**Year 7 Energy and Electricity (D4)**

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| 1. I can state that energy is measured in Joules | \* | ☺ | 😐 | ☹ |
| 1. I can list identify the 8 different types of energy | \* | ☺ | 😐 | ☹ |
| 1. I can describe the energy transfers in some everyday objects such as hairdryers, cars, torches, food (for all energy types) | \* | ☺ | 😐 | ☹ |
| 1. I can describe the dangers of electricity and how to stay safe with electricity | \* | ☺ | 😐 | ☹ |
| 1. I can explain that electric current is a flow of charge | \*\* | ☺ | 😐 | ☹ |
| 1. I can describe the part of the circuit that provides energy | \*\* | ☺ | 😐 | ☹ |
| 1. I can define voltage, potential difference and electromotive force and its role in the circuit | \*\* | ☺ | 😐 | ☹ |
| 1. I can explain that current is measured in Amps using an ammeter and I can set up a circuit to measure current | \* | ☺ | 😐 | ☹ |
| 1. I can explain why a circuit needs to be ‘completed’ before it will work | \* | ☺ | 😐 | ☹ |
| 1. I can explain what an electrical conductor and an electrical insulator is and can give some examples of each | Ext | ☺ | 😐 | ☹ |
| 1. I can describe how the resistance of a material changes depending on its ability to conduct | Ext | ☺ | 😐 | ☹ |
| 1. I can describe some models for circuits that show current as a flow of charge and voltage as a force that transfers energy | Ext | ☺ | 😐 | ☹ |
| 1. I can identify circuit symbols | \* | ☺ | 😐 | ☹ |
| 1. I can analyse and design a series circuit and explain why it may not work | \*\* | ☺ | 😐 | ☹ |
| 1. I state that current is the same everywhere in a series circuit | \* | ☺ | 😐 | ☹ |
| 1. I can explain how current flows in a series circuit and why current is the same everywhere in the circuit | Ext | ☺ | 😐 | ☹ |
| 1. I can state that current is different in different branches of a parallel circuit | \*\* | ☺ | 😐 | ☹ |
| 1. I can analyse and design a parallel circuit and explain why it may not work | Ext | ☺ | 😐 | ☹ |
| 1. I can explain how current flows in a parallel circuit and how current is different in different parts of the circuit | Ext | ☺ | 😐 | ☹ |
| 1. I can describe how to change the brightness of a bulb in a circuit (series and parallel) | \* | ☺ | 😐 | ☹ |
| 1. I can explain how the brightness of bulbs varies with current going through the bulb and can describe an experiment to measure it | Ext | ☺ | 😐 | ☹ |
| 1. I can state Ohm’s Law and use it to calculate the resistance of a component | \*\* | ☺ | 😐 | ☹ |
| 1. I can describe what causes static electricity | \* | ☺ | 😐 | ☹ |
| 1. I can explain how electrostatic forces cause attraction and repulsion | \* | ☺ | 😐 | ☹ |
| 1. I can explain real-life examples of electrostatic forces e.g thunderstorm, handshake | \*\* | ☺ | 😐 | ☹ |

I understand (and can spell) the keywords listed below and can use them in 1-25 above.

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| **Keywords** |
| appliance, lamp, voltage, complete circuit, bulb, buzzer, battery, switch, symbols, wires |
| kinetic energy, potential energy, energy transfer diagram, fuel, heat energy, chemical energy, electrical energy, light energy, sound energy, nuclear energy, gravitational potential energy, Joules (J) , kilojoules (kJ), energy conservation, electrical energy, power, power rating, Watts (W), kilowatts (kW), kettle, immersion heater,  ammeter, electrical conductor/electrical insulator, complete circuit, components, short circuit, electric charge, electric current, power supply, amps, ammeter, cell, motor, series circuit, parallel circuit, ‘blown bulb’, circuit diagram |
| Sankey diagram, Unit of electricity, positive terminal, negative terminal, resistance, ohms, electrons |