

# Electrical Systems: Electrical Game

## Curriculum Coverage:



### Design

- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

### Make

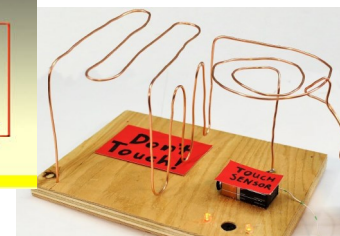
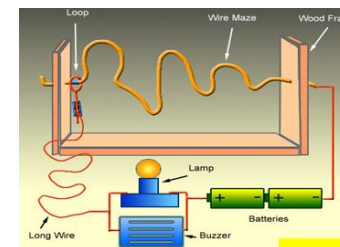
- Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

### Evaluate

- Investigate and analyse a range of existing products
- Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- Understand how key events and individuals in design and technology have helped shape the world

### Technical Knowledge

- Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- Apply their understanding of computing to program, monitor and control their products.



## Key Vocabulary

Criteria	A standard or rule for creating and evaluating a product.
Prototype	The first example of a product to help develop final product.
Target audience	The intended person or thing who uses the product.
Purpose	The intended result or aim.

## Key Facts:

- Electrical circuits are required to make a light source work. They must be complete for electricity to flow.

## Key Skills:

- Explore a variety of products, identifying the key features and target audiences which they suit.
- Design a product based on a pre-set criteria and target audience, using research to influence decisions and ensure product is fit for purpose.
- Create complete prototypes based on designs, testing key features and evaluating before re-designing for a final time.
- Create circuits with a number of parts in order to power a game.
- Test designs and make improvements based on the success of their original model.
- Evaluate the effectiveness of their model and others based on a pre-set criteria.

## Possible experiences:

- Game workshop in school.
- Visit from an electrician.

## We should already know:

- Electrical circuits are required to make a light source work.
- Electrical systems must be complete for electricity to flow.
- Simple electrical circuits and their properties.
- Prototypes are required to test designs.