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DEPARTMENT OF
EDUCATION

CAPRICORN SOUTH DISTRICT

SENIOR PHASE

NATURAL SCIENCES
BASELINE ASSESSMENT
TERM 2
GRADE 9
2024

MARKS: 30

DURATION: 45 MINUTES

INSTRUCTIONS

1. This question paper consists of 6 pages including the cover page AND memorandum
2. Answer all the questions in the answer book
3. Number the answers correctly according to the numbering system used in the question paper.
4. Show all your calculations including formulae where applicable.
5. Candidates may use non-programmable calculators.
6. Write neatly and legibly.

QUESTION 1

Give **ONE** word or term for each of the following statements:

- 1.1 The smallest particle of which all matter is composed. (1)
- 1.2 The change in phase from a liquid state to a solid state. (1)
- 1.3 Any two or more atoms chemically bonded together to form a new substance. (1)
- 1.4 A substance that cannot be broken down into simpler substances chemical methods. (1)

[4]**QUESTION 2**

Answer the following questions about the periodic table

- 2.1 How many groups are there on the periodic table. (1)
- 2.2 How many rows are there on the periodic table. (1)
- 2.3 What does the number 23 represent in sodium (Group 1)? (1)
- 2.4 Using the group and period numbers, identify the element found in each of the following positions. Give only the symbol and also indicate if it is a metal, semi-metal or a non-metal;
- 2.4.1 Group 1, period 4 (2)
- 2.4.2 Group 16, period 3 (2)

[7]**QUESTION 3**

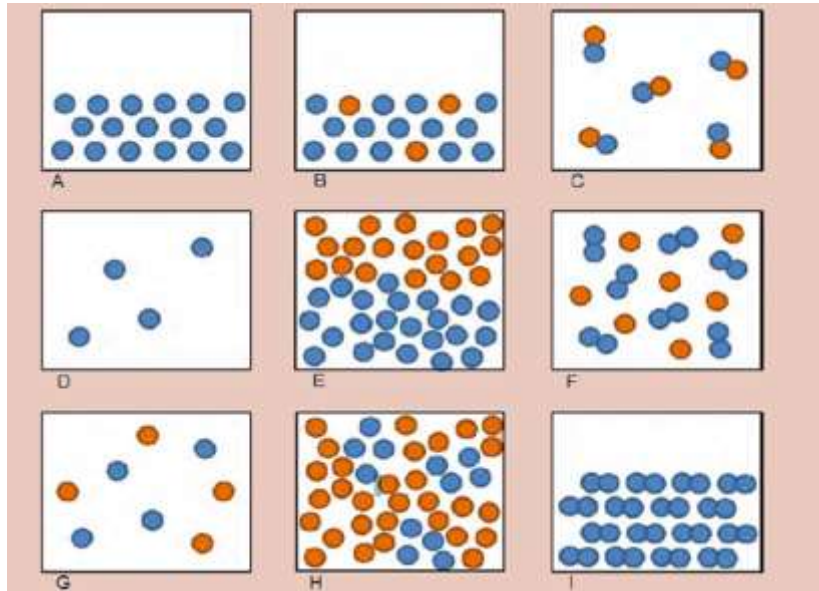
The Periodic Table in ANEXURE A lists all the elements that we know about on earth.

The Periodic Table classifies all the elements on earth. The Periodic Table gives us information about the elements, such as their names, symbols and atomic numbers. We can see patterns in the Periodic Table in terms of chemical and physical properties. Referring from the periodic table given, answer the following questions:

- 3.1 Complete the following sentence: The elements are arranged in order of increasing _____. (1)



3.2 Each of the nine blocks below (labelled A to I) contain some matter. Answer the following questions using the diagrams in the blocks. Each question may have more than one answer BUT choose one!



- Which block represents the particles of an element? (1)
- Which block represents the particles of a compound? (1)
- Which block represents the particles of a mixture? (1)
- Which block represents the particles of a pure substance? (1)
- Which block represents diatomic molecules of an element? (1)

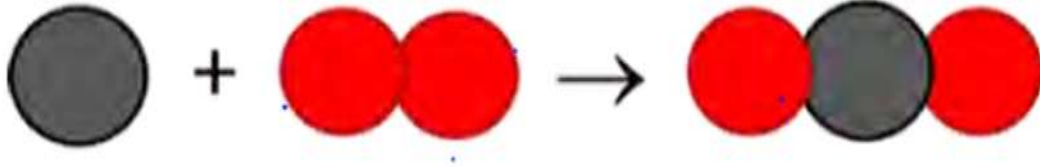
3.3 Referring to $2\text{H}_2\text{O}$

- Choose which one of the following is correct:
 - Atoms of an element
 - Molecule of an element
 - Compound molecule (1)
- Names of the elements that are present (2)
- Number of atoms in each of these element (2)
- How many molecules in $2\text{H}_2\text{O}$ (1)

[12]

QUESTION 4

Consider the chemical reaction below:



4.1 We have carbon and oxygen on the left of the arrow reacting to make carbon dioxide on the right of the arrow.

4.1.1 To the left of the arrow, we have the 'before' situation. This side represents the substances we have before the reaction takes place. They are called the _____.

(1)

4.1.2 To the right of the arrow we have the 'after' situation. This side represents the substances that we have after the reaction has taken place. They are called the _____.

(1)

4.1.2 Give the name(s) of the substance(s) on the right hand side of the equation.

(1)

4.2 State whether the change is **PHYSICAL** or **CHEMICAL**.

4.2.1 Cutting up potatoes into cubes.

(1)

4.2.2 Milk turning sour

(1)

4.2.3 Frying eggs in a pan

(1)

4.2.4 Dissolving sugar in water

(1)

[7]

TOTAL MARKS: [30]

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