P3 Physics Electricity

Conductors	Charges (electrons) can move from atom to atom in an electrical conductor (e.g. copper).
Insulators	Materials that don't have this ability are described as electrical insulators.
Current	When all the free moving charges are made to move in the same direction an electric current is formed.
	A complete circuit including a power supply or battery/cell is required for current to flow.
Components	Electrical components found in circuits can be identified in diagrams from their coded symbols.
Series circuit	Circuits where current (flowing charges) can only follow one path are described as series circuits.
Parallel Circuit	Circuits which branch and allow more than one path to be followed by current are described as parallel circuits.
Potential difference	Potential difference provides the energy required for current to flow and is measured in volts (v).
Resistance	Resistance is a measure of how difficult it is for current to flow and is measured in ohms (Ω).
	The relationship between current, potential difference (voltage) and resistance is described as: $potential\ difference = current \times resistance$ mathematically.
	For a fixed resistor the current flowing is proportional to the potential difference.
Static electricity	Objects can become charged with static electricity through the action of friction.
Transferring charge	Friction can transfer charges (electrons) from or to objects.
Charged	If an object loses electrons it becomes positively charged. If it gains electrons it becomes negatively charged.
Repulsion and Attraction	Objects with the same charge repel each other, whereas objects with opposite charge are attracted to each other.