

### **NATIONAL CURRICULUM:**

- Research, design 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 and annotated sketches
- 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 their ideas and products against their own design criteria and consider the views of others to improve their work
- Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

### **PRIOR KNOWLEDGE:**

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

**KEY VOCABULARY:** torch, alarm, split pin, battery, batteries, light bulbs, paper clip, scissors, empty plastic water bottle, aluminum foil, bulb holder, sellotape, cardboard tube large enough for a stack of 4 batteries (size C), 3 pieces of wire with stripped ends (the pieces should be  $\frac{3}{4}$  of the length of all 4 batteries put together), negative, positive, tungsten, combustion and vacuum.

## **Design and Technology: (Y6) Autumn Electricity – make a torch**



### **Enquiry Questions:**

1. Did they have clocks/alarms in world war 1 and 2?
2. How did they differ from the ones we have/use today?
3. How could we make a torch?

**CONTEXT:** Chn will have looked at circuits and electricity in Science (Y4) They will be familiar with a basic circuit. This will be recapped. Chn will not have had the opportunity to apply their electrical knowledge in a practical context such as this.

### **STICKY KNOWLEDGE:**

- Know which components are needed to make a circuit.
- Chn will know how to fix a broken circuit.
- Be able to identify issues.

### **SKILLS:**

**Making a circuit with a practical use**  
**Following instructions**  
**Working methodically and scientifically**  
**Problem solving**