

| <u>Year Group: 6</u>                                                                                                                                                                                                                                                                                                                                                 | <u>Topic: DT</u>                                                                     | <u>Term: Summer 2</u>                                                                                                                       | <u>Main Focus: Electrical Systems</u>                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b><u>Rationale For Topic:</u></b> This topic is based on electrical and computer-based systems that we use in computing and science. In Year 6, we will have already done electrical circuits in science (autumn 2). We will use the programming of microbits and attach this programming to a circuit that can be activated through several different ways.</p> |                                                                                      |                                                                                                                                             |                                                                                                                                                                                                         |
| <u>Lesson Number</u>                                                                                                                                                                                                                                                                                                                                                 | <u>Learning Objective (s):</u>                                                       | <u>Success Criteria:</u>                                                                                                                    | <u>Brief outline / reasoning for sequence</u>                                                                                                                                                           |
| 1                                                                                                                                                                                                                                                                                                                                                                    | Investigate and evaluate:<br>To investigate automatic electrical systems             | <ul style="list-style-type: none"> <li>To understand why we need automatic systems</li> </ul>                                               | Children will look at different automatic systems and why they work and why they're needed. The children will brainstorm what things are using automatic systems.                                       |
| 2                                                                                                                                                                                                                                                                                                                                                                    | Focussed task:<br>To model circuits and find outputs and inputs.                     | <ul style="list-style-type: none"> <li>To build circuits safely and well.</li> <li>To understand outputs and inputs in a circuit</li> </ul> | Children will create circuits that turn on bulbs and buzzers through switches.                                                                                                                          |
| 3                                                                                                                                                                                                                                                                                                                                                                    | Focussed task:<br>To use microbits to programme circuits.                            | <ul style="list-style-type: none"> <li>To be able to programme a microbit for certain uses.</li> </ul>                                      | Children will use the circuits created in the previous lesson and see if they can be programmed by the microbit.                                                                                        |
| 4                                                                                                                                                                                                                                                                                                                                                                    | Design:<br>To design an alarm system based on using a programmed electrical circuit. | <ul style="list-style-type: none"> <li>To design a system that works after an action.</li> </ul>                                            | To design an alarm system to defend something from being stolen. They will have to work with a microbit and circuit. We will need to not only design the product, but the circuit in electrical design. |
| 5                                                                                                                                                                                                                                                                                                                                                                    | Make:<br>To produce a high quality product using an alarm.                           | <ul style="list-style-type: none"> <li>To follow a design.</li> </ul>                                                                       | To make and programme a circuit that acts as an alarm system.                                                                                                                                           |

|   |                                     |                                                                                                                                          |                                                                                                                      |
|---|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
|   |                                     | <ul style="list-style-type: none"> <li>• To cut, connect and integrate parts of a product.</li> </ul>                                    |                                                                                                                      |
| 6 | Evaluate:<br>To evaluate a product. | <ul style="list-style-type: none"> <li>• To evaluate a product fairly</li> <li>• To find good and bad points about a product.</li> </ul> | We will encourage children to evaluate fairly, as products go through evaluation all the time, whatever the product. |