



LIMPOPO

PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

**NATIONAL
SENIOR CERTIFICATE**

GRADE 11

**LIFE SCIENCES PRACTICAL
TASK 2**

Marking Guidelines

19 AUGUST 2026.

MARKS: 40

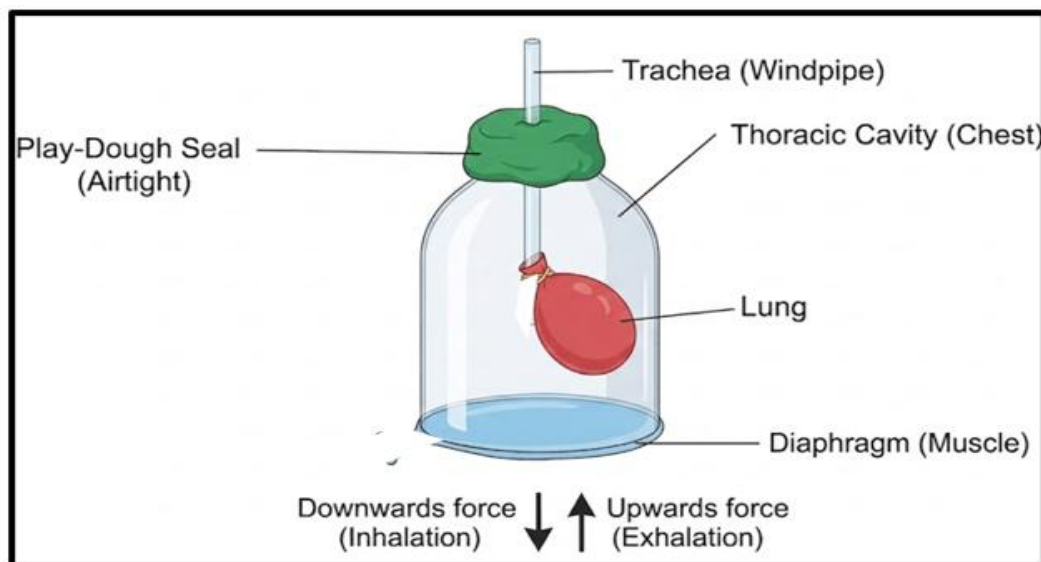
This marking guideline consists of 06 pages including cover page.

PRINCIPLES RELATED TO MARKING LIFE SCIENCES

1. If more information than marks allocated is given, stop marking when maximum marks are reached and put a wavy line and 'max' in the right hand margin.
2. If, for example, three reasons are required and five are given, mark the first three irrespective of whether all or some are correct/incorrect.
3. If whole process is given when only part of it is required, read all and credit relevant part.
4. If tabulation is required but paragraphs are given, candidates will lose marks for not tabulating.
5. If diagrams are given with annotations when descriptions are required, candidates will lose marks.
6. If flow charts are given instead of descriptions, candidates will lose marks.
7. If sequence is muddled and links do not make sense Where sequence and links are correct, credit. Where sequence and links are incorrect, do not credit. If sequence and links become correct again, resume credit.
8. Non-recognized abbreviations, accept if first defined in answer. If not defined, do not credit the unrecognised abbreviation but credit the rest of answer if correct.
9. Wrong numbering if answer fits into the correct sequence of questions but the wrong number is given, it is acceptable.
11. If language used changes the intended meaning, do not accept.
12. Spelling errors if recognizable accept provided it does not mean something else in Life Sciences or if it is out of context.
13. If common names given in terminology, only accept if provided as an alternative in the marking guideline.
14. If units are not given in measurements, candidates will lose marks. Memorandum will allocate marks for units separately.
15. Be sensitive to the sense of an answer which may be stated in a different way.
16. Caption: All illustrations (diagrams, drawings, graphs, tables, etc.) must have a caption.
17. Code-switching of official languages (terms and concepts) A single word or two that appears in any official language other than the learners' assessment language used to the greatest extent in his/her answer should be credited, if it is correct.
18. No changes must be made to the marking memoranda without consulting the District Curriculum Advisors.

SECTION A**INDIVIDUAL/ PAIR/ GROUP TASK****QUESTION 1**

Models should look more or less like this one

**1.1 Rubric for assessing learners:**

Assessment criteria	Marks			
	0	1	2	3
Model constructed according to instructions	Did not follow any of the instructions; model not constructed or incorrect	Followed some of the instructions correctly; model incomplete/ inaccurate	Followed most of the instructions; model completed with some errors	Followed all the instructions correctly; model completed accurately
Observing and explaining what happened to the balloon when the plastic sheet moved	No observation or explanation given is incorrect	Correct observation given with no explanation/ incorrect explanation	Correct observation given with incomplete explanation	Correct observation and explanation given
Matching parts of the model with parts of the thorax	Not done/ incorrect	1 to 3 parts matched	All 4 to 5 parts correctly matched	
Describing shortcomings of the model	Not done/ very poor description	Reasonable description	Excellent description	
				-----/ 10

SECTION B**INDIVIDUAL TASK**

1.2.

1.2.1. The movement of plastic sheet represents the contraction /relaxation of the diaphragm.✓ (1)

1.2.2. (a) When the plastic sheet moved down the balloon was inflated with air✓ (1)

(b) When the plastic sheet moved up the balloon is deflated.✓ (1)

1.2.3. As the plastic sheet moved down, the volume within the bottle changed✓. (2)
With an increase/ decrease in volume, the pressure decreased✓/ increased and the balloon filled with air/ deflated.

1.2.4.

(a) Trachea and bronchi ✓ (1)

(b) Lung ✓ (1)

(c) Sternum and rib cage ✓ (1)

(d) Thoracic cavity ✓ (1)

(e) Diaphragm ✓ (1)

(f) Diaphragm muscle. ✓ (1)

- 1.2.5. - The pleural space is not at a reduced pressure ✓so the balloon collapses. ✓
- The bottle is rigid✓ and does not show the movement of rib cage✓ during breathing.
- The plastic sheet is flat✓, unlike the diaphragm which is dome shaped and flattens when it contracts✓.
- There is only one balloon✓ (one lung) instead of two✓
- The balloons representing the lungs are hollow✓ while the lungs consist of numerous air sacs called alveoli.✓

Any (3x 2) (6)

(17)

TOTAL QUESTION 1: [27]

QUESTION 2

2.1.

2.1.1 5%✓ (1)

2.1.2 Cells use oxygen for cellular respiration✓, so there is less oxygen in the air breathed out✓ (2)

2.1.3 3.96%✓ (1)

2.1.4 Cells produce carbon dioxide during cellular respiration✓, so there is more carbon dioxide in the air breathed out. ✓ (2)

2.1.5 Nitrogen is not used for metabolism✓/it is not produced by cells, so the percentage remains the same in inhaled and exhaled air✓. (2)

2.1.6 Calculation of slices/ portions

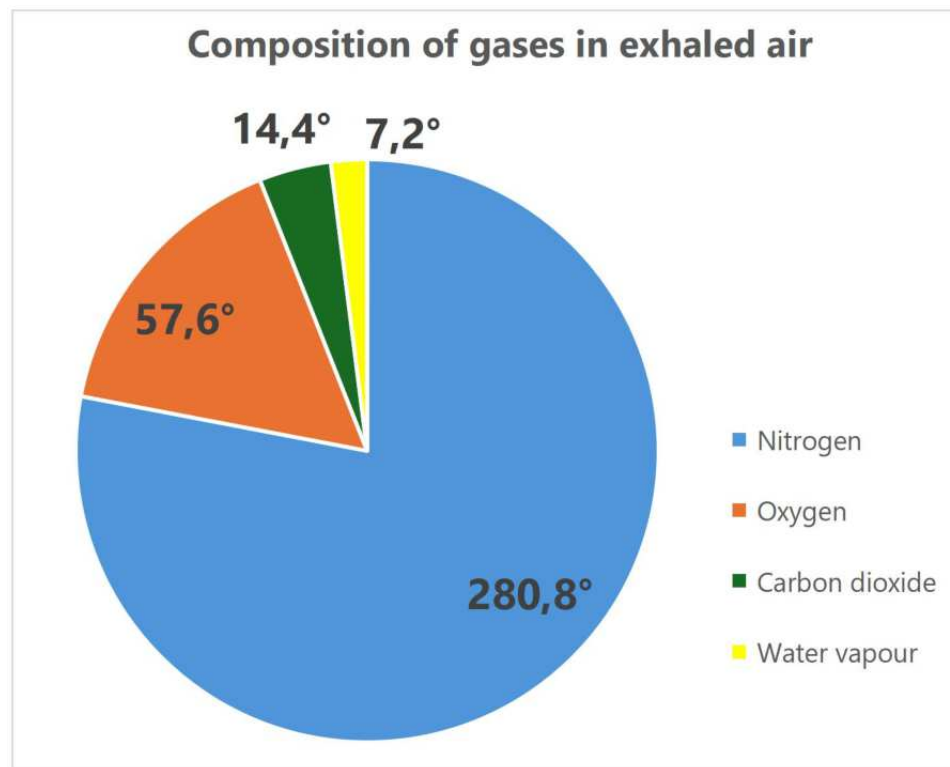
$$\text{Nitrogen: } \frac{78}{100} \times 360^\circ = 280,8^\circ$$

$$\text{Oxygen: } \frac{16}{100} \times 360^\circ = 57,6^\circ$$

$$\text{Carbon dioxide: } \frac{4}{100} \times 360^\circ = 14,4^\circ$$

$$\text{Water Vapour: } 100 - (78 + 16 + 4) = 2\%$$

$$\frac{2}{100} \times 360^\circ = 7,2^\circ$$

**Marking criteria for the graph:**

Criterion	Elaboration	Marks
Correct type of graph (T)		✓
Correct caption (C)	Including both variables	✓
Correct calculations (Cal)	All correctly calculated	✓
Sectors are drawn correct (S)	1 – 3 sectors plotted correctly	✓
	All sectors plotted correctly	✓✓

(5)

(13)

TOTAL QUESTION 2:**[13]****GRAND TOTAL:****[40]**