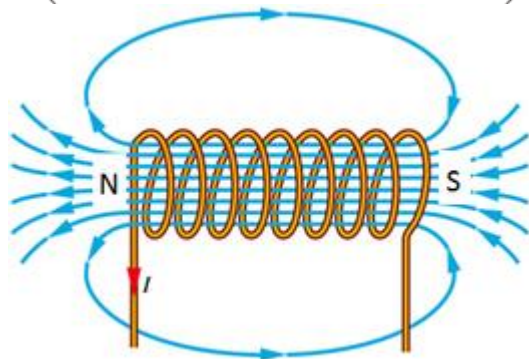
Section 1: Magnetism Key Terms

1 Pole	The places on a magnet where the magnetic forces are strongest .
2 Magnetic Field	The area around a magnet where a force acts on another magnet or magnetic material.
2 Repel	Occurs when two like poles are brought close together. The magnets push apart .
3 Attract	Occurs when two opposite poles are brought close together. The magnets move together .
4 Permanent magnet	A magnet that produces its own magnetic field .
5 Induced magnet	A magnetic material that becomes a magnet when it is placed in a magnetic field . When removed from the field it quickly loses its magnetism .
6 Magnetic material	There are four magnetic materials: iron, steel, cobalt and nickel .
7 Compass	Compasses contain small bar magnets which points to the north pole of the Earth's magnetic field .

8 The magnetic field around a bar magnet. The **field lines** always go **from North to South**

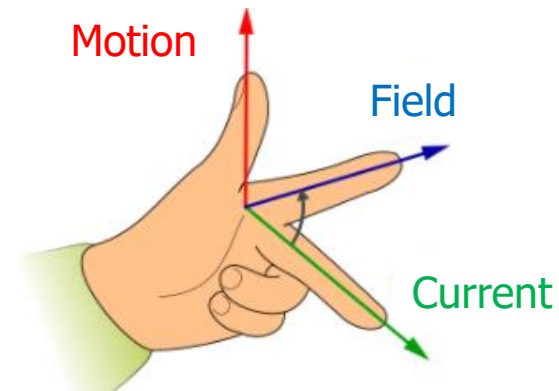


9 The magnetic field in a **solenoid** is concentrated **inside the coil in a uniform direction**, otherwise it acts in the same way as a bar magnet.



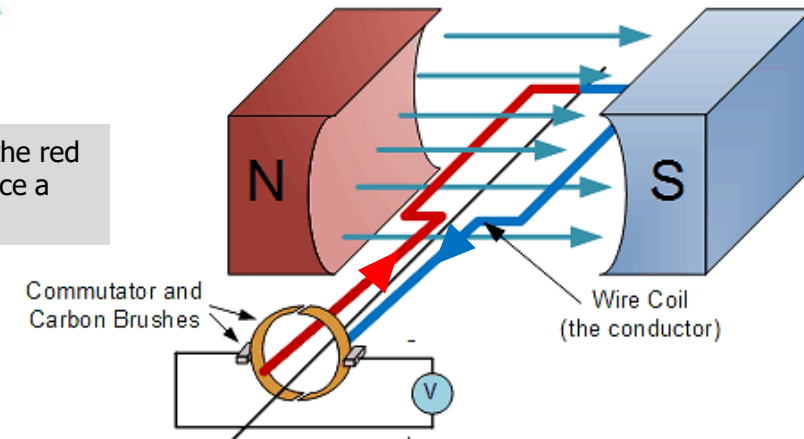
Section 2: Electromagnetism Key Terms

10 Solenoid	A coil of wire that will create a magnetic field when current is passed through it. The magnetic field inside the solenoid is strong and uniform . It acts in the same way as a bar magnet.
11 Electromagnet	A solenoid containing an iron core which increases its strength.
12 Motor effect (HT)	When a conductor carrying a current is placed in a magnetic field , the magnet producing the field and the conductor exert a force on each other . This can be used to create a motor.
14 Fleming's Left Hand Rule (HT)	A rule that shows the relative direction of the current, force and magnetic field in the motor effect.



15 (HT) Fleming's Left Hand Rule. Align fingers to the field and the direction of the current to work out the way the wire moves.

16 (HT) A motor. In this case the red part of the wire would experience a force upwards.



Section 3: Increasing the force of...

17 A Solenoid	18 A Motor (HT)
Add an iron core	Increase the number of coils of wire
Increase the number of coils of wire	Increase the strength of the magnetic field
Increase the current	Increase the current
Move the magnetic material/ magnet closer to the solenoid	