Theme: Short Circuit Year 4 **Term:** Summer 1 (6 weeks)

Heatherlands Primary School

Curriculum drivers: The curriculum is underpinned by the school's Curriculum Drivers: Community, Communication and Consolidation. The spiritual, moral, social and cultural development of our pupils and their understanding of the core values of our society are also woven through the curriculum and developed through 'The Heatherlands Way' values of independence, resilience, motivation, aspiration and respect. The curriculum also consolidates the fundamental British values of democracy, the rule of law, individual liberty, and mutual respect and tolerance of those with different faiths and beliefs.

We have identified the key concepts or overarching ideas within each subject. To enable the children to access them, we call these the 'Big Ideas'.

Key knowledge and skills

Science (see separate planning) CONSOLIDATION
Big ideas: Investigation, explanation & observation

Enquiry: What materials are conductors or insulators of electricity and is there a pattern?

- Know that appliances run on electricity. **(observation, explanation)**
- Know that electricity is power. **(observation, explanation)**
- Know that we use mains electricity or battery power to run appliances and devices. . **(observation, explanation)**
- Know what components are required to build a simple circuit. **(observation, explanation, investigation)**
- Know how to adapt or change the layout of components. **(observation, explanation, investigation)**
- Know that a circuit must be complete to work. **(observation, explanation, investigation)**
- Know that a lamp must be part of a complete circuit to light. **(observation, explanation, investigation)**
- Recognise that a switch opens and closes a circuit. **(observation, explanation, investigation)**
- Understand how a switch turn a lamp on and off. **(observation, explanation, investigation)**
- Explain what a switch needs to be made from and why. **(observation, explanation)**
- Know that some materials are better conductors of electricity than others. **(observation, explanation, investigation)**

Key knowledge and skills

Geography
Big ideas: Location, diversity & impact

- Know how to use four-figure grid references. **(location)**
- Know that each country has a geographic co-ordinate that is generated through its position on the globe. **(location)**
- Know how to follow a route on a large scale map. **(location)**
- Know that maps use scale factors to accurately represent the distance between two places. **(location)**
- Know that there are eight points of a compass: North, North-East (NE), East, South-East (SE), South, South-West (SW), West and North, North-West (NW). **(location)**
- Know how to make a scale drawing.
- Draw an accurate map of a short route using a key and a scale. **(location)**

Computing (see separate planning)
Big ideas: coding, design & online safety

Sound Stories

- Understand what makes audiobooks effective and identify the key features that make them engaging. **(design)**
- Plan and write a script for an engaging audiobook. **(design)**
- Record clear narration and add sound effects to an audiobook. **(design)**
- Edit, improve and finalise an audiobook using recording and sound design tools. **(design)**

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- Know that metals are good conductors of electricity, most other materials are not and that metals are used for cables and wires, plastic is used to cover wires and as covers for plugs and switches. **(observation, explanation, investigation)**

SC1

- Ask relevant questions and use different types of scientific enquiries to answer them
- Set up simple practical enquiries **(investigation)**
- Record findings using simple scientific language, drawings, labelled diagrams **(investigation, explanation)**
- Report on findings from enquiries, including oral and written explanations, displays or presentations of conclusions **(explanation)**
- Identify differences, similarities or changes related to simple scientific ideas and processes **(explanation)**
- Use straightforward scientific evidence to answer questions or to support their findings **(observation, investigation, explanation)**

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DT/Music

Big ideas: design, problem solve, skills & expertise

- Develop ideas for a musical instrument based on research and design criteria.
- Communicate designs using labelled drawings and choose appropriate materials.
- Select tools and materials to create a stable structure.
- Measure, cut and shape materials safely and accurately
- Assemble and join components with accuracy to ensure the product works as intended.
- Understand how pitch changes when the length or tension of a string changes.
- Understand how vibrations produce sound and how they travel and that tension affects pitch.
- Understand how the length of the air column affects pitch
- Test the products and suggest improvements based on how well they meet the design criteria.

Oracy:

- Describe events at home or school
- Identify clearly when they haven't understood/ can't remember specific vocabulary (ask a question)
- Science retrieval condensation, precipitation and evaporation.

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Key vocabulary:

electricity, circuit, switch, battery, plug, mains, appliance, device, wire, crocodile clip, bulb, buzzer, connection, power, cell, energy, flow, current, conductor, insulator, components

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ariel photographs, oblique photographs, ordnance survey, compass points, synthesise, scale drawing, 4 figure grid references, scale, Eastings, Northings, key

audiobooks, script, narration, sound effects, edit, improve, finalise, recording, sound design

research, design criteria, labelled drawings, components, pitch, length, tension, vibration, air column, stable, structure

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Previous linked learning to consolidate: 'Sound' Y4 science 'Invaders or traders' topic
What comes next? Y6 topic – 'A voyage of discovery' - electricity

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