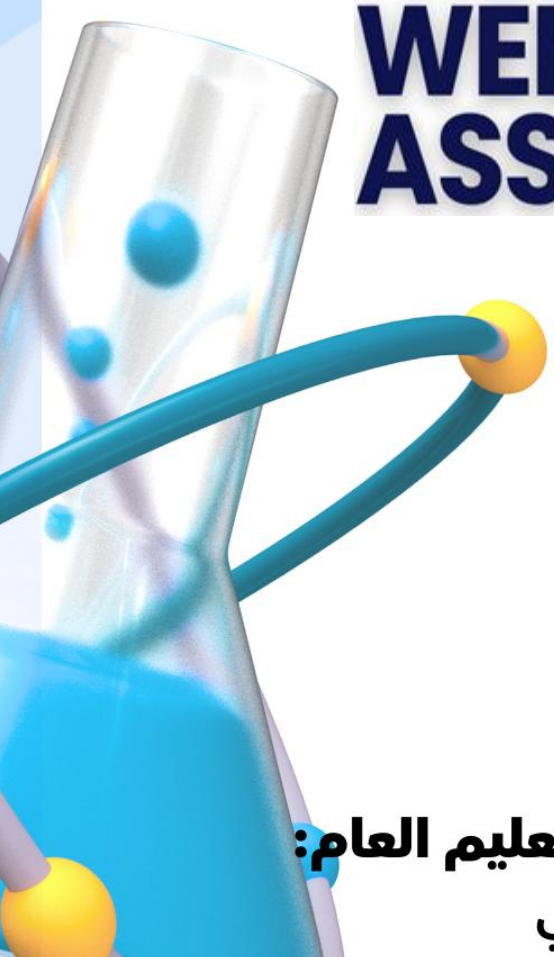
الإدارة المركزية للتعليم العام
مكتب تنمية مادة العلـــــوم

CHEMISTRY

2nd secondary
first term

HOME PERFORMANCE

WEEKLY ASSESSMENTS



إعداد:
أ. سامح منصور
أ. عبدالله عبدالواحد

مستشار مادة العلوم:
د. عزيزة رجب خليفة

رئيس الإدارة المركزية للتعليم العام:
د. هالة عبدالسلام خفاجي

2026

week

Home Performance- Week 1

Q1/ choose the correct answer: -

1-What is the mass of 2.52×10^{-3} mol of ammonium sulphate?
[H=1, N=14, O=16, S=32]

(a) 0.287 g
(b) 0.285 g
(C) 0.328 g
(d) 0.333 g

2- Which of the following has the same number of molecules as 11.2 L of methane (CH_4) gas at STP? [H=1, N=14, C=12]

(a) 1 mole of nitrogen gas at STP
(b) 3.01×10^{23} molecules of hydrogen gas
(C) 4 g of methane gas
(d) 17 gm of ammonia (NH_3) gas at STP

3-The number of sulphate ions in 17.1 gm of aluminum sulphate =…..
[Al=27, S=32, O=16]

(a) $3 \text{ X } 10^{21}$
(b) $1 \text{ X } 10^{22}$
(C) $3 \text{ X } 10^{22}$
(d) $9 \text{ X } 10^{22}$

4- The number of atoms in 0.25 mole of formaldehyde (HCHO) =……

(a) Avogadro's number
(b) Half Avogadro's number
(C) Quarter Avogadro's number
(d) Four times Avogadro's number

5- Which of the following represents the volume of 32 g of sulphur dioxide gas at STP? [S=32, O=16]

(a) 22.4 L
(b) 11.2 L
(C) 5.6 L
(d) 44.8 L

6- The number of moles of atoms in half mole of nitrogen tetra oxide (N_2O_4) is …… mole

(a) 3.01×10^{23}

(b) 3

(C) 6.02×10^{23}

(d) 6

7- What is the molar mass of a gas if 1.5 L of the gas at STP has a mass of 3.0 g?

(a) 22.4 g/mol

(b) 44.8 g/mol

(C) 11.2 g/mol

(d) 2.0 g/mol

8-Which of the following is true for 1.0 mole of water (H_2O) and 32 of Oxygen gas (O_2)?

(a) They have the same volume.

(b) They have the same mass.

(C) They contain the same number of molecules.

(d) They contain the same number of atoms.

9- If you have 1.5 moles of a solid compound, which of the following can you determine from this information alone?

(a) Its density.

(b) Its volume at STP.

(C) Its molar mass.

(d) The number of particles (atoms or molecules) in the sample.

10-A balloon contains 2.0×10^{23} molecules of a gas at STP. If the mass of the gas is 9.296 g, what is this of the gas? [N=14 , O=16 , C=12 , H=1]

(a) Oxygen gas

(b) Nitrogen gas

(C) Methane gas

(d) Ammonia gas

Weekly Assessment- Week 1

Q1/ Give scientific reason for each of the following:

1- The number of oxygen atoms in 32 g of oxygen gas is twice the number of Hydrogen molecules in 2 g of hydrogen gas.
[H=1, O=16]

2- The number of anions is half the number of cations in each mole of sodium Sulphate.

3- The volume of 4 g of hydrogen gas is equal to the volume of 32 g of oxygen Atoms

4- The molar mass varies from one substance to another.

5- The molar volume of sodium chloride is not equal to 22.4 L at STP.

6- The molar volume of hydrogen and oxygen gases under the same Conditions of pressure and temperature is equal, despite the difference in Their molar masses.

7- Equal volumes of oxygen and ozone gases contain different numbers of Oxygen atoms.

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Q2 / If you know that phosphorus in its vapour state is tetratomic, calculate The number of phosphorus atoms in 30 g of phosphorus in its vapour State. [P = 30]

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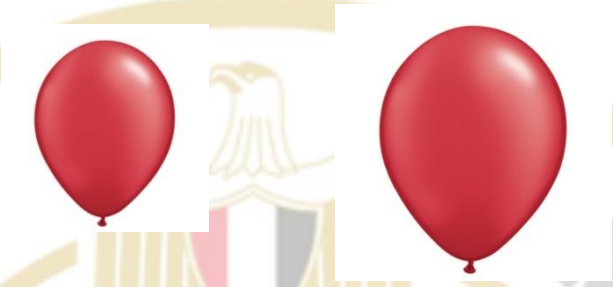
Q3 / which of balloons (1) and (2) contains oxygen gas and which contains Hydrogen gas, given that the weight of the gas in each is 3.2 g? Why?

[O = 16, H=1]

Balloon (1) **Balloon (2)**



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<u>Q4 / Calculate the mass of each of the following:</u>

1- 1.505 x 10^{23} units of silver phosphate. [Ag= 108 , P =30, O=16]

2- 11.2 L of sulphur dioxide gas SO_2 [S= 32 , O=16]

3- 0.5 moles of sulphur in its vapour state, knowing that each molecule of Sulphur in its vapour state consists of 8 atoms. [S= 32]

4- Moles of hydrated sodium sulphate, knowing that each mole of hydrated Sodium sulphate consists of one mole of sodium sulphate binds with Seven moles of water. [Na= 23, S =32, O=16, H=1]

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Q5 / Calculate the mass of an oxygen atom in grams. [O=16 amu]

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Q6 / Calculate the number of moles of atoms in 0.5 moles of acetic acid (CH_3COOH).

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