



# DEVELOPING AND SCORING TEST ITEMS

**New Lower Secondary Curriculum**

**December 2022**



# Session Outcomes

**Participants should be able to:**

- ☐ Understand the types of test items to be used for End of year Summative assessment.
- ☐ Develop short response and situational test items and their respective assessment criteria and grids



# Activity 1: Understanding Assessment items

In groups, basing on your knowledge of the sample Assessment (Test) items sent to schools by NCDC,

- Discuss what is meant by:
  - i. Short response test items
  - ii. Situational Test items
- Explain the salient features of each type of test items.
- Present your ideas to the plenary



# Key Points

## Short response Test Items:

- Are test items which assess individual elements of a competency. E.g. Comprehension, Skills, Values.
- In the New Lower Secondary Curriculum, these items assess individual learning outcomes; the building bricks for developing a competency.
- Also called **resource-based items since** they assess achievement of individual capacities(learnings) a learner can use in real life.



# Cont'd

- Allow the teacher to assess a large and potentially representative sample of **the** syllabus.
- Are not good for measuring learner's organization and synthesis of learnt material.
- **Focus on assessing skills higher than recall of learned material.**



# Example 1

## SR Item 1

The use of internet and mobile phones has improved people's lives. However, according to the recent police crime report of 2021 the use of internet and mobile phones has resulted in loss of 15 billion shillings.

Explain **two** ways in which the use of internet and mobile phones has affected people in your community.

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(4 scores)



# Scoring Rubrics for SR Test Items

Short response items are scored using rubrics which specify the levels of response and judgement criteria.

## Levels of response

- **Marginal Performance:** Response which just merits in the level and should be awarded a score at or near the bottom of the range.
- **Moderate Performance:** Response which clearly merits inclusion in the level and should be awarded a score in or near the middle of the range.
- **Outstanding Performance:** Response which fully satisfies the level description and should be awarded a score at the top of the range.



# Scoring SR Item 1

Ways in which the use of internet and mobile phones has affected people in the community.

- **Possible response**

- Promoted E-learning.
- Facilitates Internet banking.
- Enables mobile money transfers.
- E-commerce(business) e.g. on line marketing and buying
- Improvement in transport services e.g. Uber, Safe Boda, etc.

- **Scoring criteria**

- Learner scores 0 if s/he does not attempt the item.
- Learner scores (1) if the response merely identifies 1/2 relevant effects.
- Scores (2) if the response presents 1 relevant idea, well explained.
- Scores (3) if the response presents 1 relevant idea, well explained and mere mention/outline of the other.
- Scores (4) if the response presents 2 relevant ideas, well explained and illustrated.

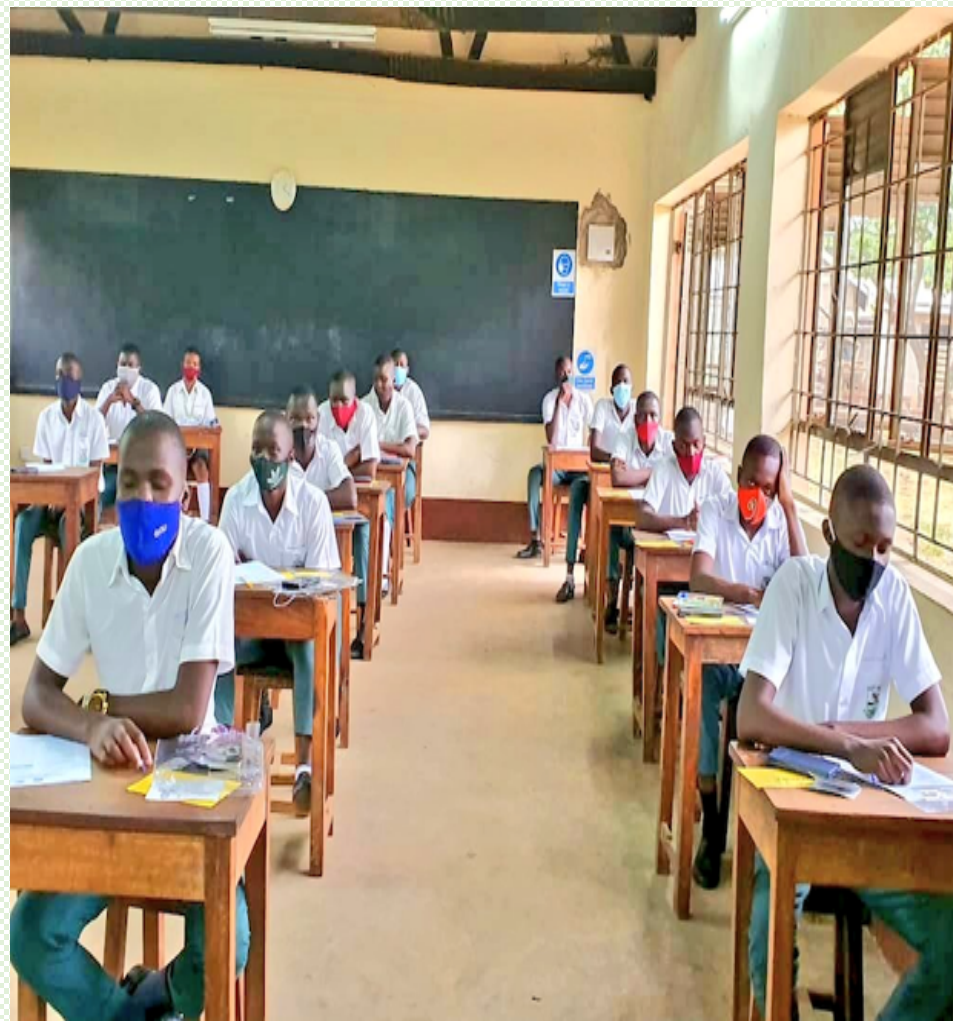
(Max scores=4)





# Cont'd

- Improved access to information e.g. news and other current affairs, health alerts, weather forecasts etc.
- Increased crime (cyber crime) through identity theft, money laundering, kidnaps, and hacking.
- Psychological torture e.g. use of abusive language on social media platforms.
- Exposure to inappropriate information and life styles e.g. pornography, violence
- Increased time wasting/idleness and redundancy.
- NB: Responses will vary with communities





# Example 2

## SR Item 2

A group of scouts camping at the lake shore hoisted their flag. They observed that during a hot day the flag flew towards the land while at night, the flag flew towards the sea though there was no wind. Explain this phenomenon.

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.....(3 scores)



# Scoring SR Item 2

## Possible response

- During day time, both the land and sea receive the same amount of heat from the sun.
- On absorbing heat, land heats up faster than the water body. As the temperature of the land rises, the air over land gets warmer than the air over the water body.
- The warming air expands, becomes less dense, rises and creates a low pressure cell over the land.
- Hence cool air above the sea moves towards the low pressure cell over the land causing the flag to fly towards the land. This is called a sea breeze
- At night, the water which was heated slowly but to a greater depth remains warmer than the adjacent land.
- The warmer sea warms the air above it causing it to rise. This creates a low pressure cell over the sea.
- Cool air blows from the land to replace the rising air above the sea, causing the flag to flow towards the sea. This is called a land breeze.

## Scoring criteria

- **Score 3** if the learner states that it is due to land breeze and sea breeze and explains how each occurs.
- **Score 2** if the learner states that it is due to land breeze and sea breeze and explains how either land breeze or sea breeze occurs.
- **Score 1** if learner states that it is due to one of land breeze or sea breeze only.
- **Score 0** if the learner does not attempt the item.



# Activity 2: Developing short response test items

**In Subject groups, choose a topic from the syllabus and;**

- i. Develop one short response test item.
- ii. What aspects have you taken into consideration while developing the item?
- iii. Agree on the assessment criteria and develop a rubric for assessing the item you have developed.
- iv. Share your responses to the plenary



# Key Points

## Short response test items;

- Are most effective if based on prompts/scenarios such as a small collection of data, a description of a situation, a graph(s), quotes, a paragraph, or any cluster of the kinds of raw information.
- Can be constructed to require learners to apply knowledge/ concepts, or synthesize and analyse data and text.
- Should consist of tasks/questions which require the learner to process and think through the material provided and question significantly before answering. **Minimise recall.**



# Cont'd

- Cannot be subjected to universal assessment criteria (RACE).
- The assessor can fix specific success criteria and levels of performance for each item. This is termed as level marking.





# What are situational test items?

## Situational Test Items:

- Present a learner with problem situations to be solved.
- Task the learner to search his/her cognitive domain in order to come up with relevant learnings which are necessary for solving the problem presented.
- Are designed to assess achievement of a competency.
- Focus on assessing higher order thinking skills (HOT) only.
- Are very similar to the Activities of integration used in end of topic assessment.
- Are scored using assessment/scoring grids.



# Developing Situational items

## Example one:

During a hunting mission, a chief came across a glittering stone which he picked thinking that it was gold. When he took the stone home, he tried to convince his family members that he had found gold and was going to become rich. His family members did not accept that the stone had gold in it and a disagreement started.

As a science student, prepare a comprehensive written message that would be used to settle the disagreement among the family members. **(10 scores)**





# SCORING GRID FOR SITUATION ITEM 1

Output	Criterion 1 Relevance	Criterion 2 Accuracy	Criterion 3 Coherence	Criterion 4 Excellence
<p>Written explanation indicating how the density of the stone is measured to confirm whether it is gold or not.</p> <p><b>Max=10 scores</b></p>	<ul style="list-style-type: none"><li>▪ Scores <b>3</b> if the response presents 6 or more ideas/steps relating to determining density including the formula and apparatus.</li><li>▪ Scores <b>2</b> if the response presents 4 to 5 ideas/steps relating to determining density.</li><li>▪ Scores <b>1</b> if the response presents 1 to 3 ideas/steps relating to determining density.</li></ul> <p><b>X/3</b></p>	<ul style="list-style-type: none"><li>▪ Scores <b>3</b> if the response presents 6 or more correct ideas/steps relating to determining the density of a stone including the formula and apparatus.</li><li>▪ Scores <b>2</b> if the response presents 4 to 5 correct ideas/steps relating to determining the density of a stone.</li><li>▪ Scores <b>1</b> if the response presents 1 to 3 correct ideas/steps relating to determining the density of a stone.</li></ul> <p><b>X/3</b></p>	<ul style="list-style-type: none"><li>▪ Scores <b>3</b> if the response explains 6 or more ideas/steps relating to determining the density of the stone in a logical order; up to determining whether the stone contains gold or not.</li><li>▪ Scores <b>2</b> if the response presents 4 to 5 ideas/steps of determining the density of the stone in a logical order; up to determining whether the stone contains gold or not.</li><li>▪ Scores <b>1</b> if the response presents 1 to 3 ideas/steps of determining the density of the stone and whether it contains gold or not without any logical flow; with some distortions in the explanation.</li></ul> <p><b>X/3</b></p>	<ul style="list-style-type: none"><li>▪ Scores <b>1</b> for presenting information which is unsolicited in the task, but reinforces the effectiveness of the procedure and solution to the disagreement.</li></ul> <p><b>X/1</b></p>



# Item2

Africa, the world's second most populated continent now has more than 1 billion people. The continent is experiencing very rapid population growth. By 2050, its population is expected to reach 2.4 billion and it will be the home to one quarter of the world's population; and almost 40% of it will be children under 18 years. Africa's rapidly growing population presents an opportunity and several problems. The opportunity lies in the benefits the continent can get from a very large and young population. However, if Africa's population is not well planned, it could turn into a burden.

You are the minister for Planning and Economic Development for your country and you have been invited for the African Annual Conference on Population and development.

**Prepare a written policy paper of about 250 words, on how Africa can turn its rapidly growing population into opportunities for development, which you will present at the conference.**

## Support



		Relevance			Excellence
Written policy paper on how to make a large population resourceful	<b>Opportunities for development associated with population increase:</b> <ul style="list-style-type: none"> <li>More income through taxes,</li> <li>Larger market,</li> <li>Larger labour force,</li> <li>Increased creativity and innovativeness,</li> <li>Making use of idle resources</li> </ul>	<ul style="list-style-type: none"> <li>Scores <b>3</b> if the response presents 4 or more ideas relating to benefits of a large population.</li> <li>Scores if <b>2</b> the response presents 3 ideas relating to benefits of a large population.</li> <li>Scores if <b>1</b> the response presents 2 or less ideas relating to benefits of a large population.</li> </ul> <b>X/3</b>	<ul style="list-style-type: none"> <li>Scores <b>3</b> if response presents 4 or more correct ideas relating to benefits of a large population.</li> <li>Scores <b>2</b> if the response presents 3 correct ideas relating to benefits of a large population.</li> <li>Scores <b>1</b> if response presents 2 or less correct ideas relating to benefits of a large population.</li> </ul> <b>X/3</b>	<ul style="list-style-type: none"> <li>Scores <b>3</b> if 4 or more ideas relating to benefits of a large population flow logically without any distortions.</li> <li>Scores <b>2</b> if 3 or more ideas relating to benefits of a large population do not flow logically; with some distortions.</li> <li>Scores <b>1</b> if only 1 idea relating to benefits of a large population flows logically.</li> </ul> <b>X/3</b>	<ul style="list-style-type: none"> <li>Scores <b>1</b> if the response presents an idea(s) unsolicited in the task, but improves the value of the response or the effectiveness of the policies suggested.</li> </ul> <b>X/1</b>
	<b>Policies for realization of benefits of a large population:</b> <ul style="list-style-type: none"> <li>Provision of skill-based education,</li> <li>Primary health care and medical care,</li> <li>Educate women on family planning,</li> <li>Modernise agriculture in rural areas,</li> <li>Invest in industries</li> </ul>	<ul style="list-style-type: none"> <li>Scores <b>3</b> if the response presents 3 policy ideas relating to realizing the benefits of rapid population growth.</li> <li>Scores <b>2</b> if the response presents 2 policy ideas relating to realizing the benefits of rapid population growth.</li> <li>Scores <b>1</b> if the response presents 1 policy idea relating to realizing the benefits of rapid population growth.</li> </ul> <b>X/3</b>	<ul style="list-style-type: none"> <li>Scores <b>3</b> if the response presents 3 correct policy ideas relating to realizing the benefits of rapid population growth.</li> <li>Scores <b>2</b> if the response presents 2 correct policy ideas relating to realizing the benefits of rapid population growth.</li> <li>Scores <b>1</b> if the response presents 1 correct policy idea relating to realizing the benefits of rapid population growth.</li> </ul> <b>X/3</b>	<ul style="list-style-type: none"> <li>Scores <b>3</b> if the response presents 3 policy ideas relating to realizing the benefits of rapid population growth explained logically without any distortions.</li> <li>Scores <b>2</b> if the response presents 2 policy ideas relating to realizing the benefits of rapid population growth with some distortions.</li> <li>Scores <b>1</b> if the response presents 1 policy idea relating to realizing the benefits of rapid population growth with many distortions.</li> </ul> <b>X/3</b>	



# Activity 3

In subject groups, choose a topic from the syllabus, and using your knowledge of the Aol;

- i. Develop one situational Test Item and its Evaluation grid.
- ii. What aspects have you taken into consideration while developing the item?
- iii. Share your responses to the plenary.



# Key Points

## In situational Test Items;

- **Assess a single competency**, Every situational item should focus on one competency.
- **Include relevant supports**, Essential visual materials should be provided as part of the problem situation to help the test taker visualise the problem at hand.
- **Provide clear directions**, Explicitly state what the test taker is expected to do to successfully attempt the task; including conditions for resolution.





# Cont'd

- **Tasks should not be interdependent**, If the solution is to be given in more than one output, the first task(s) should not provide clues or answers to other tasks in the item.
- **Scoring is guided** by universal assessment criteria(RACE).
- **Scores do not depend on the number of points** raised but on the overall quality of the output. Not scored on a point-for-point basis.
- **Assessment** focuses on higher order thinking skills (HOT) only.

