



AMATHOLE EAST DISTRICT

TERM 2 EXEMPLAR PROJECT

GRADE 5

**SUBJECT: NATURAL SCIENCES
FORMAL ASSESSMENT TASK
2024**

TOTAL MARKS: 30

Name: _____

Class: _____ Date: _____

School: _____ Teacher: _____

TOPIC : ENERGY AND ELECTRICITY

ACTIVITY 1

1.1. Investigating the source of electricity in a torch.

MATERIALS:

- A working torch
- An old, broken torch

INSTRUCTIONS:

- Turn your torch on and off. Can you see the bulb light up?
- Turn your torch off. Open it up and take the batteries out.
- Now turn it back on.

QUESTIONS:

1. Does the bulb light up when there are no batteries in the torch? (1)

2. What does this tell you about the need for batteries to make your torch work? (2)

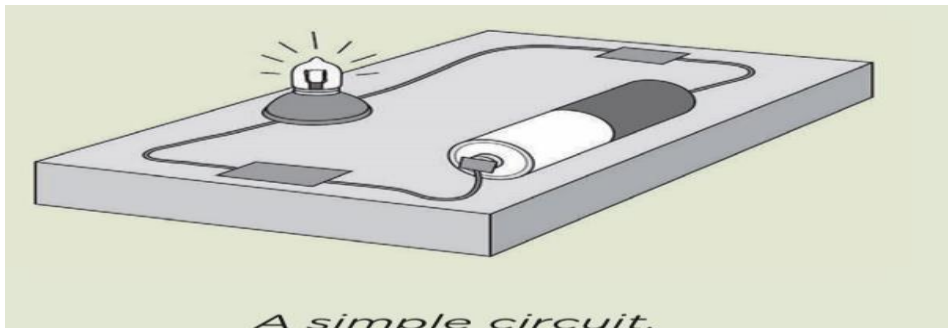
3. Do you remember learning about transfer of energy in Grade 4? When the torch lights up, what is the chemical energy in the battery transferred to? (3)

4. Bring an old torch to school that can be taken apart. Look carefully at all the parts that make up a torch and make a list of what you find. Each part of the torch is needed for the torch to work properly. (4)

ACTIVITY 2

2.1. Part 1:

- Set up the circuit as shown in the diagram (2)
- Make sure all the wires are connected to form a closed circuit.



2.2. Questions

- What do you observe? (2)

- What happens when you disconnect one end of one of the wires? (2)

2.3. Part 2:

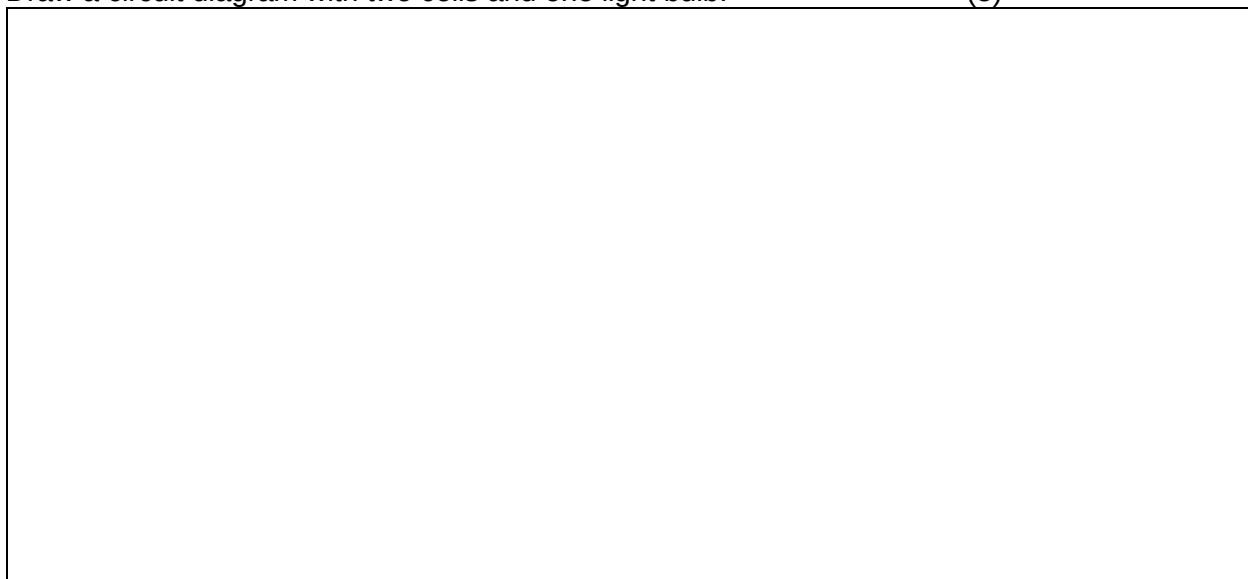
- Set up new circuit with two cells and one light bulb.
- Explain how you connected the cells so that the light bulb still lights up. (3)

- Describe if the light bulb glowed the same or was brighter or dimmer than in experiment 1? (1)

- Explain your answer to the above question. (3)

- Describe an electric circuit. (2)

- Draw a circuit diagram with two cells and one light bulb. (5)



TOTAL 30

MARKING GUIDE

ACTIVITY 1

1.2. Investigating the source of electricity in a torch.

MATERIALS:

- A working torch
- An old, broken torch

INSTRUCTIONS:

- Turn your torch on and off. Can you see the bulb light up?
- Turn your torch off. Open it up and take the batteries out.
- Now turn it back on.

QUESTIONS:

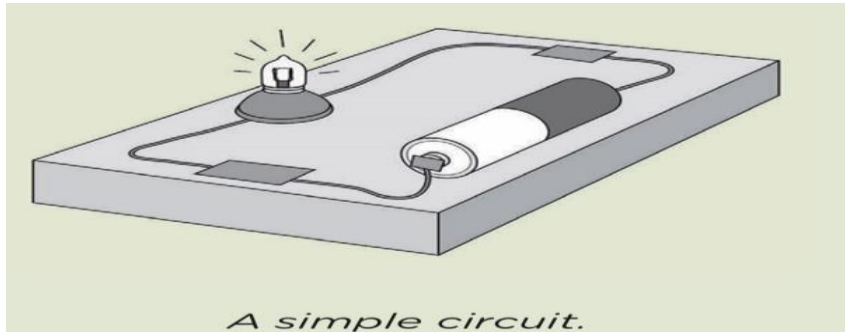
5. Does the bulb light up when there are no batteries in the torch? (1)
No
6. What does this tell you about the need for batteries to make your torch work? (2)
You need batteries for the light bulb to light up. This is because the batteries are the source of electrical energy.
7. Do you remember learning about transfer of energy in Grade 4? When the torch lights up, what is the chemical energy in the battery transferred to? (3)
Chemical energy in the batteries is transferred to electrical energy. Electrical energy is then converted to light energy in the bulb.
8. Bring an old torch to school that can be taken apart. Look carefully at all the parts that make up a torch and make a list of what you find. Each part of the torch is needed for the torch to work properly. (4)
Batteries, light globe, wires, switch, casing, glass or plastic front

ACTIVITY 2

2.1. Part 1:

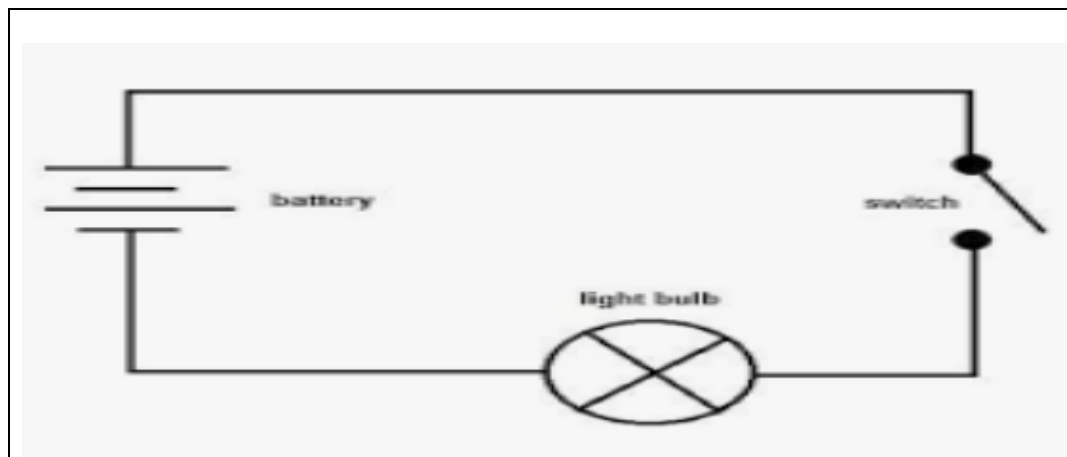
- Set up the circuit as shown in the diagram (2)

- Make sure all the wires are connected to form a closed circuit.



2.2. Questions

- What do you observe? (2)
The globe lights up✓✓
- What happens when you disconnect one end of one of the wires? (2)
The light goes out. ✓✓
- Draw a diagram of a simple circuit and label the components of a circuit. (5)



2.3. Part 2:

- Set up new circuit with two cells and one light bulb.
- Explain how you connected the cells so that the light bulb still lights up. (3)
Batteries had to be connected end to end✓, with the positive side of one battery touching the negative s✓ide of the other battery. ✓

- Describe if the light bulb glowed the same or was brighter or dimmer than in experiment 1? (1)

Brighter ✓

- Explain your answer to question. (3)

Two batteries contain more stored energy ✓ than one battery✓, more stored energy changes to more light energy. ✓

- Describe an electric circuit. (2)

An electric circuit is a pathway✓ that allows electricity to flow or a system that allows electrical energy to move.✓

TOTAL 30