



eduresourcza.com



BASELINE TEST NATURAL SCIENCE 2024

GRADE 8

Time: 2 Hour
Marks: 70 Marks
No. Of Pages: 6

INSTRUCTIONS TO LEARNERS

Answer **ALL** the questions.

The diagrams in this question paper may not be drawn to scale.

Write neatly and legibly.

This question paper consists of **6** pages

QUESTION 1

Various options are given as possible answers to the following questions.

Choose the correct answer and write only the letter (**A to D**) next to the question number (**1.1.1 to 1.1.10**) in the **ANSWER BOOK**, for example **1.1.6 D**.

- 1.1.1 Louis Pasteur is known for:
- A. developing a method that prevents milk from going bad
 - B. developing a vaccination
 - C. the discovery of microorganisms
 - D. the discovery of penicillin
- 1.1.2 Bacteria are grouped and classified according to :
- A. the size of the cells
 - B. the shape of the cells
 - C. the colour of the cells
 - D. the presence or absence of a cell wall
- 1.1.3 Carbon dioxide gas is more compressible than liquid carbon dioxide because:
- A. molecules of a gas are further apart than the molecules of a liquid
 - B. molecules of a gas are smaller than molecules of a liquid
 - C. molecules of a gas are larger than molecules of a liquid
 - D. molecules of a gas are closer together than molecules of a liquid
- 1.1.4 Which of the following terms describes an animal that eats another animal in a food chain?
- A. Primary consumer
 - B. Secondary consumer
 - C. Decomposer
 - D. Herbivore
- 1.1.5 This scientist first arranged the elements into a pattern called the Periodic Table.
- A. Antoine Lavoisier
 - B. Ernest Rutherford
 - C. Niels Bohr
 - D. Dmitri Mendeleev
- 1.1.6 Choose the correct statement about different substances:
- A. mixtures are pure substances
 - B. the atoms of an element are identical
 - C. compounds can be separated by physical means
 - D. mixtures are formed by two or more elements
- 1.1.7 Density is:
- A. the amount of matter per unit volume
 - B. the weight of an object
 - C. the number of particles
 - D. the number of collisions between particles

1.1.8 Sand and water can be separated by:

- A evaporation
- B distillation
- C magnetism
- D filtration

1.1.9 The substance that is not an element:

- A Hydrogen
- B Calcium
- C Ozone
- D Nitrogen

1.1.10 The phase change from a solid to a gas without passing through the liquid phase:

- A Re-sublimation
- B Sublimation
- C Evaporation
- D Condensation

(10x1)[10]

1.2 Give the correct scientific term for each of the following :

- 1.2.1 Group of individuals of the same species
- 1.2.2 Non – living factors in an ecosystem
- 1.2.3 Illegal removal of animals and plants from the wild
- 1.2.4 Total variety of species
- 1.2.5 Introduced species that are a problem

(5x1)[5]

QUESTION 2

Explain the meaning of the following terms

2.1 Photosynthesis (2)

2.2 Respiration (2)

2.3 Look at the photographs below of an investigation to find out if leaves produce starch.



2.3.1 Suggest a reason why the leaf was placed in boiling water. (1)

2.3.2 Suggest a reason why the leaf was placed in ethanol. (1)

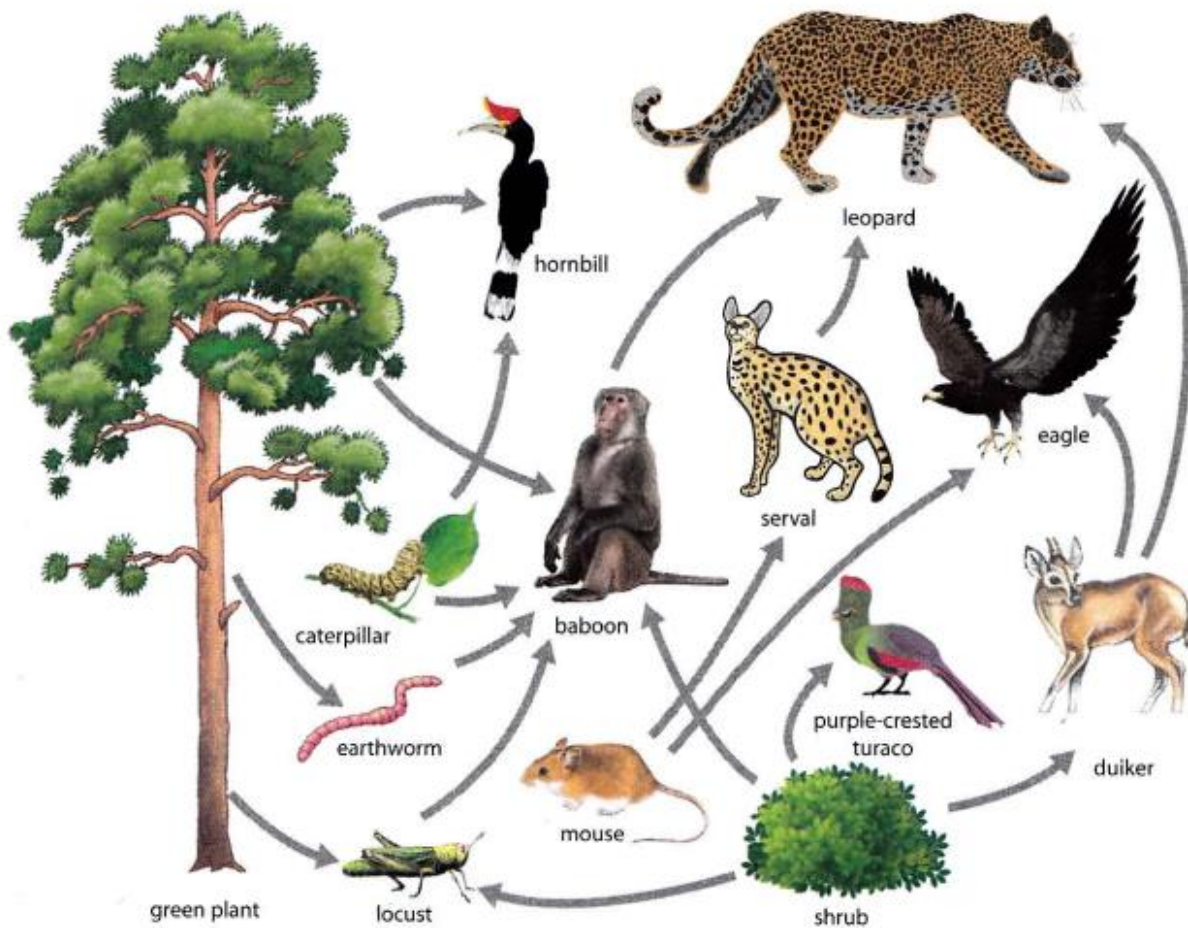
2.3.3 Describe one safety precaution that you would have taken while carrying out this test. (1)

2.3.4 If the leaf had been producing starch, predict the results that you would have expected. (2)

[9]

QUESTION 3

Look at the food web below and answer the questions



3.1 Select organisms from the food web and write one food chain with four links. (3)

3.2 Name an omnivore in the food web. (1)

3.3 Suggest a reason why most food chains begin with green plants. (2)

3.4 Predict what would happen to the mice if all of the eagles dies from a disease. (2)

3.5 Energy pyramids are used to show the relationships between living things.

3.5.1 Explain what an energy pyramid shows us. (3)

3.5.2 Explain why the trophic levels become smaller at each level as you move up the pyramid. (2)

[13]

QUESTION 4

The table below shows the different gases that are found in dry air.

Nitrogen
Carbon dioxide
Argon
Oxygen

4.1 From the table select:

4.1.1 a molecule of a compound (1)

4.1.2 an element that normally exists as molecules (1)

4.2 Describe the structure of an atom. (4)

[6]

QUESTION 5

Two balloons were filled with gases. One balloon was filled hydrogen gas and the other with carbon dioxide gas. The balloons were identical and they were each filled to the same volume. After about 6 hours, the balloon containing hydrogen gas had shrunk but the other balloon containing carbon dioxide gas did not change its volume.

5.1 Is the test a fair test ? (1)

5.2 Select the independent variable. (1)

5.3 Select the dependent variable. (1)

5.4 Infer which molecules are larger. (2)

5.5 Use the particle model of matter to discuss what had occurred. (2)

[7]

QUESTION 6

The following volumes of oil, water and paraffin were placed in a 50 ml measuring cylinder:
 10cm^3 of oil , 10cm^3 of paraffin and 20cm^3 of water. The density of the oil is $0.9\text{g}/\text{cm}^3$, paraffin is $0.8\text{g}/\text{cm}^3$ and water is $1\text{g}/\text{cm}^3$.

- 6.1 Explain density. (2)
- 6.2 Predict which liquid would float on top in the measuring cylinder. (1)
- 6.3 Select the liquid with the greatest volume. (1)
- 6.4 Select the liquid with the greatest density. (1)
- 6.5 Apply your knowledge of the particle model of matter to discuss why liquids are used in thermometers. (2)
- 6.6 Explain what happens in a chemical reaction. (2)
- 6.7 Give one example that indicates that a chemical reaction has occurred. (2)

[11]**QUESTION 7**

An investigation was conducted to find out the effect of the amount of sugar and different temperatures on the growth of yeast.

- 7.1 Name the group of organisms that yeast belongs to. (2)
- 7.2 Name the independent variable in the investigation. (2)
- 7.3 Name the dependent variable and explain how it was measured. (2)
- 7.4 Suggest reasons why there are “holes” in bread? (1)
- 7.5 Describe two ways in which fungi are useful to people. (2)

[9]**Total 70**