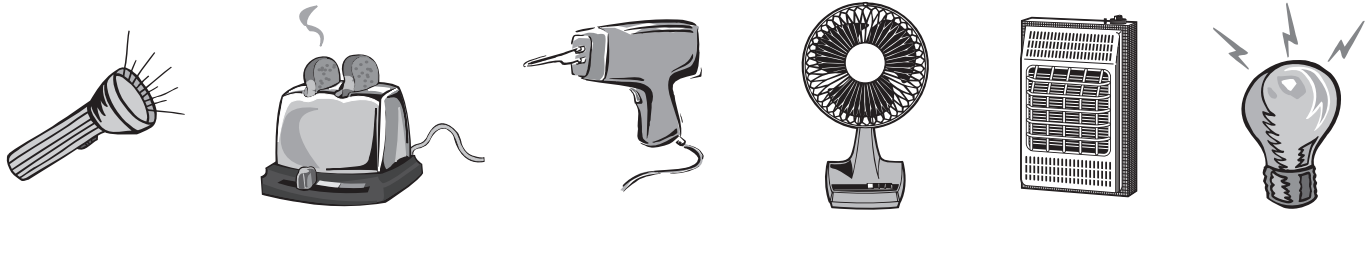


1 Match and complete the table.

drill torch bulb toaster heater ventilator



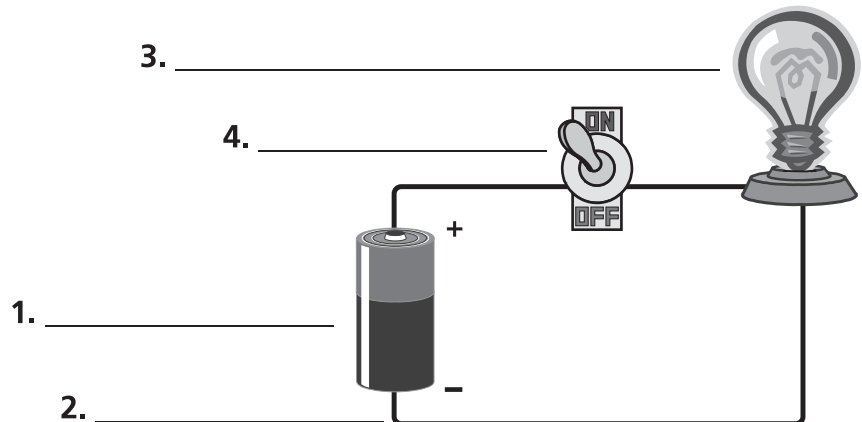
Electricity produces	light.	<i>For example:</i>
	heat.	<i>For example:</i>
	movement.	<i>For example:</i>

Electricity is a form of energy that lights our towns, heats our homes and moves machines. Primary energy sources like coal, natural gas, oil, nuclear power, wind, water and the sun produce electricity. Electricity is a secondary energy source. We use electricity every day.

2 Write.

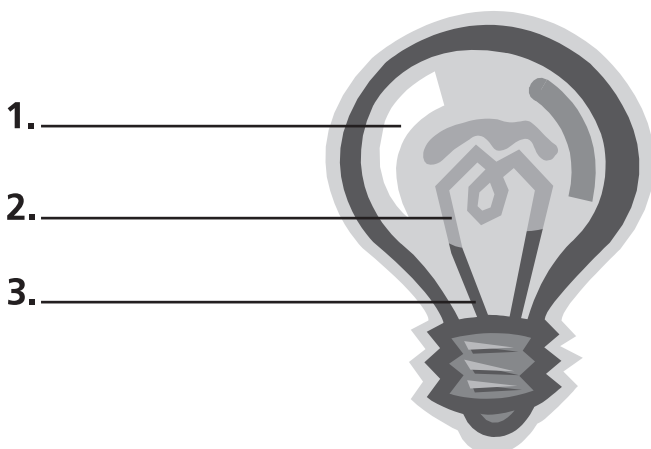
An electrical circuit has got four parts:

- a. An energy source: a battery or a generator.
- b. A conductor: a copper wire.
- c. A load: a light bulb or a TV.
- d. A switch.



The energy source pushes the electric current through a circuit. The electric current travels in a closed circuit. The current flows from the energy source along one wire to the lamp, through the lamp, and along the other wire back to the energy source. If the circuit is open, the electric current cannot flow. The switch opens and closes the circuit.

3 Label.



When we switch on a light, an electrical current flows through the wires and the thin filament in the bulb. The filament gets very hot and it makes the gas in the bulb glow.

Wires - The wires carry an electric current into and out of the bulb.

Filament - The filament glows brightly when an electric current flows through it.

Gas - The bulb is filled with gas.

Electricity.



Aim

- To study electrical circuits and light bulbs.

Language focus

Key vocabulary: *electricity, light, heat, movement, machine, electrical circuit, battery, bulb, switch, electric current, switch on, switch off, filament, glow.*

Key language: *Electricity is a form of energy that lights our towns. The electric current travels in a closed circuit.*

Materials

- Worksheet.

Warm-up

- Switch the lights on in the classroom. Switch the lights off. Point out that the lights need electricity. Write *switch on the lights / switch off the lights* on the board and explain. Elicit the names of other things that need electricity to work, eg, *TV, radio, fridge.*

Completing the Worksheet

Activity 1

- Write on the board some objects that need electricity and some objects that don't need electricity, eg, *pencil, rubber, light, fridge, TV, pen, computer, belt.* Divide the board into two and encourage the pupils to separate the objects into two groups: *electric objects* and *non-electric objects*. Electric objects: *light, fridge, TV, computer.* Non-electric objects: *pencil, rubber, belt.*
- Explain that *we use electricity all the time. The main sources of electricity are coal, oil, natural gas, nuclear power, water, the sun and wind. These are primary sources. The main uses of electricity are light, heat and movement. We use electricity to light our school, our homes, our streets. We use electricity to heat our school, our homes, shops and cinemas. We use electricity to move machines like drills, washing machines and fans. Electricity is a secondary energy source. We use electricity every day.* Write on the board *light, heat, movement.*

- Ask the pupils to write the names of the objects in Activity 1 and complete the table with the words.

Answers: torch; toaster; drill; ventilator; heater; bulb

Electricity produces	light.	<i>For example: torch, bulb</i>
	heat.	<i>For example: toaster, heater</i>
	movement.	<i>For example: drill, ventilator</i>

Activity 2

- Draw a light bulb on the board. Draw a switch next to the light bulb. Ask the pupils questions about how the light bulb works, eg, *What happens when you switch on the light? The light bulb glows. What happens when you switch off the light? The light bulb stops glowing.* Draw an electrical circuit like the one in Activity 2 on the board. Explain the four main parts and how it works. Point out that *the energy source produces electricity and sends it through the circuit. The light bulb glows when the circuit is closed because the electricity can flow through the circuit and it produces light. When the circuit is open the light bulb doesn't glow. The switch opens and closes the circuit. The energy source for the light bulb can be a battery (a torch) or a generator (ceiling light). There are very big generators outside the cities and towns that produce and transmit electricity to our homes. The load can be a light bulb, a TV, a washing machine or any other electrical appliance. The conductor is usually copper wire. Most metals are good conductors but some other materials like rubber or wood are not good conductors.*
- Ask the pupils to read Activity 2 and label the picture.

Answers: 1-energy source; 2- conductor; 3-load; 4-switch

Activity 3

- Draw a light bulb on the board. Point out the three main parts: the filament, the wires and the gas inside the bulb. Explain that *one of the electrical wires transmits an electrical current to the filament in the bulb. This electrical current heats up the filament to a temperature of about 2200°C and makes it glow brightly. The filament is made of a metal with a very*

high melting point called tungsten. The bulb is usually filled with a low pressure, inert gas like argon to avoid combustion. After the electrical current goes through the tungsten filament, it goes down another wire and out of the bulb.

- Ask the pupils to read Activity 3 and label the picture.

Answers: 1-gas; 2-filament; 3-wires

Extension activity

- Arrange the pupils in pairs. Ask them to write places where light bulbs are used. Encourage them to write as many places as possible in 3-4 minutes. Invite some pupils to write some places on the board, eg, *bedroom, bathroom, kitchen, living room, garden, street, cinema, sports centre, supermarket, library, canteen, restaurant, museum.*
- Explain that *A lot of energy is used to produce light and it's important to save electricity.* Elicit ways of saving electricity, eg, *Turn off the light when you leave a room. Use energy-saving light bulbs. Don't use light bulbs which are too powerful. Don't use too many decorative lights.*