



Province of the
EASTERN CAPE
 EDUCATION

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CHIEF MARKER'S REPORT

INSTRUCTIONS

1. The Chief Markers are required to complete this report during the marking session. The aim of the report is to provide a feedback and to help subject advisors and educators to improve teaching and learning.
2. The report should be informed by discussions between the **Chief Marker, moderator, senior markers and markers** of the particular subject. **NB: There should be one report per subject per paper.**
3. The report must be detailed, informative and indicate question-by-question performance of the candidates and mark distribution of centres.
4. Reference may be made to the topics identified below as well as any aspect the Examiner wishes to bring to the attention of the subject advisors and educators.
5. **The report must be submitted in hard copy and an electronic version to the centre manager at the marking centre.**
6. All markers reports must be handed in with the hard copy.
7. The electronic report should be emailed to varkchan.joseph@edu.ecprov.gov.za
6. The centre managers then forward the reports to the Directorate of Assessment and Examination (Att: Mr. V A Joseph) in King William's Town.

SUBJECT:	Life Sciences
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GRADE:	12	PAPER:	2
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DATE OF EXAMINATION:	November 2009	DURATION:	2.5 Hours
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1. ANALYSIS OF QUESTION-BY-QUESTION PERFORMANCE OF THE CANDIDATES

Give a detailed account of how the candidates performed in each question. In doing this, the following steps should be followed:

- 1.1 The aim/objective for setting the question (what skills, knowledge, values and attitudes were being tested by asking the question)
- 1.2 Relevance or relation of the question to the Los and Ass.
How did the candidates perform in the question?
- 1.3 Where did candidates lack expertise or fail in giving an appropriate answer to score high marks in the question?

QUESTION 1

A fair question. Most of the learners did not use the answer sheet for Section A. As it is part of the answer book for all subjects and cannot be removed, we recommend that for Life Sciences it should not be used. Learners use it wrongly especially 1.1 where they put the X in the wrong or unidentified places. (It is not marker friendly). Almost all the questions in this section were clearly phrased, testing knowledge and application. Language seems to be a big problem.

1.1 Multiple choice

All the questions were fair and appropriate to the standard for Grade 12 Life Science learner. Answers were good and learners scored high marks for this sub section.

1.2 Terminology

The questions were fair (1.2.1 and 1.2.2, the difficult ones out of the five). Learners performed poorly in this sub section and experienced problems with their spelling of the more difficult terms like eutrophication and palaeontology. (an indication that learners don't always know the meaning of a term) Educators should be encouraged to summarise the main/ important terms after completing a small section of work in the classroom. Learners should also be constantly tested / assessed on this terminology.

1.3 Matching Columns

The question was clearly phrased and most learners knew exactly what was expected of them. The question was fairly answered. In some cases, the double column leads to guessing. It will be good if learners are exposed to more of these types of questions in class and teaching them how to reason to determine the correct answer.

1.4 A good and fair question. The interpretation of the given table was good. Many learners obtained full marks. Teachers should note 1.4.2 is out of two marks (1 mark for the value and 1 mark for the unit). Some learners lost the one mark for not giving the unit. Many learners did not understand the meaning of the term tendency.

1.5 Diagram

A fair question where information and answers could be read from the diagram. The learners struggled to understand what was needed from them. A clear lack of knowledge how to interpret a diagram. (A phylogenic tree in this case). They lack the knowledge to interpret the diagram and to make various deductions from the given information. They did not understand the geological scale. Educators are advised to expose the learners to all the different types of phylogenic trees so that they can be confident how to draw information from it.

1.6 Bar Graph

This is a fair and appropriate question. Most learners found it easy and did well in 1.6.1 – 1.6.3. Some learners struggled to interpret the three bar graphs. Some also got confused with “similarity” and “differences” in 1.6.2. Subsection 1.6.4 was poorly answered. With questions like these learners should reason and use their general knowledge to answer the question.

Summary

A good number of learners did well in question 1. Learners should be constantly exposed to these types of questions: Multiple choices, Terminology, Matching columns, Graphs, Tables etc. (Do this in class tests, controlled tests and examinations.) Covered LO 1 and LO2

QUESTION 2

A difficult question. Sub sections answered well by better learners are 2.1.1, 2.1.2, 2.1.3, 2.1.4 and 2.3. The learners from most schools could not answer questions 2.1.1 – 2.1.4 and 2.2.1 – 2.2.2.

2.1.2 Very few learners know the concept – continental drift and did not understand “geological explanation”.

2.1.3 Many learners did not understand the story of the finches. They gave answers of the point.

2.1.4 Most of the learners were very confused with this question. They used the terms “variations”, “natural selection”, “adaptation”, etc wrongly.

2.2.1 Learners did not understand that this question was about Darwin’s observations. Most learners answered the question in terms of Darwin’s theory. Teachers should discuss this with learners in class.

2.2.2 Many learners are clearly confused with the theories of Darwin and Lamarck. It was evident that most learners lack proper knowledge of evolution. Learners should be taught. Tabulate means a table must be drawn (1 mark for drawing the table).

2.3.1 Most learners left out the term “index” in the answer. When answering a question, learners should look at the mark allocation. This serves as a guide to the answer. (only one / two terms)

2.3.2 Fair question and the answer were in the illustration.

2.3.3 A name is asked. Fairly done by learners.

2.3.4 Poorly answered by learners. Learners must read a question and ask themselves, What is being asked? Many wrote “no fossils in that period” which is wrong.

LO 1 and LO 2

QUESTION 3.

3.1 A difficult question. The overall learner performance below average.

3.1.1. Many learners did not know what a hypothesis (an educated guess about the relationship between dependant and independent variables) is. Most of the learners stated an AIM or CONCLUSION of the investigation. When discussing or doing these investigations (different examples), educators should let learners practice how to formulate a hypothesis so that they can gain confidence to state and hypothesis for any investigation.

3.1.2. Easy question but many learners still failed to give the correct answer. The question asks – What phenomenon? (A term must be given). Many learners gave an explanation. Emphasise to learners they must read the question, understand it and answer what is asked.

3.1.3. The question is a bit vague/misleading. The table should have indicated in the two headings whether the shells around the stone were empty or not. Interpreting information from a table is an important skill. Life Science learners must master this. This skill should be taught and how the information can be used and applied to make predictions etc. Learners must be taught how to analyse information from a table.

3.1.4. Poorly answered. Very few got the 2 marks. Again not knowing how to apply information.

3.1.5. Poorly answered. Learners did not know what a control variable is. Many explained how the experiment could be controlled. The answer to this question is given in the information (3.1). Again, it is important that learners should read the given information and use it to answer question(s).

3.2.1. Difficult question and generally poorly answered. Clear that learners know the theory on natural selection but did not know how to apply the theory and use example to explain it. Many learners describe the process of natural selection, which is not the answer to the question on how the pelvis or femur became vestigial – Disturbing was that some learners did not know what the pelvis and femur is. (Grade 10 work).

3.3.1. Difficult/confusing question as not enough information is given. Learners should however be taught how information/reading from any graph should be interpreted.

3.3.2. Many learners gave reasons but did not explain it. The following is important and learners must understand this.

- When asked to explain – an explanation must be given. It is not the same as LIST / STATE / DESCRIBE / NAME etc.
- THREE reasons asked and the total marks for the question is (6), which mean it is $3 \times 2 = 6$. Each of the three facts should be explained to get full marks.

3.4. Many learners confused biodegradable with recycle. Scientific terms should be 'drilled' and understood.

Learners should be taught to:

- Read and understand information given and use it to answer the question.
- Understand the question and answer what is asked. They must read the answer to a question and make sure they have answered what is asked.

LO 1 and LO2

QUESTION 4

A good structured question. Most of the learners attempted to answer all the questions.

4.1.1 This section was poorly answered. Most of the learners were not clear on what is a dependent variable. They must be taught what a variable is.

4.1.2 Learners show confusion between the two (volumes). The question should have stated total volume / biogas volume. Again, learners lose a mark for not including the unit.

4.1.3 This section was poorly answered. Teachers should ask these types of questions orally when doing practical.

4.1.4 Most learners performed well in this question. Most scoring good marks but there are still some gaps:

- knowing the principles of a line graph but some lose mark for the scale.
- some candidates don't know how to plot two graphs on the same axes
- variables often transpose the same axis
- emphasise to use ruler when doing the scales on the axes

Teachers must use the prescribed and general rubric when doing graphs with learners.

4.2.1 / 4.2.2 Well answered and most learners did well in these questions. Learners should know that with an extract some answers are in the text. (They must read it).

4.2.3 Learners struggled with this question. – perlemoen (food chain). In their answer, there was no mentioning of energy flow. They cannot describe changes (increase / decrease). They do not know where perlemoen fits in to the food chain / trophic level. Teachers should note this.

4.3 Most learners lost marks on the essay. They cannot structure an essay – they do not stick to the question. Many learners wrote a lot for the essay. However, the essay contained a lot of irrelevant information and a repetition of facts. Language could be a main barrier in answering an essay question (expression). Learners do not indicate sub titles (it is in the question). They lose marks for synthesis by mixing the answers (not structured). Many provide facts but no explanation given. They were also confused with differences between water pollution and importance of water generally.

LO 1 and LO 3

8. ANY OTHER COMMENTS

Comments on learner performance and possible reasons.

1. Question 2 and 3 were of a very high standard. The question on evolution covered only Darwin and natural selection. No question on the origin of humans where learners could have scored marks.
2. Second language learners battle with the interpretation of questions and find it difficult to express them when attempting to respond to a question. Generally, they do not answer what is asked (subject teachers must work closely with the language teachers at school).
3. Not all content for Grade 12 covered.
4. Practical work not done – learners respond poorly to questions on practical work (Q4.1).
5. Learners unable to handle content. Large number of learners answers only questions where a term or sentence is required. It might be that:
 - Do not know how to study
 - Do not study
 - Are confronted with content in grade 12
6. Not all skills are developed during the year. Questions on graphs, tables, illustrations are poorly answered.

Recommended strategies that might help to solve the problem:

- English FAL learners should be taught in English.
- Learners should not only be confronted with content in grade 12 but should start at least from grade 10
- Question papers of a high standard should be set throughout the year (can be done in clusters).

SIGNATURE OF EXAMINER/MODERATOR: _____

