



**THE KENYA NATIONAL EXAMINATIONS COUNCIL**

**SCHOOL BASED ASSESSMENT  
INTEGRATED SCIENCE PROJECT  
GRADE 8**

**SCORING GUIDE**

**This document consists of 6 pages.**

**Turn over**

**Strand:** Living Things and Their Environment

**Sub Strand:** Movement of materials in and out of the cell

This project assesses the following:

**Core competencies.**

- **Communication and collaboration** as learners work in groups to record observations, draw conclusions from experiments to demonstrate osmosis in living tissues and share with peers.
- **Self-efficacy** as learners successfully carries out experiments to demonstrate osmosis in living tissues.

**Core values.**

- **Respect** as learners appreciate opinions of peers as they work in groups to demonstrate osmosis in living tissues.
- **Responsibility** as learners share tasks while carrying out experiments to demonstrate osmosis in living tissues.

**Standard**

The learner can:

- a) outline the process of osmosis in cells.
- b) demonstrate osmosis in living tissues.
- c) explain the role of osmosis in living things.

Criteria	Indicators	Maximum score	Learner's score	Teacher's Remarks
1. Sourcing and recording information	<p>Writes down relevant information on the following aspects:</p> <ul style="list-style-type: none"><li>• the process of osmosis in living cells (meaning of osmosis)</li><li>• how to demonstrate osmosis in living tissues (how osmosis occurs)</li></ul>	4		

	<ul style="list-style-type: none"> <li>explaining the role of osmosis in living things (Plants and animals)</li> </ul> <p>a) Any two aspects comprehensively and correctly recorded (4)</p> <p>b) Any two aspects correctly recorded (3)</p> <p>c) Any one aspect comprehensively and correctly recorded (2)</p> <p>d) Any one aspect correctly recorded. (1)</p>			
2. Drawing and labelling the set-up to demonstrate osmosis in living tissues	<p>The following aspects should be considered:</p> <ul style="list-style-type: none"> <li>Correct labelling (1)</li> <li>Proportionality (1)</li> <li>Workability (1)</li> </ul> <p>a) All the three aspects (3)</p> <p>b) Only two aspects (2)</p> <p>c) Only one aspect (1)</p>	3		
3. Collecting materials needed to demonstrate osmosis in living tissues	<p>Demonstrate communication and collaboration as they collect:</p> <p>a) appropriate and sufficient materials. (2)</p> <p>b) Some of the materials are not appropriate and sufficient. (1)</p>	2		
4. Set up experiments to demonstrate osmosis in living tissues using the collected materials	<p>Demonstrate self-efficacy as they:</p> <p>a) Set up a workable and suitable (proportionality, permeability, nature of solution used- hyper/hypotonic) experiments to demonstrate osmosis in living tissues. (3)</p> <p>b) The set up is workable to demonstrate osmosis in living</p>	3		

	<p>tissues but missing proportionality aspect. (2)</p> <p>c) The set up is workable to demonstrate osmosis in living tissues but missing suitability aspects. (1)</p>			
5. Observing safety	Demonstrate safety while handling materials throughout the project. (1)	1		
6. Outlining the process of osmosis in living tissues and using the set up to describe the process of osmosis in living tissues	<p>The following aspects to be considered:</p> <ul style="list-style-type: none"> <li>– Meaning of osmosis (2)</li> <li>– Permeability (2)</li> <li>– Concentrations(hyper/hypotonic) (2)</li> </ul> <p>a) Outlining the three aspects exhaustively. (6)</p> <p>b) Outlining the three aspects but not exhaustively. (5)</p> <p>c) Outlining only two aspects exhaustively. (4)</p> <p>d) Outlining only two aspects but not exhaustively. (3)</p> <p>e) Outlining only one aspect exhaustively. (2)</p> <p>f) Outlining only one aspect but not exhaustively. (1)</p>	6		

7. Explaining the role of osmosis in living things	<p>The following aspects to be considered:</p> <ul style="list-style-type: none"> <li>– Maintenance of turgidity (plant)</li> <li>– Uptake of water (plant)</li> <li>– Maintenance of water-solute balance in (plants and animals)</li> <li>– Absorption of water in the kidney (Animals)</li> <li>– Absorption of water in the large intestines (Animals)</li> <li>– Food preservation</li> </ul> <p>a) Correctly explains six roles of osmosis in living things. (6)</p> <p>b) Correctly explains five roles of osmosis in living things. (5)</p> <p>c) Correctly explains four roles of osmosis in living things. (4)</p> <p>d) Correctly explains three roles of osmosis in living things. (3)</p> <p>e) Correctly explains two roles of osmosis in living things. (2)</p> <p>f) Correctly explains one role of osmosis in living things. (1)</p>	6		
<b>TOTAL SCORE</b>		<b>25</b>		

## ASSESSMENT SUMMARY

SCORE RANGE	PERFORMANCE LEVEL	DESCRIPTION
24-25	4	Exceeding Expectation
19-23	3	Meeting Expectation
11-18	2	Approaching Expectation
1-10	1	Below Expectation

## SCORE SHEET

S. N	Name of Learner	Learner's Score
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

**THIS IS THE LAST PAGE.**