

## THE PHYSICS DEPARTMENT 2022

*Uganda Certificate of Lower Secondary Education*

### S.1 End of Year Assessment

Physics

1 hours 30 minutes

Fill in the required information below

LEARNER'S NAME:		STREAM:	
LEARNER'S NO.			
		STUDY GROUP'S NAME:	

THIS PAGE IS FOR EXAMINER'S USE ONLY

Do not write in the boxes on this page. The examiner will use them to keep a record of your marks.

Question			Marks	Comment
SEC A	1.			
	2.			
	3.			
SEC B	4.	R		
		A		
		C		
		E		
TOTAL MARKS				

### INSTRUCTIONS

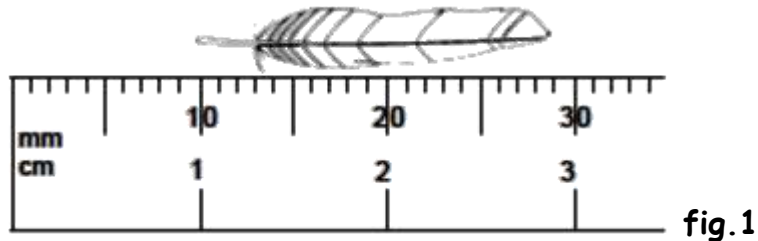
- Use the blue or black ink pen only
- Attempt **all** questions in section A and B.

*Turn Over*

**SECTION A**  
**(Short response item)**

**Question.1**

The diagram shows an enlarged drawing of the end of a metre rule. It is being used to measure the length of a small feather.



(a). Suggest a scientific phenomena identified in fig.1 above (01 mark)

(b). (i). What is the length of the feather? (01 mark)

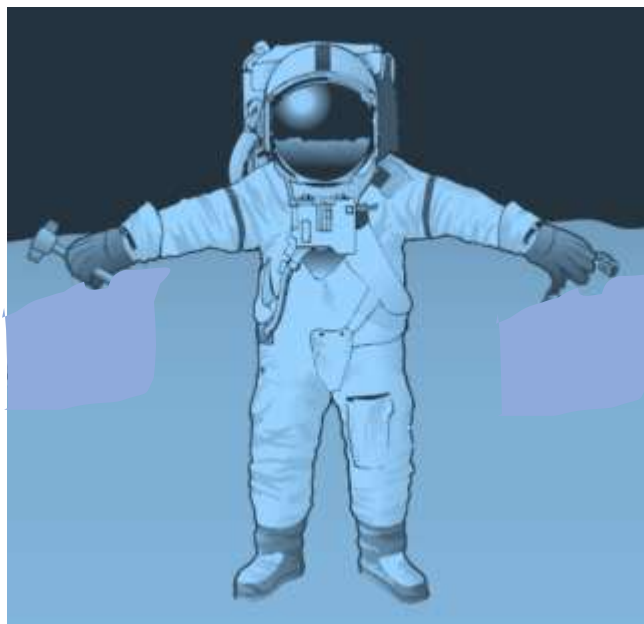
(ii). Sarah said the length of the feather is a fundamental quantity. Why is length a fundamental quantity and suggest any other two fundamental quantities? (02 marks)

Reason: .....

Other two fundamental: .....

**Question.2**

An astronaut has a mass of 65 kg on earth, where the acceleration due to gravity is  $10\text{m/s}^2$ .



**Fig.2**

(a). Calculate the astronaut weight on earth. (02 marks)

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(b). The astronaut undertakes a moon landing. On the moon, the gravitational strength is  $1.6\text{N/kg}$ .

(i). State the astronaut mass on the moon. (01 mark)

(ii). Calculate the weight of the astronaut on the moon. (02 marks)

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(c). Mass is a scalar quantity. Weight is a vector quantity. Explain why. (02 marks)

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### Question.3

In the experiment to demonstrate the properties of the three major states of matter, these were compared based on, Shape and volume, Compressibility, Rigid (fluid), fill container completely.

(a). Study the table below showing summary of the observation and complete the behavior of each state in each property.

	Shape and volume	compressibility	Rigid or Liquid	Fill container completely
<b>Solids</b>				
<b>Liquids</b>				
<b>Gases</b>				

(05 marks)

- (b). It was observed that Solids are **incompressible**. Explain why a sponge is compressible yet it is said to be a solid. (02 marks)

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- (c). Describe how you can show that matter consist of small particles in random motion. (03 marks)

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## SECTION B

(Extended response)

### Question.4

In your community, there is a village man moving around selling four different objects claiming they are made of Gold. Each object has a known mass. The objects are a tin cylinder, a container cube, a steel spanner and a slicing board.

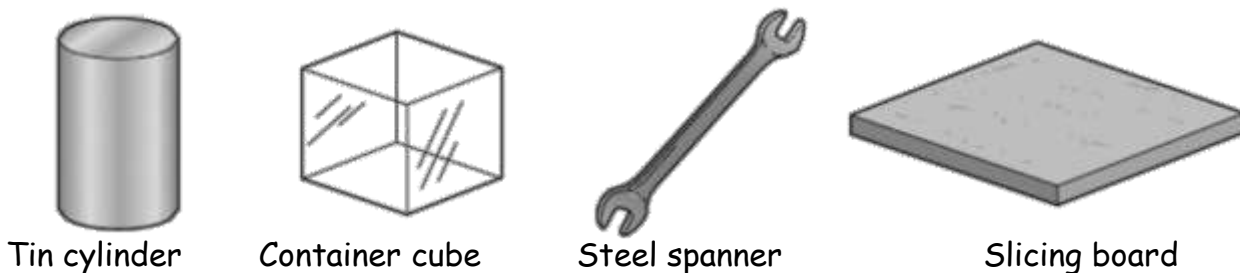


Fig.3

Mugisha wants to buy items for home use but he is not sure where what is buying is purely gold. Help Mugisha make a better choice. (10 marks)

**END**