



Design and Technology Topic: Design, make and evaluate a torch.

Year: 4 **Term:** Summer 1

Key Knowledge/Content:

- To know the features of a torch: case, contacts, batteries, switch, reflector, lamp, lens.
- To know facts from the history and invention of the electric light bulb(s) by Sir Joseph Swan and Thomas Edison.

Key vocabulary with definition:

Prior vocabulary:

- Components - A part or element of a larger whole, especially a part of a machine or vehicle.
- Functional - Of or having a special activity, purpose, or task.
- Mechanical - A system of parts working together in a machine.

New vocabulary:

- Circuit - An electrical circuit is a path in which electrons from a voltage or current source flow.
- Reflector - Occurs when a light ray hits a surface and bounces off.
- Lens- A piece of glass or other see-through material that is curved on one or both sides.

Links to:

Prior learning:

The children designed, made and evaluated a wind chime. The children needed to think carefully about the equipment and materials they are going to use.

Future learning:

The children are going to design, make and evaluate an alarm circuit box.

By the end of this unit

All children can: **design** a torch, considering the target audience and **evaluate** the success of a final product.

Most children can: **demonstrate** how to use appropriate equipment to cut and attach materials and **assemble** a torch according to the design and success criteria.

Some children can: **demonstrate** and **explain** the process of an electrical circuit.

Background understanding for teachers and parents:

The children are going to design, make and evaluate a torch. The children will practise making a circuit, research the function of a torch before making, and test and evaluate a torch.

Curriculum Driver (one):

Communication

Evidence outcome:

The children are going to be discussing their ideas and their techniques with their peers.