

ICT and electrical systems - control and electrical components

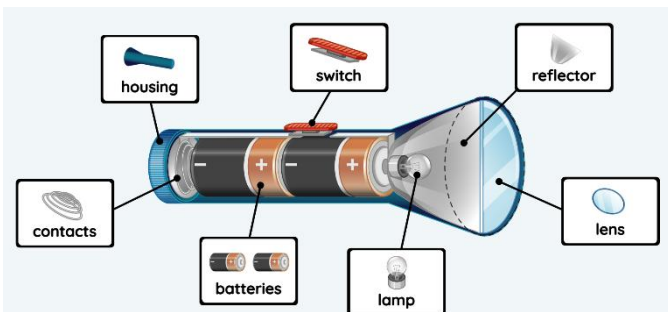
What should I already know?

- To know that an electrical circuit must be complete for electricity to flow.
- To know that a switch can be used to complete and break an electrical circuit.

Key Objectives I will learn

- Identify electrical products and explain why they are useful.
- Identify the features of a torch and how it works.
- Describe what makes a torch successful.
- Create suitable designs that fit the success criteria and their own design criteria.
- Create a functioning torch with a switch according to their design criteria.

Features of a torch:



Aspirational Figure : Ann Makosinski

Ann Makosinski invented a flashlight that never needs batteries — just the heat from your hand.

Ann's "Hollow Flashlight" won her the prize for her age group at the 2013 Google Science Fair.

A friend inspired her life-changing invention as she couldn't study without electricity at night and was failing at school due to this.

Key Vocabulary

Battery	Made from two or more cells that provide electrical energy to power a circuit.
Bulb	A part of a circuit made from glass or plastic that gives light when electricity passes through it.
Buzzer	A part of a circuit that makes a buzzing noise when electricity passes through it.
Component	The different parts that make an electrical circuit.
Conductor	A material that allows electricity to flow through it, such as metal.
Design criteria	A set of instructions for the project.
Electrical item	Objects that need electricity to work, such as hair dryers, toasters and kettles.
Electricity	A type of energy that is usually invisible and can be made or stored to make things work, such as moving or heating objects.
Electronic item	Electrical items that have a computer processor inside, such as mobile phones and laptops.
Insulator	A material that does not allow electricity to flow through it, such as plastic.
Series circuit	A closed circuit where the current flows in one path.
Switch	A part of a circuit that can open or close to allow electricity to flow or stop it from flowing, such as a light switch that turns lights on or off.
Test	To find whether something works as it should.
Torch	A battery-powered light that can be carried.
Wire	A thin piece of copper that conducts electricity and connects circuit components together.