



HARROAN

Competency based Questions

Biology, Chemistry and Physics

What is a competency based question?

Everyone remembers the old curriculum lengthy questions which based on remembering content that has been committed to memory. Well a competency based Qn is definitely not that.

Competency based questions are opportunities created for students to apply the skills they have learned in their lessons to real world problems and situations to determine if students can synthesize, apply and evaluate their learning in a purposeful way. **The focus is on skills rather than content.**

Competency based questions can either be short term response or extended

Short term response questions.



These are questions which require a concise and focused response that may be factual, interpretive or both of them. They require a brief response so it is important to read through carefully and take account of the process words. It is all too easy to go off track and overshoot words limit by including irrelevant information.

Extended term response.

These are also called essay questions. They are open-ended questions which allow students to write a response that arrives at a conclusion based on their specific knowledge of the topic.

An extended response takes time and thought. It requires students not only to give an answer but also to explain the answer with as much in depth.

Guessing is almost completely eliminated with an extended response qn.

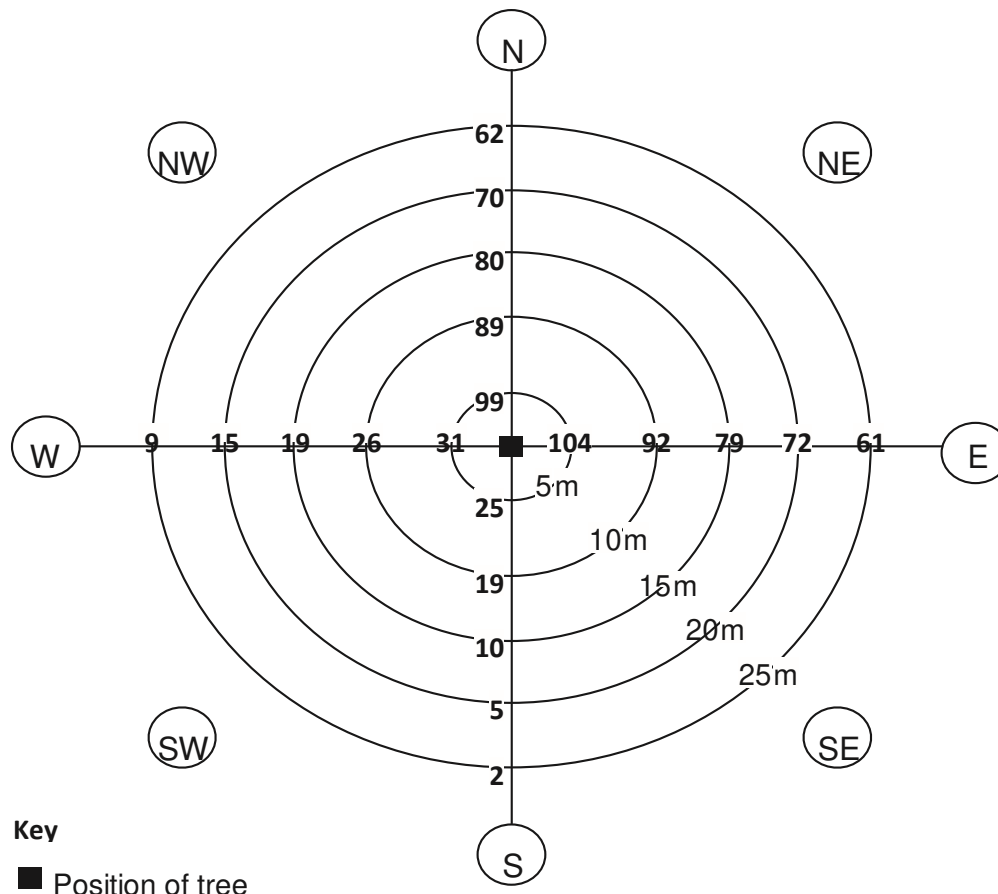
Extended response require critical thinking skills.

Examples of competency based questions in Biology, Chemistry and Physics.

BIOLOGY

Short term response questions.

1. (a) The figure below shows the dispersal of winged fruits around a tree in open grassland. Samples were taken along straight lines at 5 metre



Numbers show how many fruits were collected in 1m²

i) From which direction does the wind usually blow?

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ii) Explain how you arrived at your answer.

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lii) Suggest a reason, other than the wind, that might affect the distribution of these fruits.

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Learners are supposed to think basing on the how & where the winged fruits fell to tell the direction where the wind blows then describe how they have reached to their answer.

2. a) Pets are domestic animals kept for companionship and pleasure. Examples include dogs, cats etc.



Describe briefly how you observed your neighbor's pet portraying criteria of living things. (03 marks)

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Competency

The question is not asking learners to outline the characteristic of living things carried out by pets. Learners are being asked to describe how they observed the pets portraying the life processes. 3 marks mean they should be three ways

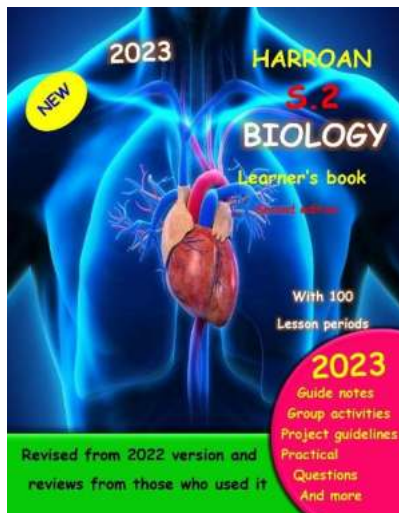
b). All living things die. Why do you think death is not classified as a characteristic of living thing yet all living things die. (02 marks)



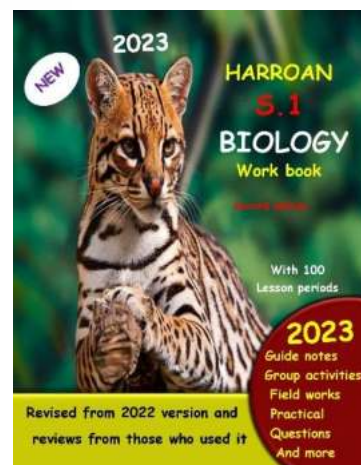
Examples of dead organisms

Competency

This requires thinking though it is not hard.
The same qn appears in Harroan end of chapter assessment & answer is provided. The assessment are for free in soft copies to schools which have ordered 10+ copies of S1 biology



S 2 biology workbook



S 1 biology workbook

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- Price reduces to 15,000. The books involve colour printing & they are students write in versions.
- Free soft copy activities of integration per chapter. For big chapters we shall send more than one activity of integration with their marking guides

Note. The given activities of integration in the books are sample & students even go through them before time for the activity,

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Extended term response.

3. Describe how you have encountered the different types of heterotrophic nutrition in daily life and their importance in nature.

Competency

The question is not asking learners to describe the different types of heterotrophic nutrition. The question is asking learners to describe how they have encountered the different types of heterotrophic nutrition in daily life and their importance in nature.



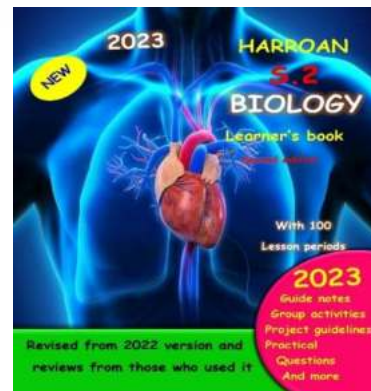
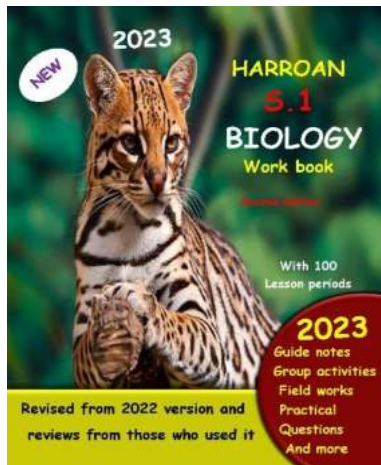
4. A desert Island is an uninhabited Island where no people live. Most of the time the water surrounding is not safe for drinking since it is not pure. The water surrounding the Island contains fish and the Island contains trees.



Imagine you are to be placed on a desert Island for more than a week, and you are only to take three things with you to help you survive. Which 3 things would you ask and describe how you would survive for a week with the things you have chosen carrying out all the life processes of living things.

Competency

After learning the life processes of living things, a learner is required to describe how he can survive in a given life scenario



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CHEMISTRY

Short term response questions.

1. Using the knowledge of states of matter, explain the following;

- a) a ball is blown up until it is hard on a hot summer's day. In the evening the football feels softer.
- b) When a person wearing perfume enters a room it takes several minutes for the smell to reach the back of the room
- c) The scent of flowers travels faster in a warm room.

2. The sugars we eat everyday are being acted on by bacteria producing acids which destroy teeth. So it is recommended to brush our teeth everyday using tooth paste because it contains alkali which neutralize acids.



A man is teaching his son how to brush using a tooth paste and a tooth brush.

a) Describe the effects acids can have on our teeth if not neutralized

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b) Alkalis are slippery and bitter as some of their physical properties. Manufactured tooth pastes are slippery but not bitter. Explain;

i) Why manufactured tooth pastes are not bitter yet they contain alkalis

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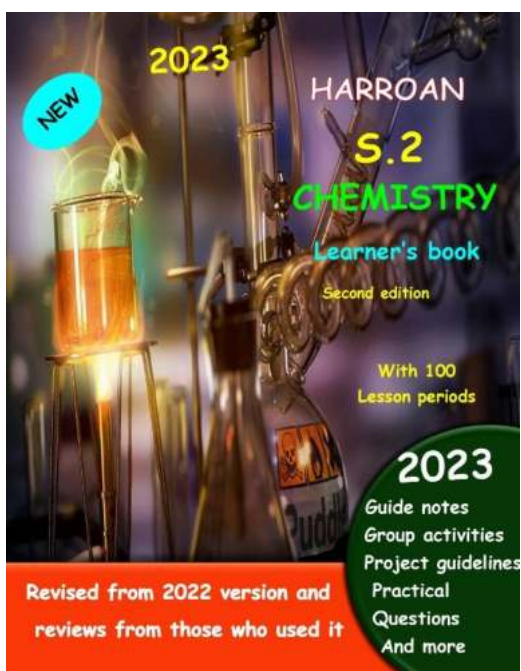
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ii) the significance of tooth pastes not being bitter though they contain alkalis

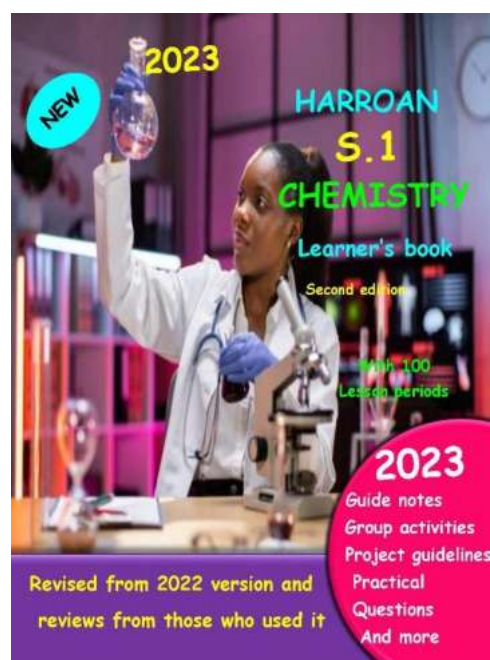
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Extended term response.

You have been given a contract to sensitize people in your community on how to select building materials for constructing a community school. They are expected to gather materials for the walls and roofs. Since they have many people in the community, they will need to deal with waste materials. Write your sensitization message to the community.



Physics

Short term response questions.

1. The pictures below show the effect of resultant forces using tug of war.



State and explain what would happen if;

- a) Group X exerts same force as group Y

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- b) Group X exerts more force than group Y

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- c) Group Y exerts more force than group X

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- d) The rope breaks

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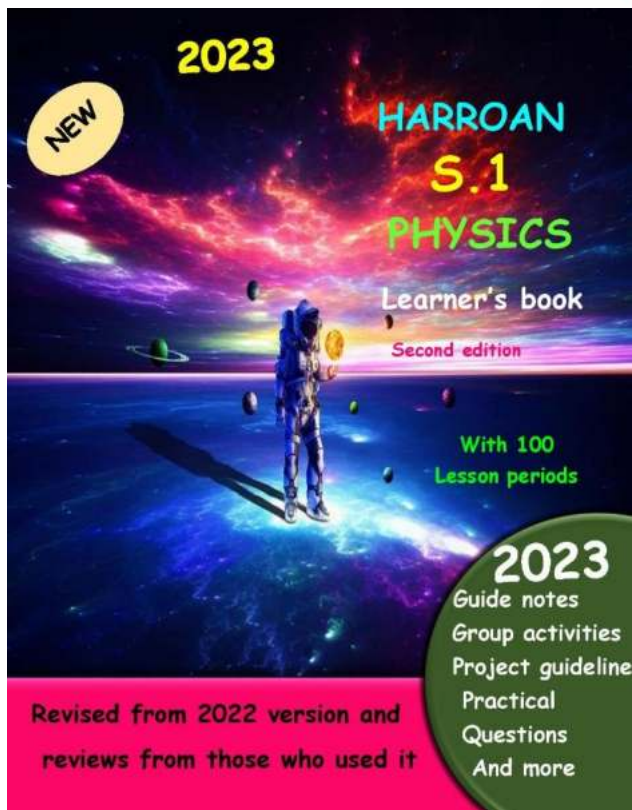
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Extended term response.



During the community football match between Nazigo and Ndesse village football teams, Nazigo team members were wearing new sports shoes with spikes underneath while Ndesse were playing bare footed. Ndesse were the first to score a goal then suddenly, it started raining. And everything suddenly changed. Ndesse players began to fall every time they tried to run with the ball. Nazigo players were not falling and they managed to score five goals to the end of the match.

- Explain why Ndesse team lost the game yet they had started very well.
- Which advice you would give to Ndesse team such that they perform better next time.



COMING SOON

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