



Year 6 Knowledge Organiser – Summer Two – Design & Technology

Things I will be taught

I know:

- **Week 1** - How to apply my understanding of electrical systems and circuits to create a functioning electric buzz wire game.
- **Week 1** - How to select appropriate materials for the wire loop and handle to ensure the game operates as intended.
- **Week 2** - How to generate, develop, model, and communicate ideas through discussion, sketches, and diagrams.
- **Week 2** - How to consider how the materials chosen, not only affect the durability and functionality of the game, but also how it looks.
- **Week 3** - How to select from and use a wider range of tools and equipment to create my product.
- **Week 4** - How to apply appropriate finishing techniques e.g. painting, varnishing, or adding other decorative features to enhance the product's appearance and usability.
- **Week 5** - How to evaluate ideas and products against design criteria and consider the views of others to improve my work.

Interesting Facts

- Did you know that the first simple electric circuit was created by Alessandro Volta in the early 1800s? This laid the groundwork for modern batteries!
- Electric buzz wire games originated from carnival attractions and fairground challenges, showcasing a fun way to interact with electrical principles.
- The "buzz" in a buzz wire game is not just entertaining; it indicates that the circuit is complete, demonstrating how electricity works!

Electric Buzzer Wire Game - Things I will remember

- I understand the basic principles of electricity and how circuits function.
- I can select suitable materials for constructing an effective and appealing buzz wire game.
- I can generate and develop ideas using sketches, diagrams, and verbal communication.
- I can demonstrate the ability to use a range of tools and equipment safely and effectively.
- I can apply appropriate finishing techniques to improve product aesthetics and durability.
- I can evaluate their finished products against design criteria and incorporate feedback from peers to propose improvements.

Key Vocabulary & Glossary

- **Circuit:** A complete and closed path through which electric current can flow.
- **Electrical Systems:** Networks that include components such as wires, batteries, circuit boards, and switches to create functioning electrical devices.
- **Durability:** The ability of a material or product to withstand wear, pressure, or damage.
- **Functionality:** The quality of being suited to serve a purpose well.
- **Loop:** A continuous path of wire through which electricity flows, often used in games to create a challenge.
- **Prototype:** An original model on which something is patterned or tested.
- **Finishing Techniques:** Methods used to improve the appearance and function of a product, such as painting or varnishing.
- **Evaluation:** The process of assessing a product or idea against a set of criteria or standards.
- **Materials:** The substances used to create a product, such as plastic, metal, wood, or paper.
- **Tools and Equipment:** Instruments and machines used to shape, construct, or manipulate materials in design and technology projects.

