

## P2 Topic      Electrical Safety

<b>Static electricity</b>	
1. What type of material can become electrically charged (static)?	Insulating
2. What do you do with insulating materials to make them electrically charged?	Rub them together
3. How does a material become negatively charged	It gains electrons from the other material
4. How does a material become positively charged?	It loses electrons (they go to the other material)
5. What happens when 2 objects with the same type of charge are brought together?	Repel
6. What happens when 2 objects with different types of charge are brought together?	Attract
7. Name a type of substance which electrical charges move quickly through	Metals
<b>Household electricity</b>	
8. What do we call current that always flows in the same direction?	Direct current (DC)
9. What do we call current that is constantly changing direction?	Alternating current (AC)
10. What type of current is provided by batteries and cells?	Direct
11. What type of current is provided by mains electricity?	Alternating
12. What does a direct current look like on an oscilloscope trace?	Flat, horizontal line
13. What does an alternating current look like on an oscilloscope trace?	Wave
14. What are the units for electrical frequency	Hertz (Hz)
15. What is the frequency of UK mains electricity	50Hz
16. What is the voltage of UK mains electricity?	230V
17. Name the wires, with their colours, in an electrical cable	Live (brown), neutral (blue), earth (green and yellow stripy)

18.Name 3 devices which increase the safety of electrical circuits	Earth wire, Fuse, RCCB
19.How does a fuse work?	Melts if the current is too high
20.State the relationship between wire thickness and fuse rating	The thicker the wire, the higher the rating (more current needed to melt it)
21.What does RCCB stand for?	Residual Current Circuit Breaker
22.How does an RCCB work?	Breaks the circuit if the current in the live and neutral wires is different
23.State 2 advantages of an RCCB over a fuse	Faster, can be re-set rather than replaced
24.What do we have to do with appliances with metal cases?	Earth them
25.What type of appliance doesn't need an earth wire?	Double insulated
<b>Current, charge, power</b>	
26. What happens to a resistor when electrical charge flows through it?	Gets hot
27. How is a lot of energy wasted in a filament bulb?	As heat
28. How much energy is wasted in power-saving lamps such as Compact Fluorescent Lamps (CFLs) compared to a filament bulb?	Less
29.What are the units for power	Watt (W)
30.The rate at which energy is transferred through an appliance is called its.....	Power