**Year 4 Science Curriculum – Autumn 2**

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| **Theme: Electricity** |
| **Curriculum objectives** | **Vocabulary** | **Links across the curriculum** |
| 1. To identify common appliances that run on electricity.
2. To construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
3. To construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
* To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
1. To construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
* To identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
1. To recognise some common conductors and insulators, and associate metals with being good conductors
 | **Appliance** | A piece of equipment designed to do a particular job | **Plug** | A device that is used to connect an electrical device to a power source. | * DT
* Make a light up quiz game
* Maths
* Space and measure
* Grouping and data collection
 |
| **Complete** | Having no gaps. | **Socket** | The device where plugs connect to a power source. |
| **Device** | A piece of equipment designed to do a particular job. | **Wire** | A thin piece of metal, with a layer of plastic around it, that carries the electricity around a circuit. |
| **Flow** | Continuous movement | **Switch** | Used to turn other components in the circuit on or off. |
| **Function** | The purpose of something |  **Manual** | An adjective used to describe an object that is worked by hand. |
| **Tier 3 vocabulary** [SNAP23\_Y4\_M2\_electricity\_ms.docx (live.com)](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fstatic.collins.rhapsode.com%2FSnap_Science%2FTeaching_Science%2FYear_4%2FSNAP23_Y4_M2_electricity_ms.docx&wdOrigin=BROWSELINK) |
| **Prior knowledge:** *What specifically have pupils learned that is relevant to this unit that they are building upon?* | **Future knowledge:** *What specifically will pupils learn in the future that is relevant to this unit?* |
| Children have previously learnt:That materials are chosen for particular uses based on their properties (Year 2 Chemistry – Uses of everyday materials). | Adapting circuits by varying components and recording these circuits using circuit diagrams with standard symbols (Year 6 Physics – Electricity). |
| **Lesson Sequence** | **Key Knowledge** | **Key Skills** |
| 1. What makes an appliance work?
 | * Children learn what a device or appliance is.
* They identify common electrical appliances.
* They sort electrical appliances depending on whether they require mains electricity, batteries or batteries charged using mains electricity.
 | Working scientifically:* identifying differences, similarities or changes related to simple scientific ideas and processes
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| 1. How can you light the bulb?
 | * Identify the two terminals on a cell: positive (+) and negative (–).
* A circuit needs to be complete – the bulb will only light up when all the wires are connected so that the electricity can move from one end of the cell to the other.
* The bulb will not light up if there is a break in the circuit.
 | Working scientifically:* recording findings using [simple scientific language,] drawings, [labelled diagrams, keys, bar charts, and tables]
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| 1. What does a switch do?
 | * Children learn how to control a bulb by adding a switch to a circuit.
* They describe how a switch works.
* They use ‘class symbols’ to record the circuits that they make.
 | Working scientifically:* recording findings using [simple scientific language,] drawings, [labelled diagrams, keys, bar charts, and tables]
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| 1. Why doesn't the circuit work?
 | * Children identify circuits that do not work.
* They draw diagrams using the ‘class symbols’ to show how to fix the circuits.
 | Working scientifically:* using results to [draw simple conclusions,] make predictions for new values, suggest improvements [and raise further questions]
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| 1. What does a switch do?
 | * Make a circuit – a circuit that allows electrons to flow.
* Break a circuit – a circuit that is not complete and electrons cannot flow.
* Open switch – electrons can flow.
* Closed switch – electrons cannot flow.
 | Working scientifically:* gathering, recording, classifying and presenting data in a variety of ways to help in answering questions

Scientific enquiry type:* identifying and classifying
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| 1. Start next term’s MTP
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| **Themes and links** |
| **Themes (types of enquiry)** | **Where these are covered:** | **Links across the science curriculum** |
| **Observation over time** |  |

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| **EYFS**  |   |
| **1**  | Seasons |
| **2**  | Growing |
| **3**  | Light |
| **4**  |   |
| **5**  | Materials |
| **6** | Classification of living things |

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| **Research** |  |
| **Pattern seeking** |  |
| **Comparative and fair testing** |  |
| **Identifying, classifying and grouping** | * Lesson 5
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