Year 7 Autumn (Harvest and the Night Sky)

**Year 7: ASK Yourself!**

**Subject: Science**

**Topic: Winter**

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|   | **Launching** **1-2**  | **Developing** **3-4**  | **Progressing** **5-6**  | **Mastering** **7-9**  |
|   Text Box**kills**  |   |   | Shape  |     |
|   | Describe a range of energy transfers using simple diagrams; Draw a circuit diagram to show a simple circuit and how voltage and current can be measured in a simple circuit, | Use a Sankey diagram as a model to represent simple energy changes.Build parallel and series circuits for particular uses.Suggest ways to reduce the risk of getting electrostatic shocks. | Explain how energy is conserved through insulation experiment.Investigate the relationship between voltage and current and draw conclusions from data on voltage, resistance and current. | Compare transfer of energy by thermal conduction, by convection and by radiation.Calculate resistance using the formula: resistance (Ω) = potential difference (V) ÷ current (A). |
|  Text Box                 **nowledge**   | Shape  |   |   |   |
|   | Explain the difference between heat and temperature.Explain what is meant by current and explain how materials allow current to flow | describe how temperature differences lead to energy transfer; Describe what the voltage does in a circuit. Explain voltage/current using different analogies. | Explain that energy can be neither created nor destroyed.Explain resistance and how it affects the circuitDescribe some uses of resistance | Describe how can we reduce rate of heat loss in our homesIntroduce ‘rate of energy transfer (power/watt)Use an analogy like water in pipes to explain why part of a circuit has higher resistance. |