

## National Curriculum:

Pupils should be taught to:

- associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit
- compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches
- use recognised symbols when representing a simple circuit in a diagram

**Subject: Science**

**Year 6**

**Electricity**



## Context:

Children are already aware of electricity and how it is used in everyday life. In this unit they are further developing their knowledge of circuits and using this knowledge practically to create a useful object.

## Sticky Knowledge:

- A circuit is a closed loop which has a battery (cell) and other components (1)
- Electrical current flows around the circuit and is measured in amps (1)
- A circuit diagram are diagrams which use symbols to help us visualise and draw a circuit (3)
- Circuit components can include bulbs, batteries and switches (3)
- A bulbs brightness will increase with the number of cells in the circuit and increased voltage (4)
- A switch will break a circuit (3)

## Prior Knowledge:

In Year 4 the children studied electricity and learnt about the parts of an electrical circuit. They learnt how a circuit could be constructed to light a bulb, and the purpose of a switch. They learnt about working safely with electricity. Link to Southern electricity talk.

## Misconceptions:

## Enquiry Questions:

- 1) What makes a circuit?
- 2) What happens when I change a component in my circuit?
- 3) How do I draw a circuit?
- 4) How can I make my bulb brighter?
- 5) How can I create a wire loop game? (could be used at Christmas fair)

[Wire Loop Game Tutorial : 6 Steps \(with Pictures\) - Instructables](#)

## Enhancements:

Comparative investigation unit – practical investigations

## Working Scientifically:

### Comparative testing

- Recognise and control variables where necessary (2)
- Prepare own tables to record data, including columns for repeat readings (2,4)
- Choose an appropriate form of presentation for my results (2,4)
- Provide oral or written explanation for their findings. (2,4)

## Key Vocabulary:

circuit	battery	cell
switch	bulb	
component		
Diagram	symbol	