Great Moor Junior School
"Learning Together"

Design and Technology Knowledge Organiser

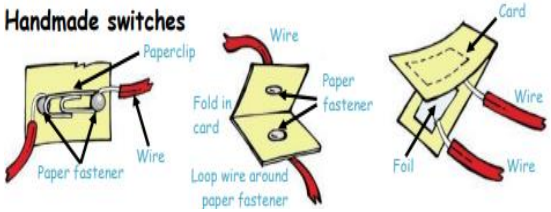
Topic: Nightlights	Year 4	Electrical Technology

What should I already know?

- Some everyday items that use electricity.
- Sources of sound and light may need electricity to work.
- How to use some tools safely.
- Glue and sticky tape can be used for joining materials.

What will I know by the end of this unit?

- Awareness of different battery-powered products.
- Understand designers use a design-make-evaluate process for creating products.
- Mains electricity can be very dangerous.
- To know the components involved in making a simple circuit.
- Tools are essential but need to be used correctly following instructions.
- Designers carry out research to match the product to the individual or group.
- Designers choose the material and components because they best suit the product.
- During the design process constant evaluation against the design brief is needed.



Design

- A complete **circuit** is a loop that allows **electrical current** to flow through the **wires**.
- A **circuit** contains a **battery** (**cell**), **wires** and an **appliance** that requires **electricity** to work (such as a **bulb**, **motor** or **buzzer**).
- The **electrical current** flows through the **wires** from the **battery** (**cell**) to the **bulb**, **motor** or **buzzer**.

A **switch** can break or reconnect a **circuit**.
When the **switch** is off, the **electricity** cannot flow. This is not the same as an incomplete **circuit**.

Design and Technology: Skills and Enquiry

- Make a variety of **circuits**, investigating which **circuits** work and why.
- Create **circuits** using **switches**.
- Evaluate materials ensuring they are **electrical conductors** and **insulators**.

Vocabulary

appliances	An **electrical** device or machine that you use to do a task such as cleaning or cooking.
battery/ cell	Small devices that provide power for **electrical** items such as torches.
bulbs	The glass part of an **electric** lamp, which gives out light when **electricity** passes through it.
buzzers	An **electrical** device used to make a buzzing sound.
circuit	A complete route which an **electric current** can flow around.
conductors	A substance that heat or **electricity** can pass through or along.
current	A flow of **electricity** through a **wire** or **circuit**.
electricity	A form of energy that can be carried by **wires** and is used for hearing and lighting and to provide power for devices.
insulator	A non-**conductor** of electricity or heat.
mains	Where the supply of **electricity** enters a building.
motor	A device that uses **electricity** to produce movement.
plug	Makes an **electrical** connection between an **appliance** and the **mains**.
source	Where something comes from
switch	A small control for an **electrical** device which you use to turn the device on or off
wire	A long thin piece of metal that is used to fasten things or carry **electric current**.