

SMARTWIZ

GRADE 7 NATURAL SCIENCE EXAM

MARKS: 75

MARKS	
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TIME: 1 hour 30 minutes

SCHOOL _____

CLASS (e.g. 4A) _____

SURNAME _____

NAME _____

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: NUTRITION AND FOOD CHAINS (15 Marks)

1. What are the three main nutrients our bodies need from food?

2. Explain the difference between herbivores, carnivores, and omnivores.

3. Draw a simple food chain that includes: grass, grasshopper, frog, and eagle.



4. Why is the sun important in a food chain?

SECTION B: MATERIALS AND THEIR PROPERTIES (20 Marks)

5. Match the materials to their properties:

Write the correct letter next to each material.

- a) Glass
- b) Rubber
- c) Wood
- d) Metal

Properties:

- 1. Non-conductor of electricity
- 2. Transparent and brittle
- 3. Strong and shiny
- 4. Floats and is biodegradable

- a) _____
- b) _____

- c) _____
d) _____

6. What does it mean if a material is biodegradable?

7. Give one example each of a material that is:

- a) Magnetic: _____
b) Flexible: _____
c) Waterproof: _____

8. Explain why metals are used to make cooking pots.

SECTION C: ECOSYSTEMS AND ENVIRONMENT (20 Marks)

9. Define the term “ecosystem”.

10. Name any two types of ecosystems found in South Africa.

- a) _____
b) _____

11. Describe how humans can harm ecosystems.

12. Study the image of the polluted river below and answer the question:



- List two ways this environment has been negatively impacted:

a) _____
b) _____

13. **Suggest two actions we can take to protect the environment.**

a) _____
b) _____

SECTION D: STATES OF MATTER AND CHANGES (20 Marks)

14. **List the three states of matter and describe each with an example.**

a) _____ : _____
b) _____ : _____
c) _____ : _____

15. **What is condensation? Give an example.**

16. **Explain what happens to particles when a solid melts into a liquid.**

17. **Circle the correct option for each question (1 mark each):**

a) Ice turning to water is called:

- evaporation / condensation / melting

b) Steam forming on a mirror is:

- condensation / freezing / melting

c) Boiling water gives off:

- gas / solid / plasma

SECTION E: ENERGY IN DIFFERENT FORMS (Bonus 5 Marks)

18. **List five forms of energy and give an example of each:**

- _____
- _____
- _____
- _____
- _____

TOTAL: 75 MARKS



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SECTION A: NUTRITION AND FOOD CHAINS (15 Marks)

1. **Three main nutrients:**

- Carbohydrates
- Proteins
- Fats (3)

2. **Differences:**

- Herbivores eat only plants.
- Carnivores eat only other animals.
- Omnivores eat both plants and animals. (3)

3. **Food chain with arrows:**

- Grass → Grasshopper → Frog → Eagle (3)

4. **Importance of the sun:**

- The sun provides energy for plants (producers), which start the food chain. (2)

SECTION B: MATERIALS AND THEIR PROPERTIES (20 Marks)

5. **Matching materials:**

- a) 2 – Transparent and brittle
- b) 1 – Non-conductor of electricity
- c) 4 – Floats and is biodegradable
- d) 3 – Strong and shiny (4)

6. **Biodegradable:**

- A material that can be broken down by natural processes or organisms. (2)

7. **Examples:**

- a) Magnetic: iron
- b) Flexible: rubber
- c) Waterproof: plastic (3)

8. **Why metals are used in pots:**

- Metals conduct heat well and are strong and durable. (3)
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SECTION C: ECOSYSTEMS AND ENVIRONMENT (20 Marks)

9. Definition of ecosystem:

- An ecosystem is a community of living organisms interacting with each other and their non-living environment. (3)

10. Types of ecosystems:

- Forest, desert, grassland, wetland, marine (any two correct) (2)

11. How humans harm ecosystems:

- Through pollution, deforestation, overfishing, littering, etc. (2)

12. Polluted river image (examples):

- a) Water is dirty or littered
- b) Smoke from nearby area (2)

13. Actions to protect environment:

- Recycle, reduce pollution, conserve water, plant trees (any two) (2)

SECTION D: STATES OF MATTER AND CHANGES (20 Marks)

14. States of matter with examples:

- a) Solid – brick
- b) Liquid – water
- c) Gas – oxygen (6)

15. Condensation:

- Gas turning into a liquid (e.g., water droplets on a cold glass) (2)

16. Particle changes:

- Particles in a solid gain energy, move faster, and break away to form a liquid. (3)

17. Multiple choice:

- a) Melting (1)
 - b) Condensation (1)
 - c) Gas (1)
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SECTION E: ENERGY IN DIFFERENT FORMS (Bonus 5 Marks)

18. Forms and examples (any five):

- Light energy – from the sun
 - Sound energy – from a speaker
 - Heat (thermal) energy – from fire
 - Electrical energy – from a battery
 - Kinetic energy – from moving car (5)
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END OF MEMO

75 MARKS

