المدرسة الوطنية الأرثوذكسية الشميساني
The National Orthodox School Shmaisani

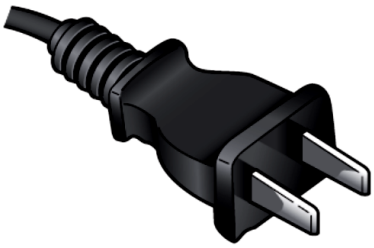
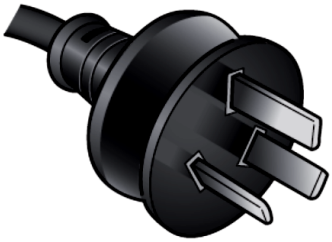
The Primary Stage of Grades (4-5)
School Year 2022 - 2023

Name: _____ **Unit (9): More about electrical circuits**
Worksheet (3): Electrical circuits
Date: / / **Grade 5 CP (All sections)**

Objective:

- Use diagrams and symbols to represent and compare different electric circuits.

Question 1:


(a) Suggest **one** material which could be used for the wire inside these electrical plugs.

..... [1]

(b) Explain why.

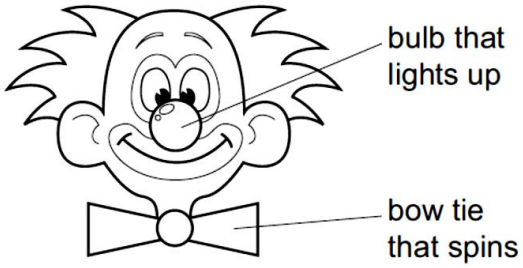
..... [1]

(c) Use **one** word to complete the sentence below.

People often wear rubber boots when they use electrical tools. This is because rubber is a good electrical ..... [1]

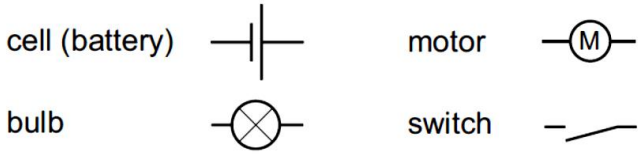
Question 2:

Ellie is making a clown face toy.



She wants to make the bulb light up and the bow tie turn by making an electric circuit.

(a) Using the symbols below draw the circuit diagram to make the toy.



(b) Ellie decides to replace one of the wires with a much longer one.

What effect does this have on

the bulb .....

The bow tie ..... [1]

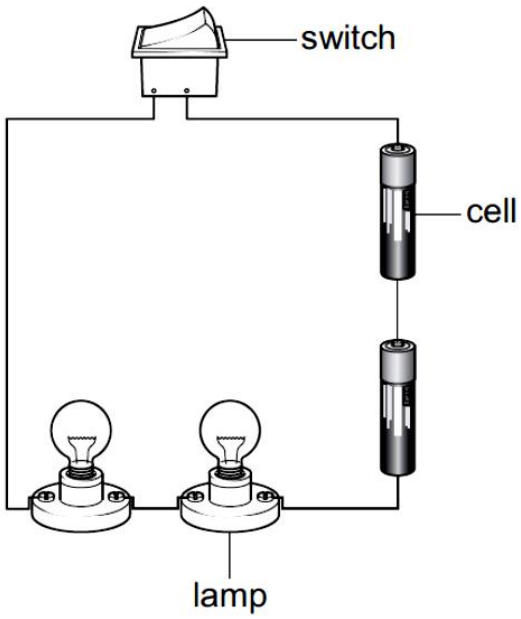
(c) She needs some extra connectors to make her circuit. Which objects could be used as circuit connectors?

Tick (✓) **three** boxes.

- Steel paperclip ☐
- Strip of cardboard ☐
- Strip of aluminium foil ☐
- Metal split pin ☐
- Plastic paperclip ☐

Question 3:

Kofi has built an electrical circuit.



(a) The lamps are **off**.

What does Kofi do to turn the lamps **on**?

.....

(b) In the space below draw the circuit diagram for this electrical circuit.

Use circuit symbols.

Question 4:

Look at this safety sign.

(a) Why is this?

.....

..... [1]

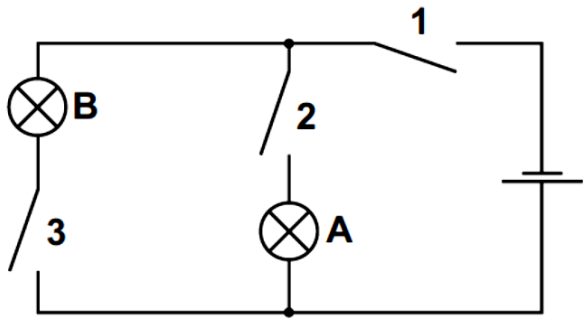
(b) Electrical circuits can be drawn using symbols.

Use the symbols below to draw a circuit to light **two** bulbs. They must both turn on and off using the same switch.

cell (battery)		motor	
bulb		buzzer	
switch			

Question 5:

Look at this circuit diagram.



(a) Switch **1** and **2** are closed. Switch **3** is open.

What will happen? Tick (✓) **one** box.

A and **B** both light up. ☐

Only **A** will light up. ☐

Only **B** will light up. ☐

Neither bulb will light up. ☐

(b) What will happen if Switch **1** is opened?

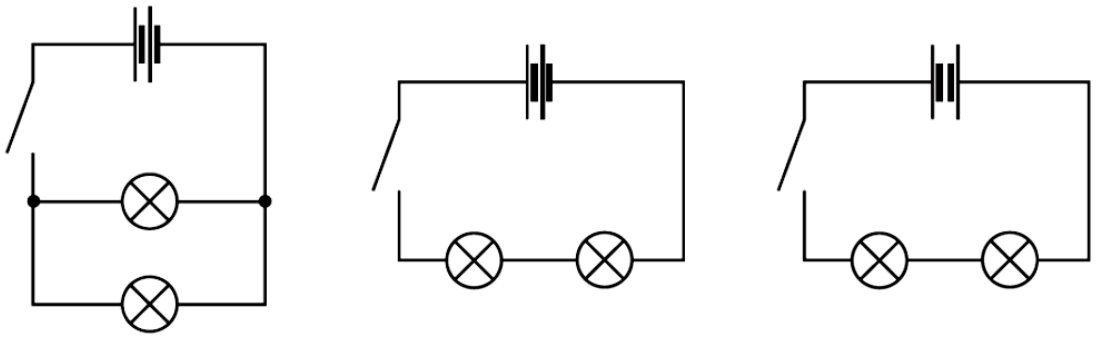
.....

Question 6:

(a) An electrical circuit has two cells, correctly arranged, and two lamps in series with one switch. When the switch is closed both of the bulbs light up.

Which circuit, **A**, **B** or **C**, matches the description?

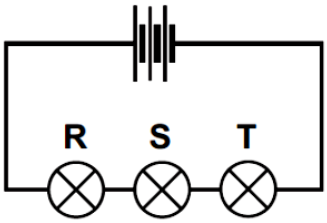
Put a circle around the answer.



A **B** **C**

[1]

(b) In this circuit, bulb **S** does not light up.



(i) What happens to bulbs **R** and **T**?

R .....

T ..... [1]

(ii) Why does this happen?

..... [1]

Question 7:

Mike investigates how well materials conduct electricity.

He connects different materials to an electrical circuit containing a lamp.

He looks at the brightness of the lamp.

Here are his results.

material	brightness of lamp in circuit
lead	lamp is very dim
brass	lamp is just brighter than when using lead
copper	lamp is bright
plastic	lamp does not work
silver	lamp is very bright

(a) Brass conducts electricity.

Name **one** material that is a better conductor of electricity.

.....

(b) Which material is the **best** conductor of electricity?

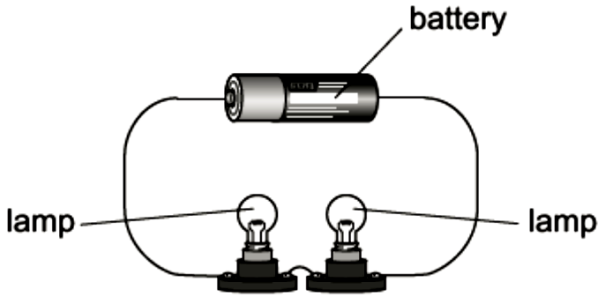
.....

(c) Which material does **not** conduct electricity?

.....

Question 8:

Mia makes a series circuit.



Mia makes different series circuits.

She uses the same size batteries.

She uses the same size lamps.

(a) Complete the table.

Choose from the following words.

dim **normal** **bright**

number of batteries	number of lamps	brightness of lamps
1	2	normal
2	2	.....
1	3	.....