Electricity

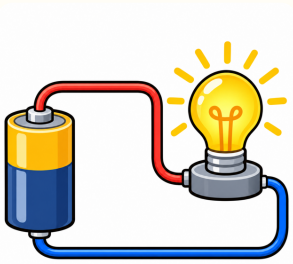
Grade 3

Name _____ Date _____

Remember: Electricity flows in a **complete circuit**. **Conductors** (metals) let it flow. **Insulators** (plastic, rubber, wood) block it.

Safety first: never touch outlets or play with wires. Only use small batteries for experiments, with an adult.

How Electricity Works



Electricity is a kind of energy. It lights our homes, runs our computers and charges our tablets.

Electricity flows along a path called a **circuit**. A simple circuit has a power source, such as a **battery**, wires, and something that uses the electricity, such as a **light bulb**. The path must be a complete loop. If there is a gap anywhere, the electricity stops and the bulb goes out. A **switch** opens and closes the gap to turn things on and off.

Some materials let electricity flow through them easily. They are called **conductors**. Most metals, such as copper and aluminum, are good conductors. That is why wires are made of metal.

Other materials do not let electricity flow. They are called **insulators**. Plastic, rubber, wood and glass are insulators. Wires are covered in plastic to keep electricity safely inside.

1. Check your understanding

Circle the best answer.

1. What does a circuit need to work?

(a) A complete loop (b) A gap in the wire (c) Water

2. What does a switch do?

(a) Makes the battery bigger (b) Opens and closes the circuit
(c) Changes the colour of light

3. Why are wires made of metal?

(a) Metal is pretty. (b) Metal is soft. (c) Metal is a good conductor.

4. Why are wires covered in plastic?

(a) Plastic is an insulator that keeps us safe. (b) Plastic makes electricity faster.
(c) Plastic is a conductor.

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2. Conductor or insulator?

Circle conductor or insulator.

1	copper wire	conductor	insulator
2	rubber glove	conductor	insulator
3	metal spoon	conductor	insulator
4	wooden stick	conductor	insulator
5	aluminum foil	conductor	insulator
6	plastic ruler	conductor	insulator

3. Think like a scientist

Answer in a complete sentence.

1. **A bulb in a circuit won't light up. Give one reason why.**

Answer Key

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1. Check your understanding

1. What does a circuit need to work?

(a) **A complete loop** (b) A gap in the wire (c) Water

2. What does a switch do?

(a) Makes the battery bigger (b) **Opens and closes the circuit**

(c) Changes the colour of light

3. Why are wires made of metal?

(a) Metal is pretty. (b) Metal is soft. (c) **Metal is a good conductor.**

4. Why are wires covered in plastic?

(a) **Plastic is an insulator that keeps us safe.** (b) Plastic makes electricity faster.

(c) Plastic is a conductor.

2. Conductor or insulator?

1	copper wire	**conductor**	insulator
2	rubber glove	conductor	**insulator**
3	metal spoon	**conductor**	insulator
4	wooden stick	conductor	**insulator**
5	aluminum foil	**conductor**	insulator
6	plastic ruler	conductor	**insulator**

3. Think like a scientist

Sample answer.

1. **A bulb in a circuit won't light up. Give one reason why.**
   There might be a gap in the circuit, such as a loose wire, so the loop is not complete.