May 2025

education
Department of Education
FREE STATE PROVINCE

NATURAL SCIENCES **GRADE 8** **INFORMAL TEST 2.2**

TOPIC: Particle model of matter, Change of state
Density, mass, volume, Density and states of matter **MARKS: 15**

Name and Surname: _____ Gr. 8 ___ Date: _____

SECTION A

QUESTION 1

1.1 Match the description in COLUMN A with the correct term in COLUMN B. Write only the LETTER (A - E) next to the question number (1.1.1 – 1.1.3) in the open spaces provided below.

COLUMN A		COLUMN B	
1.1.1	The state of matter that completely fills the container in which it is placed.	A	Diffusion
1.1.2	The process of converting a liquid into a solid.	B	Solid
1.1.3	The movement of particles from high to low concentration.	C	Gas
		D	Freezing

ANSWERS: 1.1.1 _____ 1.1.2 _____ 1.1.3 _____ (3)

1.2 Give the correct word OR term for each of the following statements.

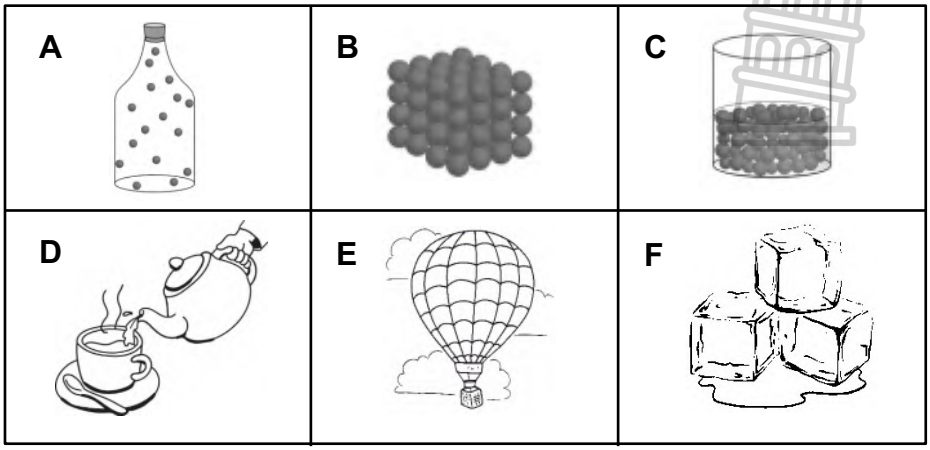
1.2.1 The mass per unit volume of a substance. **Answer**:_____ (1)

1.2.2 A measure of the amount of matter in an object. **Answer**:_____ (1)
[5]

SECTION B

QUESTION 2

2.1 Study diagrams A to F below. Diagrams A, B and C represent different states of matter. In diagram D, tea is poured into a cup. Diagram E shows a hot air balloon and diagram F shows three cubes of ice. Answer the questions that follow.



2.1.1 Give the LETTER of the TWO diagrams showing a LIQUID: _____ and _____ (2)

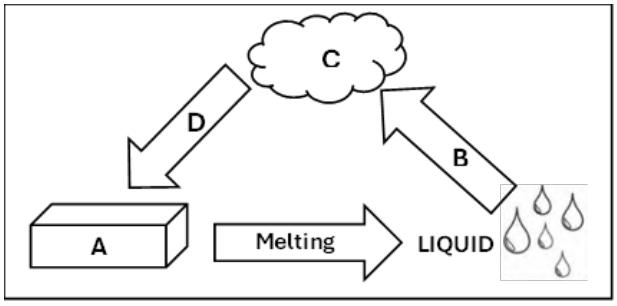
2.1.2 Give a reason VISIBLE in the diagram why diagram B represents the solid state of matter.

_____

_____ (1)

2.1.3 Select the state of matter (A, B, or C) that most accurately shows the arrangement of particles within the hot air balloon (E). _____ (1)

2.2 The diagram below shows the three states of matter and the processes taking place when a substance changes from one state (phase) to another.



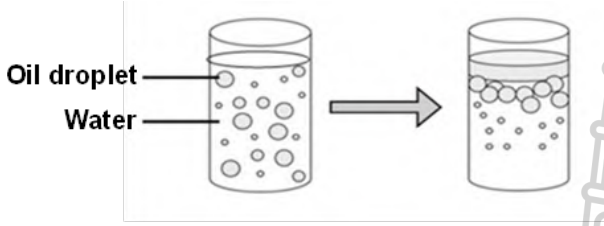
2.2.1 Name the state of matter represented by LETTER **A.** _____(1)

2.2.2 Which arrow (B or D) indicates the process of evaporation? _____ (1)

2.2.3 Explain what happens during melting.

_____ (1)

2.3 Oil with a density of 0,85 g/cm^3 is mixed well with water, which has a density of 1 g/cm^3. The mixture is left to stand for a few minutes and the observation made, is shown below.



2.3.1 Describe what is observed after the mixture was left to stand for a few minutes.

_____ (2)

2.3.2 Give a reason for your answer in 2.3.1.

_____ (1)

[10]

TOTAL MARKS: 15

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MEMORANDUM

SECTION A

QUESTION 1

1.1.1 C ✓ (1)
1.1.2 D ✓ (1)
1.1.3 A ✓ (1)

1.2.1 Density ✓ (1)
1.2.2 Mass ✓ (1)
[5]

SECTION B

QUESTION 2

2.1.1 C✓ and D✓ (in any order) (2)

2.1.2 **NOTE:** Only accept what is VISIBLE in diagram B.
Particles are **closely packed**.✓
Particles are in a **regular arrangement**.✓
Particles have (very) **small spaces**✓ between them. (**ANY ONE**) (1)

2.1.3 A✓ (1)

2.2.1 Solid✓ (1)

2.2.2 B✓ (1)

2.2.3 A solid changes into a liquid. ✓ (1)

2.3.1 The **oil droplets rise** (go up)✓ and **float on** the water.✓
OR
The oil and water separate, with the **oil on top**✓ and the **water at the bottom**. ✓ (2)

2.3.2 Oil is **less dense**✓ than water. (1)
[10]

TOTAL MARKS: 15