



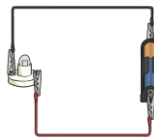
# Knowledge Organiser

## Y4 PHYSICS

### Topic: Electricity

#### Key Knowledge

1. Electrical appliances can be mains or battery operated, stationary, larger appliances usually mains and smaller more mobile ones often use batteries.
2. Circuits need to be complete, with no breaks, in order to work.
3. Circuits are made up of a number of components including cells, wires and bulbs.
4. Conductors are materials that allow electricity to pass through and insulators are materials that do not.
5. Materials can be tested to see if they are conductors or insulators, metals are good conductors of electricity.
6. Electricity is not safe to touch and should always be covered with an insulator, like plastic, and treated carefully.



#### Key Vocabulary

**What vocabulary do I need to know and be able to use?**

**Generate** = to make or produce

**Renewable** = source of electricity that will not run out.

**Non-renewable** = source of electricity that will eventually run out

**Appliances** = piece of equipment designed to perform a particular job

**Battery** = device that stores electrical energy as a chemical

**Circuit** = pathway that electricity can flow around

#### Key Skills

**What skills do I need to show by the end of this topic?**

**Plan:** I can make predictions based on my experiences and knowledge.

**Understand:** I know there is some risk in electricity.

**Do:** I can set up some simple practical enquiries.

**Record:** I can collect data in a variety of ways including labelled diagrams. I can construct electrical circuits using scientific diagrams; and use results to draw conclusions.

#### Key Questions

**What questions do I need to be able to answer by the end of this topic?**

How can electricity be generated?

Is there any natural electricity?

How can appliances be powered? Can you name some that use mains?

What do I need to make an electrical circuit?

How does electricity flow around a circuit?

What materials are good conductors of electricity?

Can you name some insulators?

#### Curriculum Links

**What links will this topic have with other areas of the curriculum?**

Links to Year 2 learning on uses of everyday materials. DT links making torches and PSHE links to keeping safe.

#### Wider Reading

BBC Bitesize electricity games.

Switchedonkids.org.uk – electrical safety for kids

Powerup.ukpowernetwirks.co.uk interactive games circuit builder and electricity journey.