

**MINI TEST 9/2024****I. Chemistry**

For each question there are some possible answers. Choose the **one** you consider correct and record your choice on the table below.

Chemistry	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.

**Question 1**

Which state of matter has no fixed shape, but a definite volume and can flow?

- A. liquid      B. solid      C. gas

**Question 2**

The element potassium is represented by which of the following symbols?

- A. P      B. K      C. Po      D. Na

**Question 3**

Which one of the following states of matter can easily be compressed?

- A. solid      B. liquid      C. gas

**Question 4**

Dry ice is used in fire extinguishers. The dry ice is stored in the cylinder in a solid form. When sprayed on a fire it quickly changes into the gas known as carbon dioxide ( $\text{CO}_2$ ).

What is this change of state called?

- A. Evaporation      B. Sublimation      C. Condensation      D. Distillation

**Question 5**

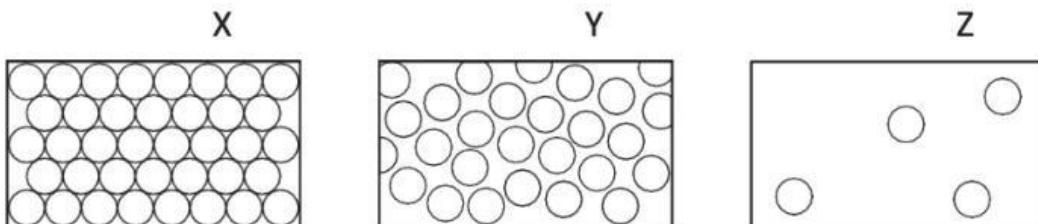
The difference between boiling and evaporation at normal atmospheric pressure is:

- A. There is no difference between boiling and evaporation as in each case a liquid is changed into a gas.
- B. Boiling changes the liquid into a gas while evaporation makes the liquid disappear.
- C. Boiling occurs at one temperature only, while evaporation may occur at different temperatures.

- D. Evaporation occurs at one temperature only, while boiling may occur at different temperatures.

## Question 6

Diagrams X, Y and Z represent the three states of matter.

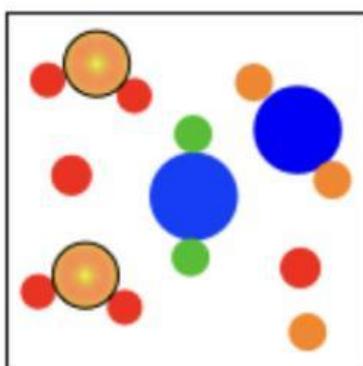


Which change occurs during boiling?

- A X to Y      B Y to Z      C Z to X      D Z to Y

### Question 7

This diagram represents



- A. an element      B. a mixture      C. a compound      D. an atom

### Question 8

The sub-atomic particles found in the centre of an atom are:

- A. Electrons and neutrons
  - B. Protons and electrons
  - C. Protons and neutrons
  - D. Protons and nucleus

### Question 9

What is the mass number of an atom that has 3 protons and 4 neutrons?

- A. 4      B. 7      C. 3      D. 10

### Question 10

Which of the following has a positive charge?

- A. proton      B. neutron      C. anion      D. electron      D. atom

### \* Short question

Here are some chemical formulas.

Al    CaO    Cl<sub>2</sub>    CO<sub>2</sub>    KNO<sub>3</sub>    MgCO<sub>3</sub>    NaCl    P<sub>2</sub>O<sub>5</sub>

**(a)** Choose the formulas from the list.

Each formula can be used once, more than once or not at all.

**(i)** Write down the formulas of **two** elements.

.....  
**(ii)** Write down the formulas of **all** the compounds containing carbon.

.....  
**(iii)** Write down **two** formulas that show compounds made from three elements.

.....  
**(iv)** Fertilisers are often compounds of potassium.

Write down the formula for a fertiliser that is a compound of potassium.

**(b)** Write down the **name** of the compound with the formula CaO.

## II. Biology

For each question there are some possible answers. Choose the **one** you consider correct and record your choice on the table below.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Biology										

1. Which of the following is a characteristic of living things?

- a) Ability to move from one place to another
- b) Ability to grow and develop
- c) Ability to conduct electricity
- d) Ability to change color

2. What is the basic unit of life in living organisms?

- a) Atom
- b) Molecule
- c) Cell
- d) Tissue

3. Which of the following is NOT a characteristic of living things?

- a) Respiration
- b) Reproduction
- c) Photosynthesis
- d) Sedimentation

4. Which of the following is a non-living thing?

- a)  Bacterium
- b)  Cat
- c)  Rock
- d)  Tree

5. Living things respond to stimuli. Which of the following is an example of this?

- a) A sunflower turning towards the sun
- b) Water freezing into ice



- c) Iron rusting



- d) Salt dissolving in water



6. Which of the following is a characteristic that distinguishes living things from non-living things?

- a) Presence of genetic material (DNA or RNA)
- b) Ability to dissolve in water
- c) Shiny appearance
- d) Conductivity

7. Which of the following processes do all living things undergo?

- a) Photosynthesis
- b) Excretion
- c) Fermentation
- d) Metamorphosis

8. What is one way non-living things differ from living things?

- a) They do not need energy
- b) They reproduce
- c) They maintain homeostasis
- d) They adapt to environments

9. Which of the following is capable of existing in a dormant state, challenging the traditional boundaries between living and non-living?



10. Which of the following regarding growth is correct for living things?

- a) Occurs only during the night
- b) Can happen both internally and externally
- c) Is always reversible
- d) Doesn't require nutrients

\* Short question

1. What is one incredible ability that all living things possess, setting them apart from the non-living?

.....  
.....  
.....  
.....

### III. Physics

For each question there are some possible answers. Choose the **one** you consider correct and record your choice on the table below.

	1.	2.									
Physics											

1. A student measures the volume of a cork. He puts some water into a measuring cylinder and then one glass ball. He puts the cork and then a second, identical glass ball into the water as shown.

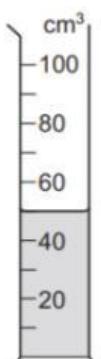


diagram 1

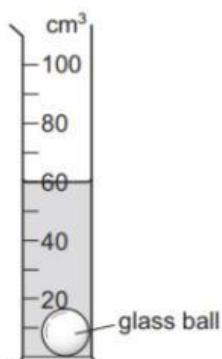


diagram 2

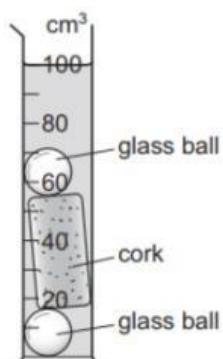


diagram 3

Diagram 1 shows the first water level.

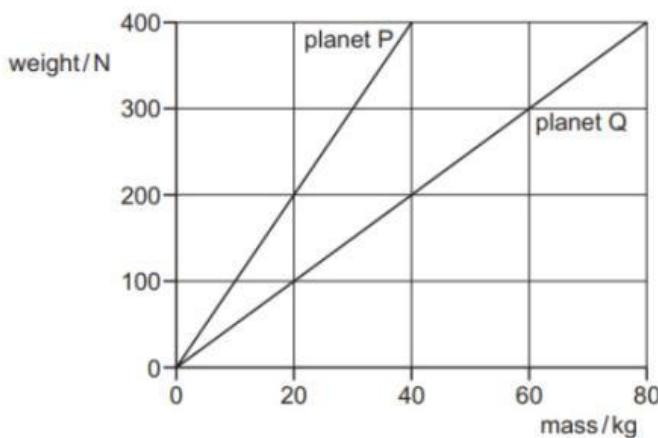
Diagram 2 shows the water level after one glass ball is added.

Diagram 3 shows the water level after the cork and the second glass ball are added.

What is the volume of the cork?

- A**  $30 \text{ cm}^3$    **B**  $40 \text{ cm}^3$    **C**  $50 \text{ cm}^3$    **D**  $100 \text{ cm}^3$       [1]

2. The graph shows how weight varies with mass on planet P and on planet Q.



An object weighs 400 N on planet P. The object is taken to planet Q.

Which row is correct?

	mass of object on planet Q/ kg	weight of object on planet Q/ N
A	40	200
B	40	400
C	80	200
D	80	400

[1]

**\* Short question**

3. Write mass or weight next to each statement in the second column of this table

Statement	Mass or weight?
the force of gravity acting on an object	
measured in kilograms	
gets much less if you go to the Moon	
can be represented by a force arrow	
measured in newtons (N)	
'Add 50 g of salt to 1 kg of water.'	
stays the same even if you are far out in space	
5 apples are about 5 N	

[2]

4. The Earth rotates on its axis.

(a) Write down how long the Earth takes to make one complete rotation on its axis. ....

.....

.....

..... [1.5]

(b) Which of these sentences is true?

Tick () one box.

The Sun does not move.

The Sun goes round the Moon.

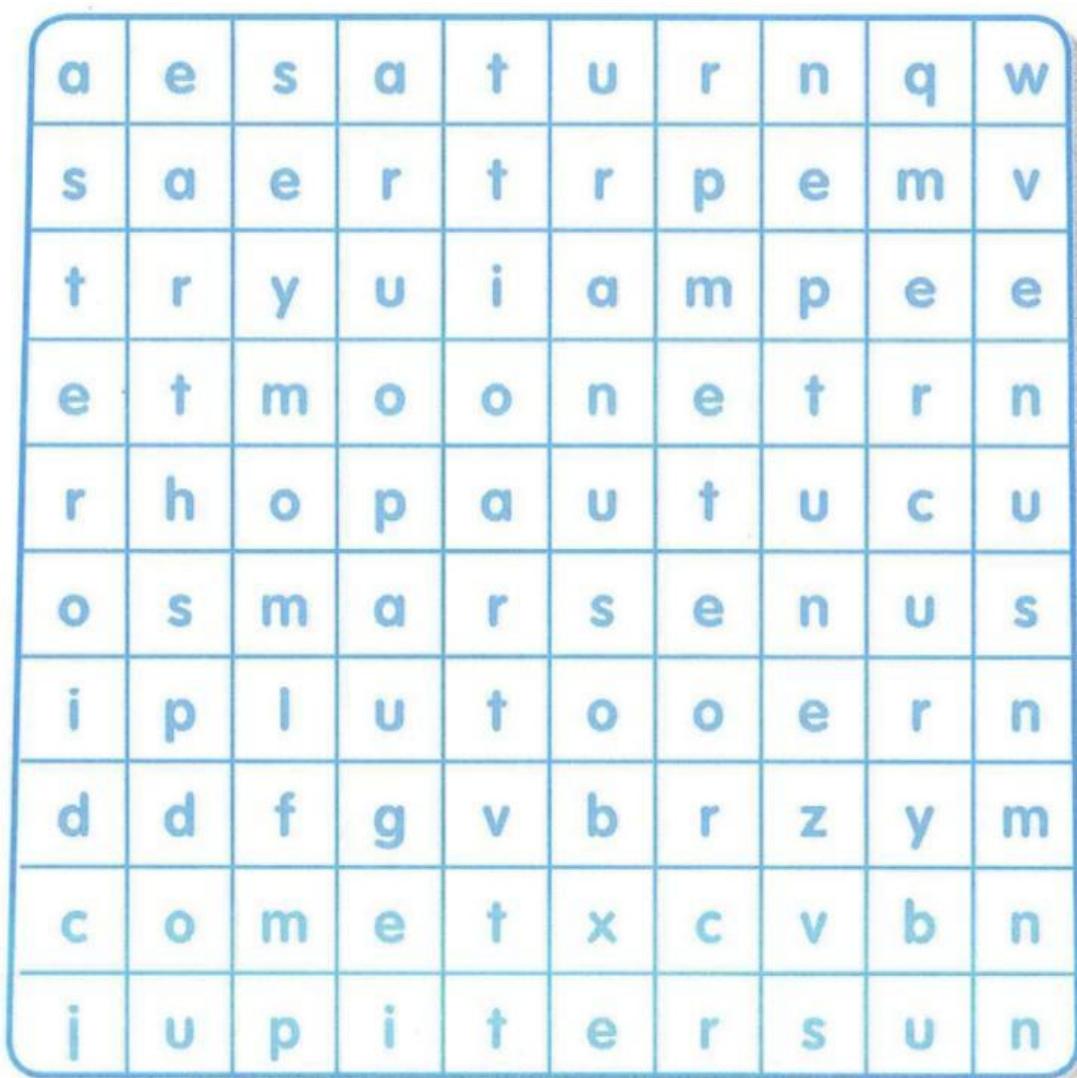
The Sun orbits the Earth.

The Sun travels round the Earth.

[1]

5. Find **14** objects in the solar system in this word square

[3.5 point]



1. ....

2. ....

3. ....

4. ....

5. ....

6. ....

7. ....

8. ....

9. ....

10. ....

11. ....

12. ....

13. ....

14. ....