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 circuit  Describe some uses of resistance | Describe how can we reduce rate of heat loss in our homes  Introduce ‘rate of energy transfer (power/watt)  Use an analogy like water in pipes to explain why part of a circuit has higher resistance. |