

RWENZORI REGION SESEMAT
END OF YEAR ASSESSMENT 2024
SUBJECT: PHYSICS (535)

CLASS: S1

TIME: 1 ½ HOURS

Instructions

- *Answer any 3 items out of 6 items*
- *Any additional items will not be scored*

Item 1

Students of S1 at Ngora SS went out to participate in a sports Gala. However the people at the sports Gala were very many and the students could not see the matches going on in the playground. The students remembered that in one of their classes of physics they designed an optical instrument that can help them to view overhead objects.

Task: You are one of the students at the Gala, help your friends on how the instrument can be designed.

Item 2

S.1 Students of Kimbugwe SS were given an activity to measure changes in temperature in their class room at different time intervals using a non-calibrated thermometer of fundamental interval 30 cm. At 7:00Am the reading was 7cm, at mid-day the reading was 10cm and at 7:00pm the reading was 8cm which caused some effects on the teaching and learning process.

Task: As a learner of Physics

- a) Determine the temperature in Celsius scale at mid-day
- b) Explain the causes of the change in temperature
- c) Identify the effects of the change in temperature within a day in the learning process.

Item 3

While at an evening celebration, wooden stools were placed around a fire place. One of the people gathering around holding an iron rod placed one end of the rod in the fire and after some time he gets burnt by the rod. He wondered why he got burnt by the rod, and started quarrelling with the organizers of the function.

Task: As learner of Physics, explain.

- a) How the people gathered around the fire would receive the warmth from the fire?
- b) Why the person holding the iron rod was burnt and how this could have been avoided.

Item 4

A group of boys went to fetch water from a pond after their football game for bathing. One of them who was the captain carrying an avocado and a ball threw an avocado and a ball in a pond. To their surprise the avocado disappeared in the water and the ball remained on top despite being bigger in size. This left them wondering about the magic of the ball.

Hint:

Density of water	=	1gcm^{-3}
Mass of avocado	=	500g
Mass of a ball	=	5g
Volume of the avocado	=	200cm^3
Volume of ball	=	300cm^3

Task: As a learner of physics

Help the boys to understand why the avocado disappeared in the water and the ball bigger than the avocado remained on the surface of the water.

Item 5

Angela who lives in town visited her aunt in the village. In the evening she saw her aunt lighting a piece of cloth enclosed in a glass container. She asked what this was, and she was told that it's a kerosene lamp. She wondered how kerosene in the container could raise through the piece of cloth and start burning.

Task: As a learner of Physics,

- a) Help Angela to understand what she saw
- b) Apart from the kerosene lamp, where else does such a similar thing happen?

Item 6

A school was supplied with a huge box of text books. The head teacher asked the learners to push the box on the ground and take it to the book store because it was too heavy to lift up. The five learners pushed it and it could not move. When the sixth learner joined them, the box started moving. The learners complained that their sixth colleague could have come with magic.

Task: As a learner of physics,

- a) Help your colleagues to understand that the sixth person did not have any magic
- b) What could the five learners have done to be able to push the box?

End