**Year 4 Science Curriculum – Spring 1**

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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 bookmark   Maths: Space and measure  Maths: 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 | | |
| 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] | | |
| 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] | | |
| 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] | | |
| 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 | | |
| 1. Start next term’s MTP | |  | | | | | | | |
| **Themes and links** | | | | | | | | | |
| **Themes (types of enquiry)** | **Where these are covered:** | | | | | | | **Links across the science curriculum** | |
| **Observation over time** |  | | | | | | | |  |  | | --- | --- | | **EYFS** |  | | **1** | Seasons | | **2** | Growing | | **3** | Light | | **4** |  | | **5** | Materials | | **6** | Classification of living things | | |
| **Research** |  | | | | | | |
| **Pattern seeking** |  | | | | | | |
| **Comparative and fair testing** |  | | | | | | |
| **Identifying, classifying and grouping** | * Lesson 5 | | | | | | |  | | |