

# Max's Electronic Engineering Flashcards

*Learning objective: To understand the basic components and safety rules of simple electrical circuits as part of Year 4 Design Technology.*

Read the front of each card and see if you can remember the answer. Flip the card in your mind to check if you are right. These cards will help you build your own light-up projects with Max the monkey!

**What is an electrical circuit?**

A complete loop that allows electricity to flow from a power source to a component and back again.

**What is the function of a battery in a circuit?**

It acts as the power source that provides the energy (electricity) needed to make the circuit work.

**What does a switch do in a circuit?**

It controls the flow of electricity by either connecting the circuit (on) or breaking the circuit (off).

**What is an electrical conductor?**

A material that allows electricity to flow through it easily, such as metal wires or copper.

**What is an electrical insulator?**

A material that does not allow electricity to flow through it, such as plastic, rubber, or wood, used to keep us safe.

**What is a 'closed circuit'?**

A complete loop with no gaps, which allows electricity to flow and components like bulbs to work.

**What happens if there is a gap in a circuit?**

It becomes an 'open circuit', the electricity stops flowing, and the component will stop working.

**Why must we never touch wires or batteries with wet hands?**

Water is a conductor, and electricity can travel through it, which is dangerous.

**What is a component?**

A part of a circuit that does a specific job, such as a bulb, a buzzer, or a motor.

**What is the purpose of the plastic coating on electrical wires?**

It is an insulator that protects us from touching the metal wire and receiving an electric shock.

**Name one safety rule Max the monkey always follows when building circuits.**

Always check that batteries are not leaking and never use damaged wires.

**If a bulb does not light up, what is the first thing you should check?**

Check that the battery is connected properly and the circuit loop is fully closed with no gaps.