

**TOPIC: Static electricity, Circuits & Current electricity**  
**Components of circuits, Heating and Magnetic effect**

**MARKS: 15**

Name and Surname: \_\_\_\_\_ Gr. 8 \_\_\_\_\_ Date: \_\_\_\_\_

**SECTION A**

**QUESTION 1**

- 1.1 Match the description in COLUMN A with the correct term in COLUMN B.  
Write only the LETTER (A - D) next to the question number (1.1.1 – 1.1.3) in the open spaces provided below.

COLUMN A			COLUMN B
1.1.1	The movement of electric charge through a conducting wire.	A	A closed circuit
1.1.2	A circuit in which electric current flows.	B	Static electricity
1.1.3	Electric charge that builds up on the surface of an object and stays in one place.	C	Electric current
		D	An open circuit

**ANSWERS:** 1.1.1 \_\_\_\_\_ 1.1.2 \_\_\_\_\_ 1.1.3 \_\_\_\_\_ (3)

- 1.2 Give the correct WORD or TERM for each of the following statements.

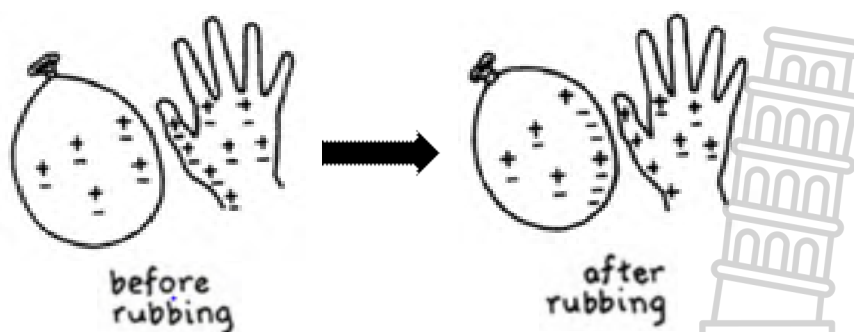
1.2.1 A component that provides electrical energy in a circuit. **Answer:** \_\_\_\_\_ (1)

1.2.2 A component that opposes the flow of electric current in a circuit.  
**Answer:** \_\_\_\_\_ (1)  
**[5]**

**SECTION B**

**QUESTION 2**

- 2.1 The pictures below show a hand and a balloon **BEFORE** and **AFTER** rubbing them together



- 2.1.1 Indicate with a tick (✓) the type of charge on the **BALLOON BEFORE RUBBING**.

**Balloon** Positive ☐ Negative ☐ Neutral ☐ (1)

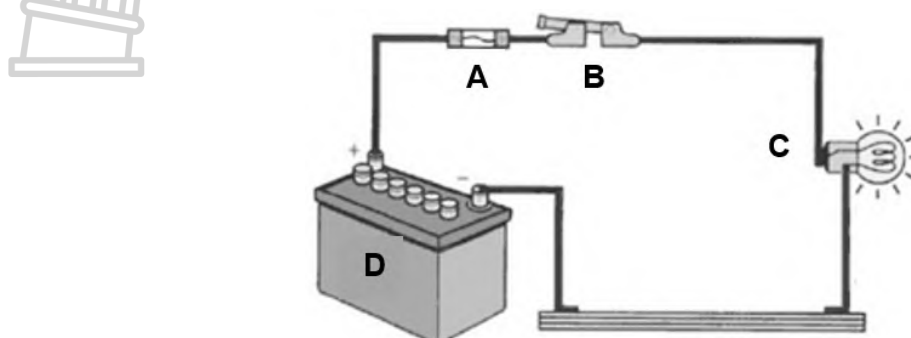
- 2.1.2 Indicate with a tick (✓) the type of charge on the **HAND AFTER RUBBING**.

**Hand** Positive ☐ Negative ☐ Neutral ☐ (1)

2.1.3 UNDERLINE the correct word in each of the brackets to complete the sentence.

In the picture above, (**electrons / protons**) were transferred FROM the (**balloon / hand**) TO the (**balloon / hand**) due to friction. (2)

2.2 In the picture below, a fuse (a thin piece of wire) is connected with other components in an electrical circuit.



2.2.1 Identify the fuse in the above circuit (only write A, B, C or D): \_\_\_\_\_ (1)

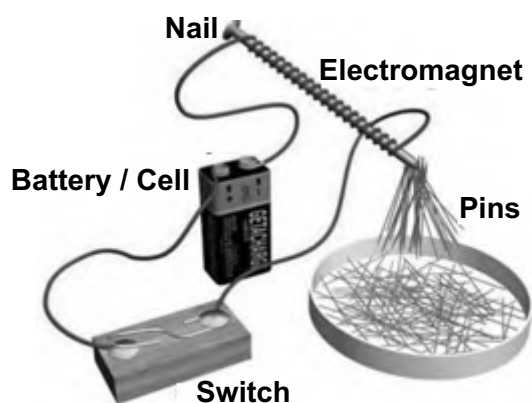
2.2.2 Explain the function of the fuse in the picture above by describing what happens if the current in the circuit becomes too high. (2)

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3. Study the diagram of an electromagnet below



3.1 What effect of electric current is demonstrated in the above diagram?

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 (1)

3.2 Is the switch in the diagram open or closed? \_\_\_\_\_ (1)

3.3 Give a reason for your answer in question 3.2.

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 (1)  
[10]

TOTAL MARKS: 15

**NATURAL SCIENCES****GRADE 8****INFORMAL TEST 3.1**

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**MARKS: 15****MEMORANDUM****SECTION A****QUESTION 1**

- 1.1.1 C ✓ (1)  
 1.1.2 A ✓ (1)  
 1.1.3 B ✓ (1)  
 1.2.1 Battery / Cell ✓ (1)  
 1.2.2 Resistor ✓ (1)  
**[5]**

**SECTION B****QUESTION 2**

- 2.1.1 Neutral ✓ (1)  
 2.1.2 Positive ✓ (1)  
 2.1.3 In the picture above, electrons ✓ were transferred FROM  
 the hand TO the balloon ✓ due to friction. (2)  
 2.2.1 A ✓ (1)  
 2.2.2 The fuse will heat up and melt off ✓ and break the circuit. ✓ (2)  
 3.1 Magnetic effect ✓ (1)  
 3.2 Closed ✓ (1)  
 3.3 The current is flowing ✓ because the electromagnet attracts the pins. (1)  
**[10]**

**TOTAL MARKS: 15**