

SMARTWIZ

GRADE 8 NATURAL SCIENCE EXAM

MARKS: 50

MARKS	

TIME: 2 hours

SCHOOL _____

CLASS (e.g. 4A) _____

SURNAME _____

NAME _____

MYST PATHWORKS

Instructions for Students:

- > Read all instructions carefully before beginning the exam.
- > Write your name and student ID clearly on the answer sheet/booklet.
- > Answer all questions unless otherwise stated.
- > Show all your work/calculations where applicable.
- > Write clearly and legibly.
- > Use blue or black ink only. * Do not use correction fluid/tape.
- > No electronic devices (calculators, phones, etc.) are allowed unless explicitly permitted.
- > Raise your hand if you have any questions.
- > Do not talk to other students during the exam.
- > Any form of cheating will result in disqualification.

This test consists of 4 pages, excluding the cover page.

SECTION A: CELLS AND MICROSCOPES

(20 Marks)

QUESTION 1: CELLS

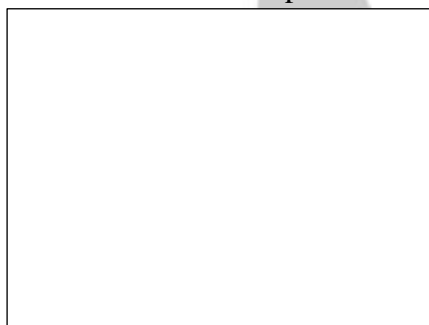
1.1 What is a cell?
_____ (2)

1.2 Name two parts of a plant cell not found in an animal cell.

_____ (2)

1.3 What is the function of the cell membrane?
_____ (2)

1.4 Draw and label a simple animal cell. (6)



1.5 What is the role of the nucleus in a cell?
_____ (3)

SECTION B: MIXTURES AND SOLUTIONS

(15 Marks)

QUESTION 2: MIXTURES

2.1 Define a mixture.
_____ (2)

2.2 What is a solution? Give an example.

_____ (3)

2.3 How can you separate a mixture of sand and water?
_____ (3)

2.4 What happens when sugar dissolves in water?
_____ (2)

2.5 Why are some mixtures called homogeneous?
_____ (2)

SECTION C: WEATHER AND CLIMATE

(15 Marks)

QUESTION 3: ATMOSPHERE

3.1 What is weather?
_____ (2)

3.2 Name three elements of weather that meteorologists measure.

_____ (3)

3.3 Explain the difference between weather and climate.

_____ (3)

3.4 What causes wind?
_____ (2)

3.5 Describe how clouds are formed.

_____ (3)

TOTAL: 50 MARKS



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SECTION A: CELLS AND MICROSCOPES

(20 Marks)

1.1 A cell is the basic structural and functional unit of all living organisms. (2)

1.2 Two parts of a plant cell not found in an animal cell:

- Cell wall
- Chloroplasts (2)

1.3 The cell membrane controls what enters and leaves the cell. (2)

1.4 Animal cell diagram should include and label:

- Nucleus
- Cytoplasm
- Cell membrane
- Mitochondria (6)

1.5 The nucleus controls the activities of the cell and contains genetic material (DNA). (3)

SECTION B: MIXTURES AND SOLUTIONS

(15 Marks)

2.1 A mixture is a combination of two or more substances that are not chemically bonded and can be separated physically. (2)

2.2 A solution is a homogeneous mixture where one substance (solute) dissolves in another (solvent). Example: sugar dissolved in water. (3)

2.3 To separate sand and water, use filtration or let sand settle and decant the water. (3)

2.4 When sugar dissolves in water, it breaks into smaller particles that spread evenly throughout the water. (2)

2.5 Homogeneous mixtures have the same composition throughout and look uniform. (2)

SECTION C: WEATHER AND CLIMATE

(15 Marks)

3.1 Weather is the atmospheric conditions (like temperature, rain, wind) at a specific place and time. (2)

3.2 Three elements of weather meteorologists measure:

- Temperature
- Humidity
- Wind speed/direction
- Rainfall

(Any three, 3)

3.3 Weather is the short-term condition of the atmosphere, while climate is the average weather conditions over a long period. (3)

3.4 Wind is caused by air moving from high-pressure areas to low-pressure areas due to uneven heating of the Earth's surface. (2)

3.5 Clouds form when warm air rises, cools, and water vapor condenses into tiny water droplets or ice crystals. (3)

TOTAL: 50 MARKS