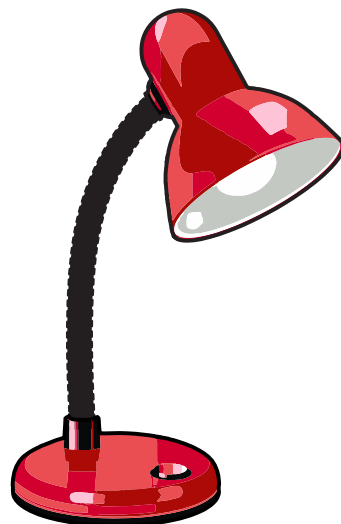


Science

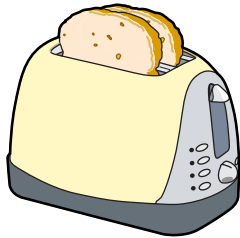
Year 4
Topic Test

Electricity

ANSWERS



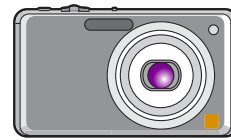
1 Mains or battery



toaster



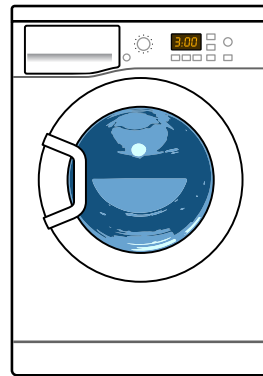
torch



camera



smartphone



tumble dryer

Complete the following:

The items shown above run on electricity, either from a battery source or the mains supply.

Write down **three** different items which need electricity to work.

1 *(Accept any appropriate answers.)*

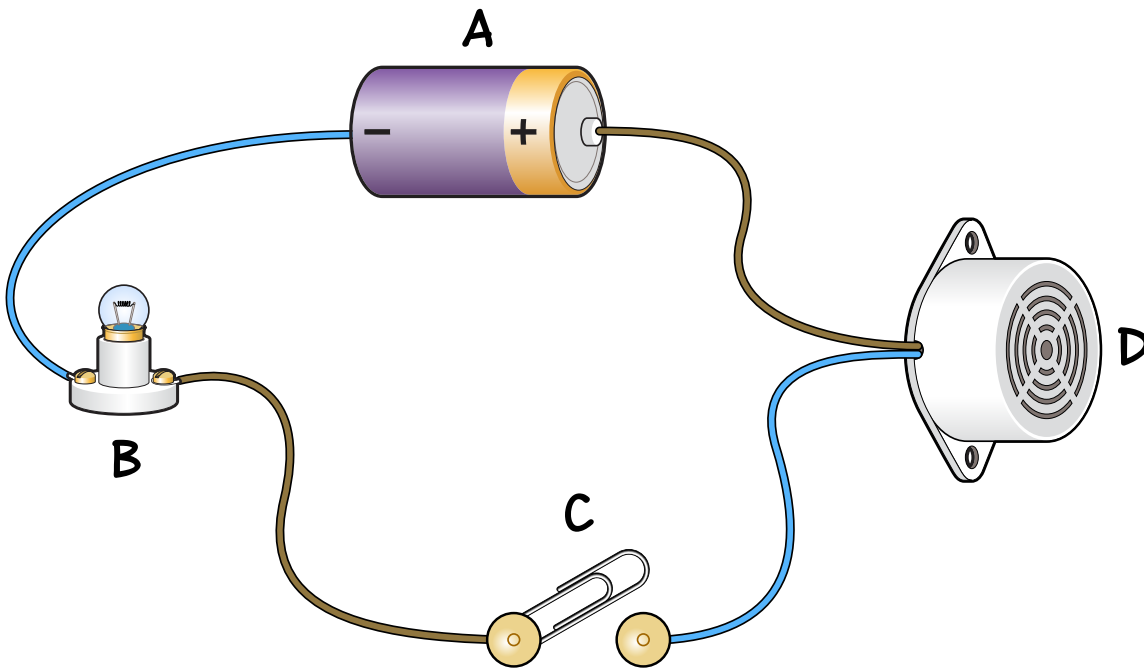
2

3

(2 marks for all 3 correct, 1 mark for 2 correct.)

2
2 marks

2 What's in a circuit?



Complete the following:

buzzer bulb switch battery

a Using the words in the box above, identify the parts of the circuit. One has been done for you.

A battery B bulb
C switch D buzzer

(2 marks for all 3 correct, 1 mark for 2 correct.)

b In the circuit above, the bulb is not lit. Explain why.

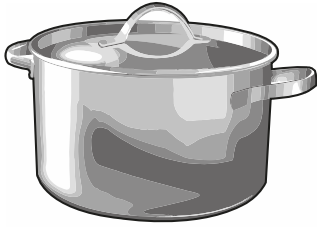
The switch is open.
.....

2
2 marks

1
1 mark

Page Total 3

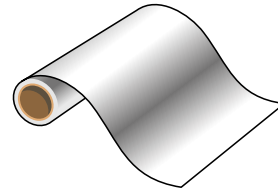
3 Insulator or conductor?



pan



polystyrene cup



aluminium foil



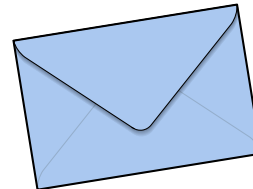
wooden spoon



gold bracelet



fork



paper envelope



plastic bracelet

Complete the following:

- a What is the scientific word given to objects that allow electricity to pass through them?

conductor

1

1 mark

- b Identify the **four** items pictured above that **do not** allow electricity to pass through them. One has been done for you.

polystyrene cup

wooden spoon

plastic bracelet

paper envelope

(2 marks for all 3 correct, 1 mark for 2 correct.)

2

2 marks

- c Electrical wire is covered with plastic. How does this help keep us safe?

Answer should suggest plastic is an insulator / electricity can't pass through it / prevention of electric shock.

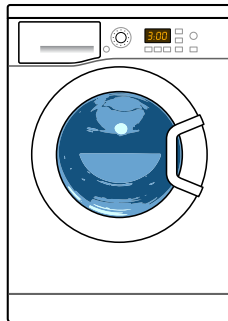
1

1 mark

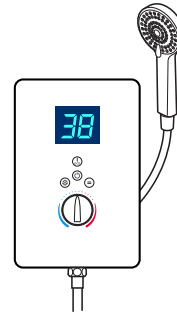
4 Electrical devices



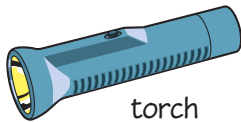
hammer



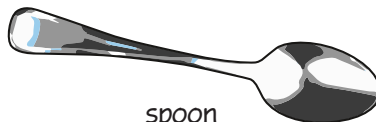
washing machine



shower



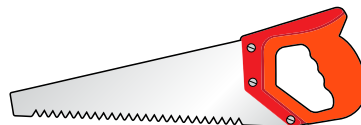
torch



spoon



tablet computer



saw



pen

Complete the following:

a Write down **two** of the items above which **do not** use electricity.

1 *any two from:* 2
spoon, hammer, saw, pen (Both must be correct for 1 mark.)

1
1 mark

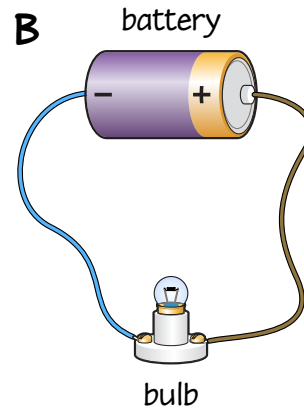
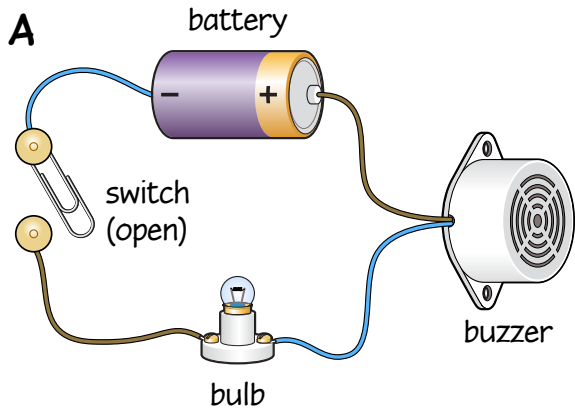
b Why are plugs **not** covered with metal?

*Answer should suggest metal is a conductor / electricity
can pass through / unsafe.*

1
1 mark

Page Total 2

5 Circuits



Look at the circuits above and complete the following:

a Is the buzzer sounding in circuit A? no

Explain your answer.

The switch is open and so the circuit is not complete.

(Accept other appropriate answers.) (Both parts must be correct for 1 mark.)

1
1 mark

b In circuit B, the bulb is constantly lit. What could be done to make it possible for the bulb to turn on and off?

Add a switch. (Accept other appropriate answers.)

1
1 mark

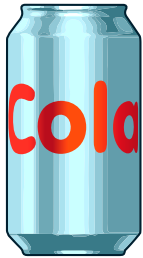
c How could you make the bulb brighter in circuit B?

Add an extra battery. (Accept other appropriate answers.)

1
1 mark

Page Total **3**

6 Conductive materials?



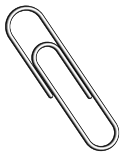
cola can



£1 coin



T-shirt



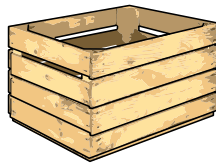
paperclip



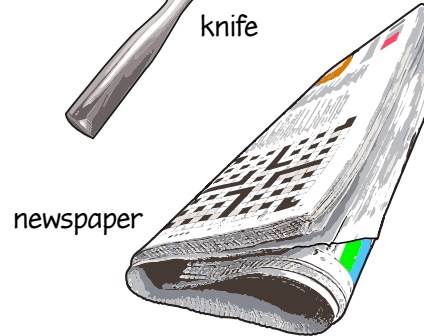
mug



knife



wooden box



newspaper

Complete the following:

- a Of the objects pictured above, **four** will **not** conduct electricity. Write them below. One has been done for you.

..... mug

..... T-shirt

..... wooden box

..... newspaper

(2 marks for all 3 correct, 1 mark for 2 correct.)

- b What material are all the conductors of electricity shown above made from?

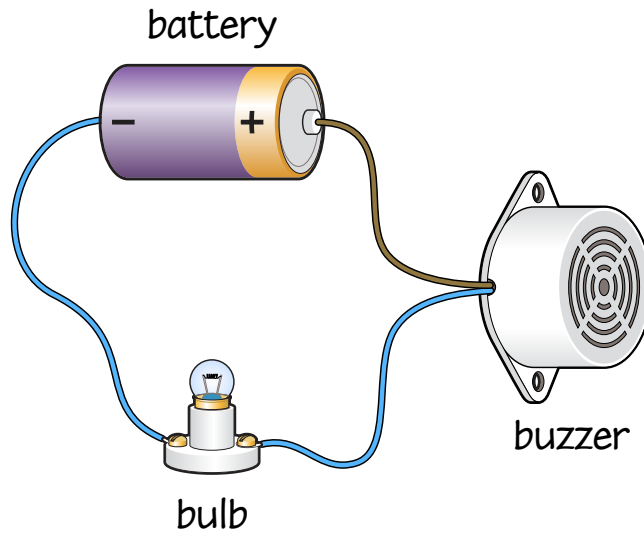
..... metal

2
2 marks

1
1 mark

Page Total 3

7 Making circuits



Look at the picture above to complete the following:

a Is the circuit complete? Answer **yes** or **no**.
..... *yes*

1
1 mark

b If an extra bulb was added, the original bulb would be dimmer.
Explain why.

*Answer should suggest that the energy would be split
between both bulbs.*

1
1 mark

c What could be added to the circuit to make the buzzer louder?
Tick the correct box below.

- a switch
- an extra battery
- an extra bulb

1
1 mark

Page Total 3

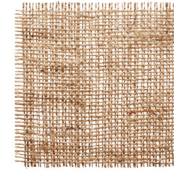
8 Conductors and insulators



lunch box



ballpoint pen



piece of cloth



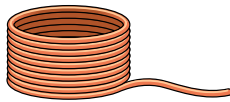
cricket bat



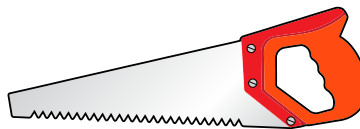
50 pence



spoon



copper wire



saw

Complete the following:

a Write down the **four** items above which allow electricity to pass through them. One has been done for you.

..... saw

..... spoon

..... copper wire

..... 50 pence

(2 marks for all 3 correct, 1 mark for 2 correct.)

b What is the scientific word given to objects that **do not** allow electricity to pass through them?

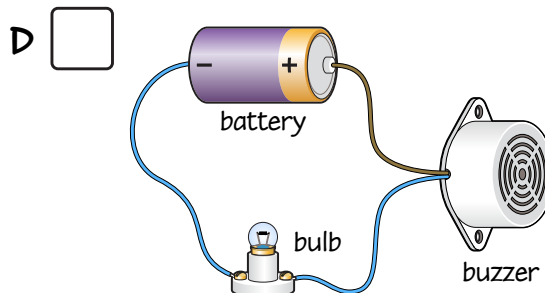
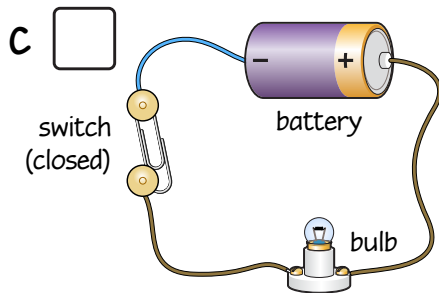
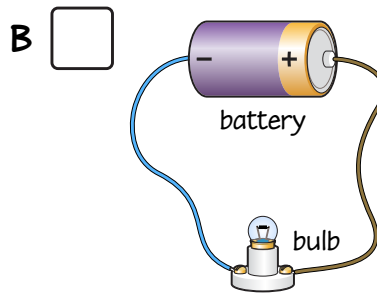
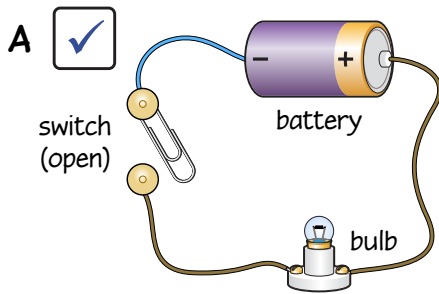
..... insulator

2
2 marks

1
1 mark

Page Total 3

9 Circuit to circuit

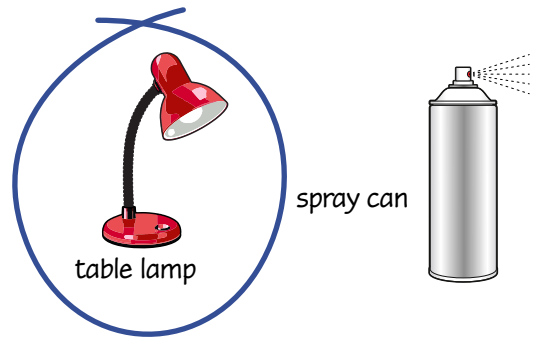


Complete the following:

- a Tick the box above next to the circuit where the bulb does not light.
- b When is the bulb lit in circuit B? Circle your answer.

some of the time never
every 5 seconds all of the time

- c Circle **two** of the objects below which need an electrical circuit to work.



1
1 mark

1
1 mark

1
1 mark

(Both must be correct for 1 mark.)

Page Total 3 Test Total 26/26