

## END OF YEAR EXAMINATIONS

### PHYSICS

TIME:  $2\frac{1}{4}$  HOURS

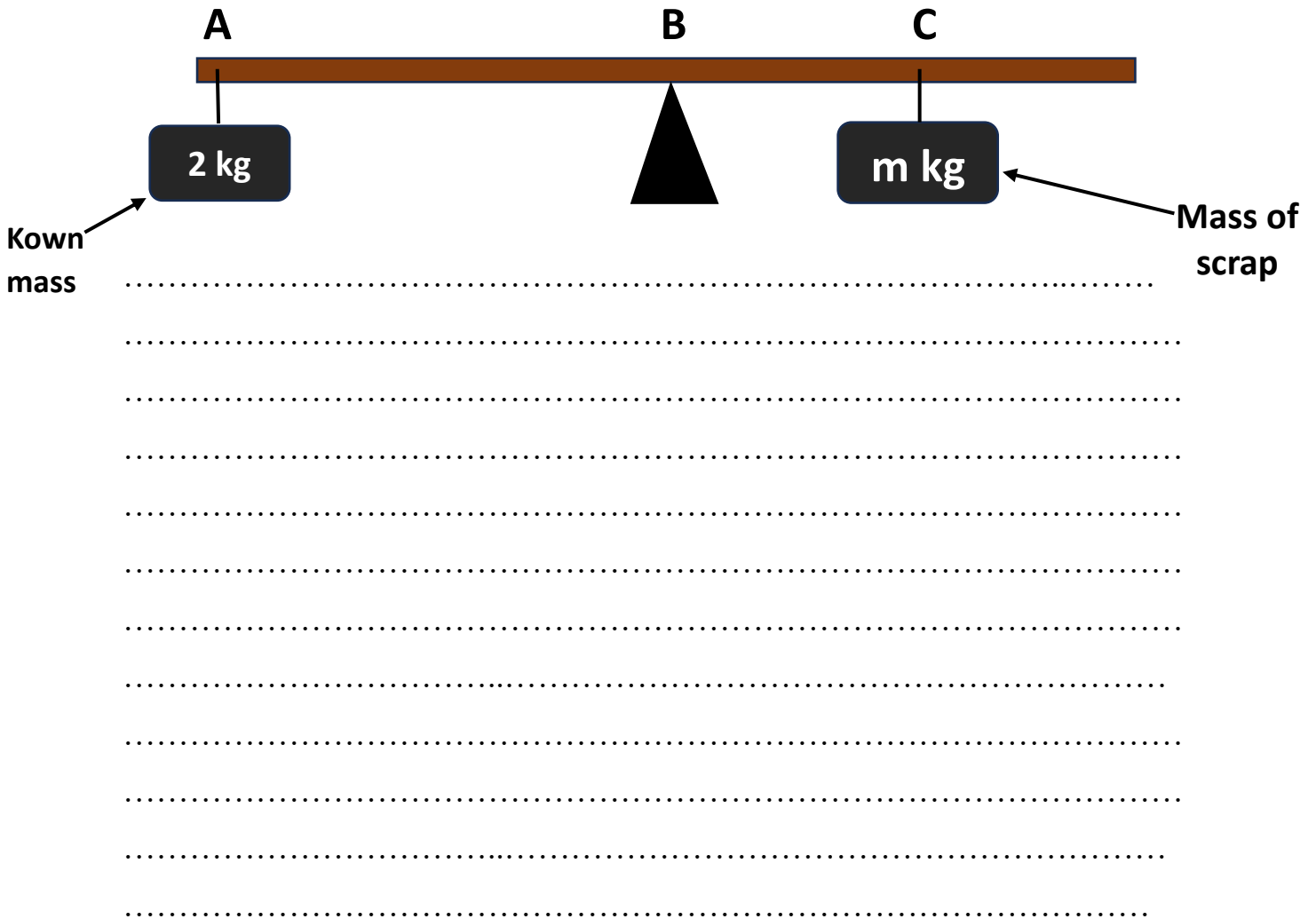
NAME.....STREAM.....

#### INSTRUCTIONS

- Answer all questions in the question paper provided.
- Silent, non-programmable calculators may be used.

#### QUESTION ONE

In a certain village a man wanted to sell scrap but has a challenge of using the measuring instrument shown below. He needs an explanation on how to use the instrument to find the mass of the scrap. write down how you can help him solve this problem. (05 mks)



Hence deduce the mass of the scrap if distance **AB** is **0.5m** and **BC** is **0.25m**. .  
(05 marks)

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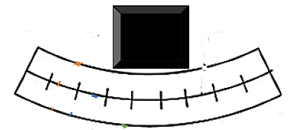
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## QUESTION TWO

In an experiment to investigate the factors that determine the tensile strength of a material, three straight plastic pipes **A**, **B**, and **C** of diameters **1 cm**, **2cm** and **3cm** respectively were used as shown in the illustration below. varying weights were placed in the middle of each of the pipes and it was found that:

- Pipe A got deformed when **50N** was placed in its midpoint.
- Pipe B got deformed when **100N** was placed in its midpoint.
- Pipe C got deformed when **150N** was placed in its midpoint.
- pipe D was the only metallic pipe of diameter **2cm** but got deformed when **1000N** was placed on its midpoint.



- a) If you were to select two of the pipes above for hanging clothes whose total weight is **120N**, which pipes would be the most suitable for use. Explain the factor you based on to justify your answer (05 marks)

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Identify the three factors that affect the tensile strength of a material from the above investigation and briefly explain how each factor affects it . (05 marks)

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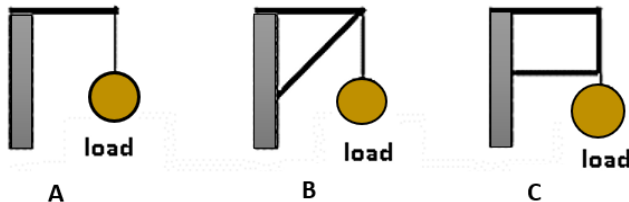
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### QUESTION THREE

Three engineers were told to design a structure that can lift heavy loads in a certain workstation. Structures A, B and C were designed by Engineer Rebecca, John and Musa respectively.



*If you were to hire one of these engineers, which one would you select and explain why. (05 marks)*

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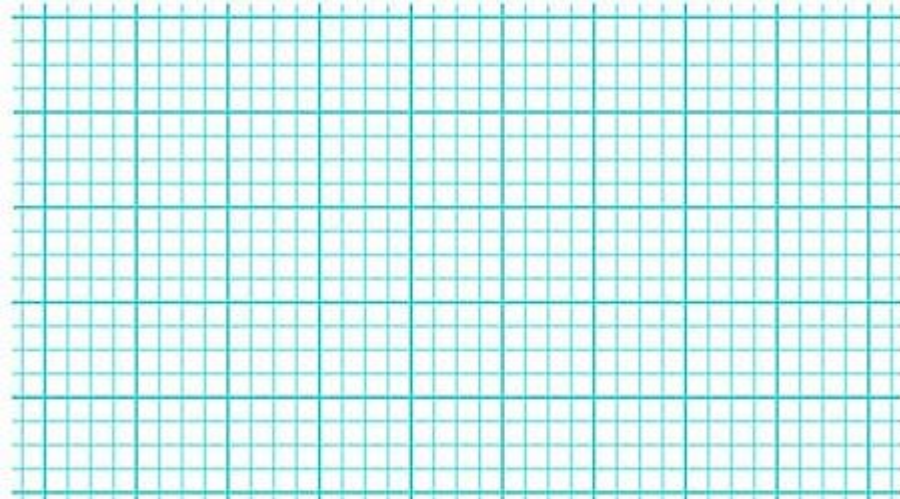
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## QUESTION FOUR

A newly recruited nurse who has never used a dentist's mirror has difficulties in testing the patients. Since it is her first time at workplace. With the aid of a diagram explain to her how to use it and include the features of the image formed. (05 marks)



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## QUESTION FIVE

On one vacation you and your friends decided to go out to tour Mabira Forest and with all the joy involved in observing the beautiful scenery that nature could provide, you both forgot how far in the forest you had travelled. On realizing it, it was now too late because by now both of your phones had run out of power. So left with no other choice you checked inside your travel bag and found a **pen**, a **notebook**, a **map** of the forest, a magnetic **compass**. Do you think you will ever get out alive? Explain how you will use the above materials to survive and escape the horrors in the dangerous jungle before it is too late to survive. (5 marks)

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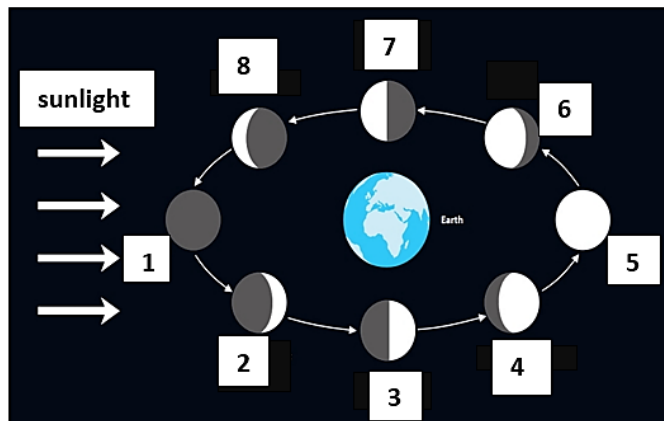
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## QUESTION SIX

Atleast every person who has normal eyes on earth has seen how beautiful the moon is among the stars in a dark night sky but the question that has puzzled many humans since the dark ages has always been the different shapes that the moon displays on the night sky. The different shapes of the moon as viewed from earth are also known as the **phases** of the moon. Study the different phases of the moon shown in the figure below and use it to answer the questions. (8 marks)



(a) Name the eight phases of the moon shown in the figure above

1. ....
2. ....
3. ....
4. ....
5. ....
6. ....
7. ....
8. ....

Is it possible to see the new moon? Explain briefly (2 marks)

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## QUESTION SEVEN

Kato has a sick **brother** in the hospital. The mother sent him with hot food in the dish to take to the brother. When he reached the hospital, the patient refused to eat the food because it was cold. How will you advise **Kato** and his mother on what to do to make sure the food reaches the hospital when it is still warm. Explain any two possible solutions. (05 marks)

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## QUESTION EIGHT

The government wants to build two scientific research facility, one in a low-pressure region and the other in a high-pressure region. The ministry in charge has selected five towns and the only task left is to identify the regions.

Here are the altitudes of five Ugandan towns.

Town	Kampala	Kasese	Jinja	Fort portal	Lira
Altitude (m)	1189	1839	1196	1523	1097

If you are the chief advisor to the ministry, which of the two towns do you recommend the government to build the research facility and explain why.

(05 marks)

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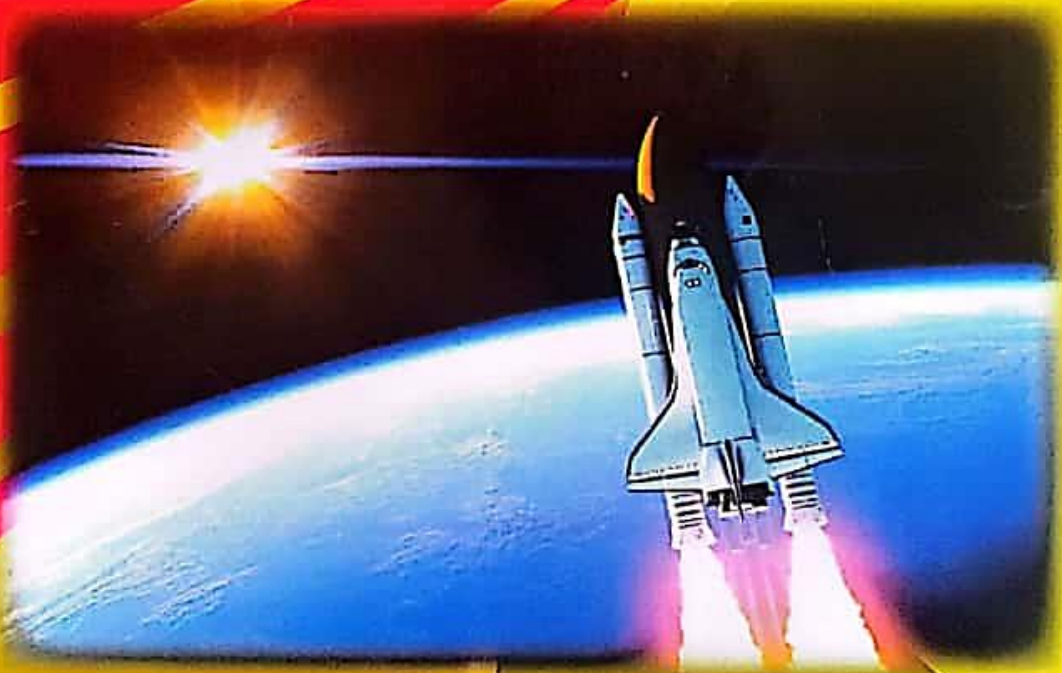
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**S.2**  
O Level

# PHYSICS

## WORKBOOK AND ACTIVITIES OF INTEGRATION

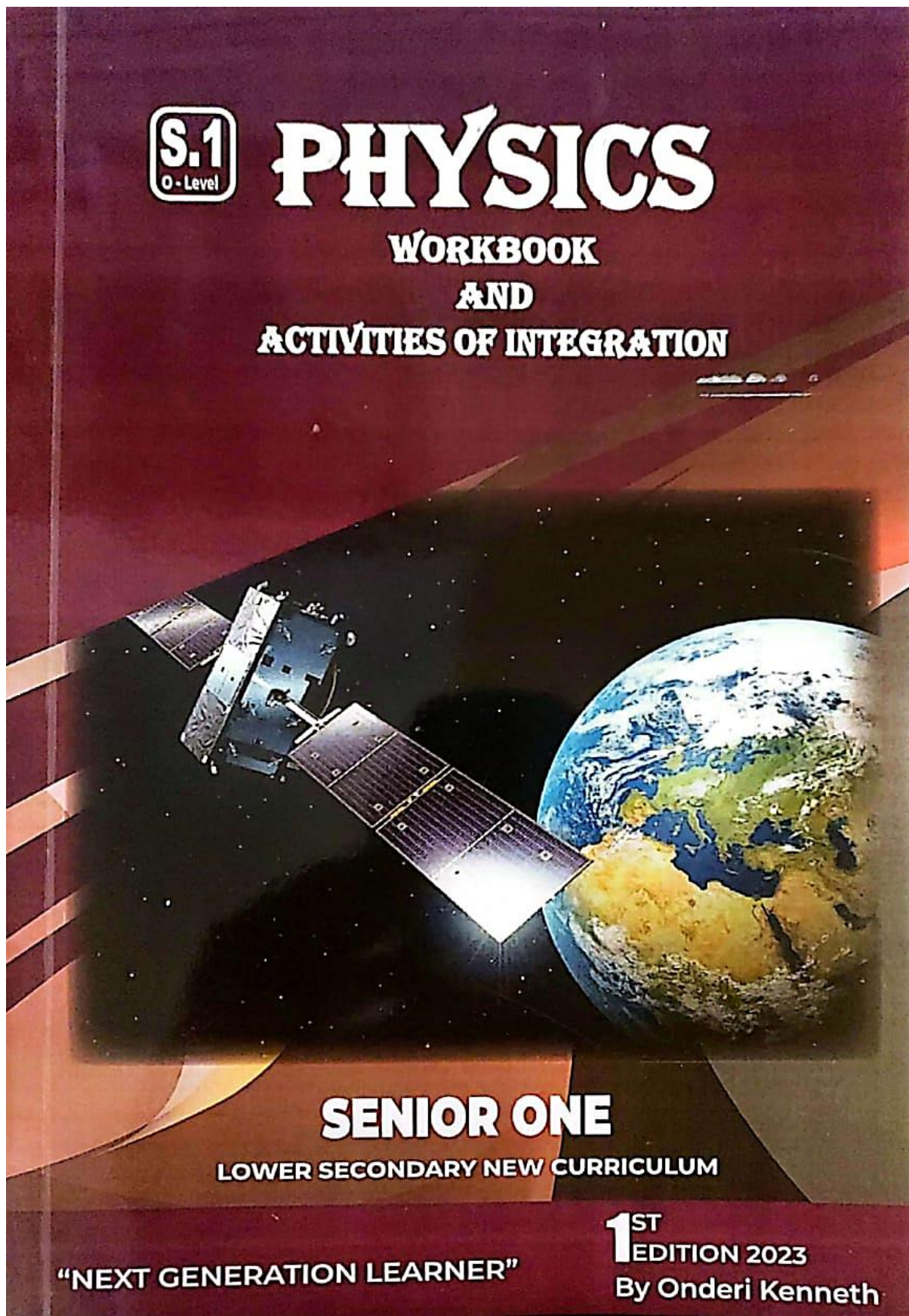


**LOWER SECONDARY  
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NEXT GENERATION LEARNER**

**Mr. Onderi Kenneth [kennethonderi@gmail.com](mailto:kennethonderi@gmail.com) 0705476300 / 0771940855**

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Come January 2024 all workbooks (S.1, S.2, S.3 and S.4) will be available with possible solutions provided at a free cost to those who purchase more than 50 books

✚ Positive criticism is well received to help improve our service delivery to the nation in terms of physics as a subject and how the books should be like in order to make the subject better.

✚ My sincere apology for delay in production of book three as had earlier been anticipated.

✚ Get in touch with the author @ 0705476300/ 0771940855.

**By kenneth onderi @ 2023 examinations 0705476300**

**Book three and four workbooks will be ready January 2024**