

Max's Electronics Toolkit: Grade 4 Design Technology

Learning objective: To identify key components in an electrical circuit and understand how they function within a designed product.

Use these flashcards to test your knowledge of electronics. Look at the term on the front, try to define it, then check the answer on the back. Max the monkey says: 'Every circuit is a puzzle waiting to be solved!'

What is an electrical circuit?

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

What is the purpose of a battery in a circuit?

It acts as the power source, providing the electrical energy needed to make components work.

What does a switch do in a circuit?

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

What is an LED?

A light-emitting diode, which is a component that produces light when electricity passes through it.

What is the difference between a conductor and an insulator?

A conductor (like metal) allows electricity to flow through it easily; an insulator (like plastic or wood) blocks the flow of electricity.

What does a buzzer do?

It is an output component that converts electrical energy into sound energy.

What is the role of a motor in a circuit?

It converts electrical energy into movement, often used to make things spin or move.

What is a 'closed circuit'?

A complete loop where electricity can flow freely, allowing the component to function.

What is an 'open circuit'?

A circuit with a break in the path, which stops the electricity from flowing and prevents the components from working.

Why do we use wires in a circuit?

Wires act as the path or 'roads' that carry the electrical current between the power source and the components.