



Nishant Jindal

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Welcome

Class 11th

to Apni kaksha



LIVE



Chemistry



AKK

Akhilesh Kumar Kanther

→ NCERT

→ Sheets → Theory

Ex-1

O-I

2

S-I

Numerical

3

O-II

Numerical

4

S-II

tough

5

J-Mains PYQs

6

J-Advanced PYQs

→ DPP

→

Register (150 pages)

— Class notes

→ Home work

→ Revision

PHYSICAL CHEMISTRY SYLLABUS FOR JEE

1. Mole concept

2. Concentration terms

3. Ideal gas

4. Real gas

5. Atomic structure

6. Redox Reactions

7. Chemical equilibrium

8. Ionic equilibrium

Basic
Concept

Gas - state

9. Thermodynamic

10. Thermochemistry

→ 11. Solid state

12. Kinetics

13. Electrochemistry

14. Liquid solution

15. Surface chemistry

12th

Mole concept

Atomic mass

ref $\left[\frac{1}{12}^{\text{th}} \text{ of mass of single atom } \underline{\text{C-12}} \right] = 1 \text{ amu}$
atomic mass unit

$$\text{Atomic mass} = \frac{\text{mass of an atom}}{\text{mass of reference}}$$

$$\text{Atomic mass} = \frac{\text{mass of an atom}}{\left(\frac{1}{12} \text{th of mass of single atom of } ^{12}\text{C}\right)}$$

$$\text{Atomic mass} = \frac{\text{mass of an atom}}{1 \text{ amu}}$$

$$\underline{\underline{\text{mass of an atom} = \text{Atomic mass} \times 1 \text{ amu}}}$$

$$\text{Atomic mass of Al} = 27$$

Unit less

$$\text{" " Fe} = 56$$

$$\text{Mass of an atom of Al} = 27 \text{ amu} = 27 \times 1.67 \times 10^{-24} \text{ gm}$$

$$\text{" " Fe} = 56 \text{ amu} = \underline{56 \times 1.67 \times 10^{-24} \text{ gm}}$$

$$1 \text{ amu} = 1.67 \times 10^{-24} \text{ gm}$$

Q. find no. of atoms in 100 gm Al.

Solⁿ

$$\begin{aligned}\text{no. of atoms of Al} &= \frac{\text{mass}}{\text{mass of one atom of Al}} \\ &= \frac{100 \text{ gm}}{27 \text{ amu}} = \frac{100 \text{ gm}}{27 \times 1.67 \times 10^{-24} \text{ gm}}\end{aligned}$$

gm atomic mass of Al = 27 gm

|| || Fe = 56 gm

Q find no. of atoms of Al in it gm atomic mass?

Solⁿ

$$\text{no. of atoms} = \frac{27 \text{ gm}}{27 \text{ amu}} = \frac{\cancel{27} \text{ gm}}{\cancel{27} \times 1.67 \times 10^{-24} \text{ gm}}$$
$$= \underline{6.022 \times 10^{23}}$$

Q. find no. of atoms of Fe in 1 gm atomic mass

$$\text{Sol}^n \quad \text{no of atom of Fe} = \frac{56 \text{ gm}}{56 \text{ amu}}$$

$$= \frac{\cancel{56} \text{ gm}}{\cancel{56} \times 1.67 \times 10^{-24}}$$

$$= \underline{6.022 \times 10^{23}} = \text{Avogadro's number } (N_A)$$

no. of atoms in

$$16 \text{ gm 'O'} = 14 \text{ gm 'N'}$$

$$= 27 \text{ gm Al}$$

$$= 56 \text{ gm Fe}$$

$$= 23 \text{ gm Na}$$

$$\text{Molecular mass of } H_2O = 2 + 16 = 18$$

$$\text{mass of 1 molecule of } H_2O = 18 \text{ amu}$$

$$= 18 \times 1.67 \times 10^{-24} \text{ gm}$$

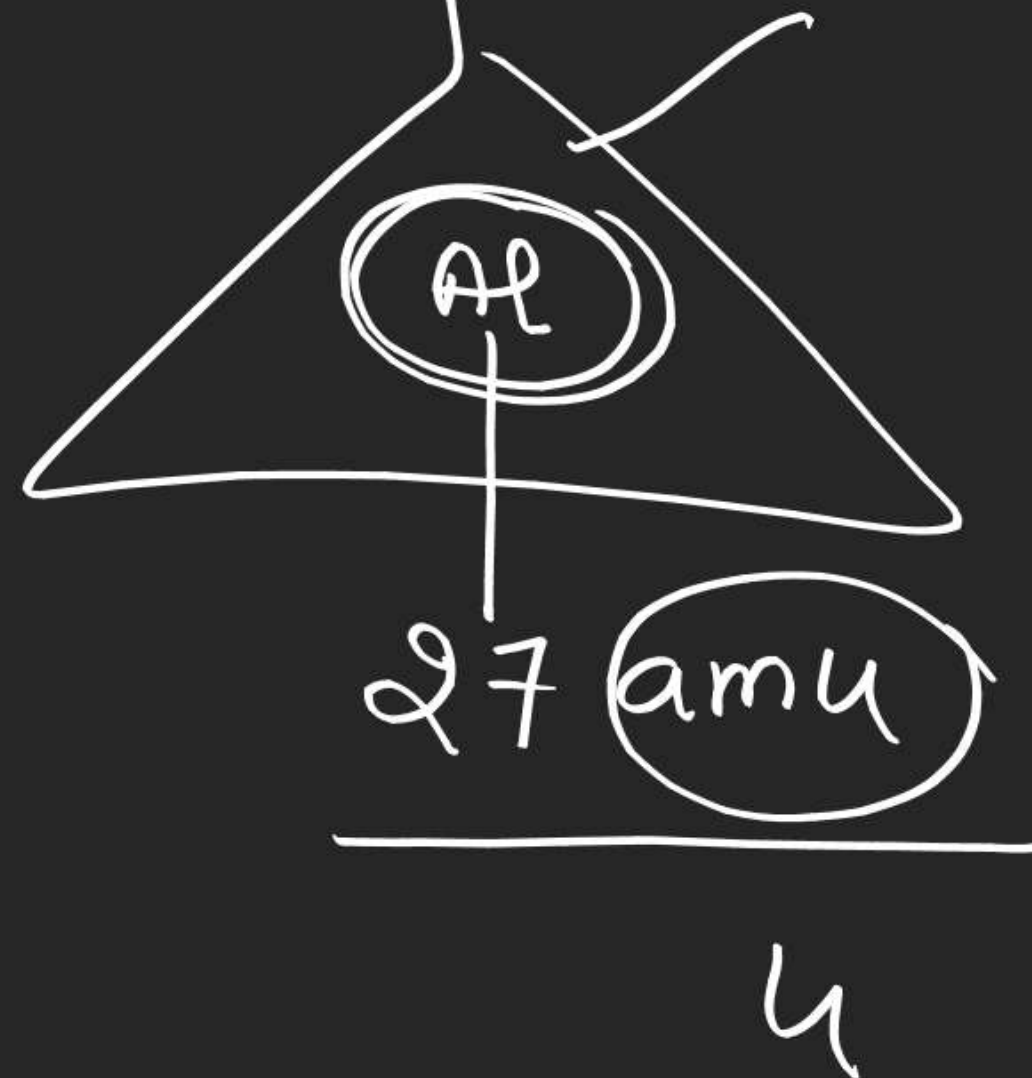
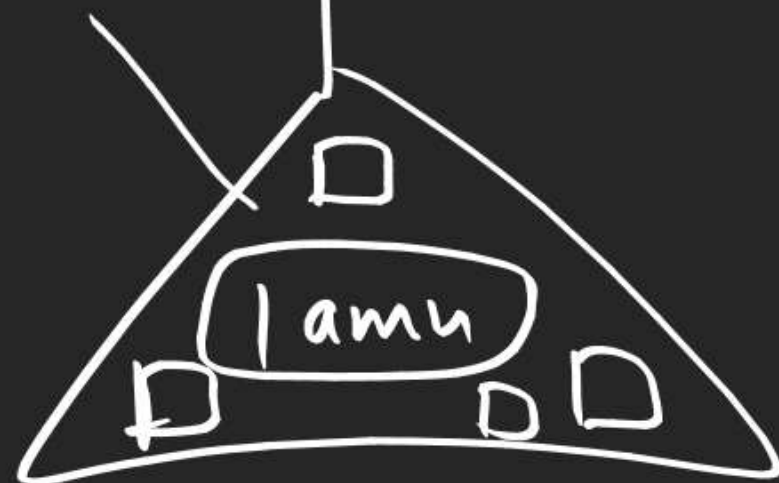
$$= 18 \times 1.67 \times 10^{-27} \text{ kg}$$

$$\text{Molecular mass of } H_2SO_4 = 2 + 32 + 4 \times 16$$

$$= 2 + 32 + 64 = 98$$

$$\text{mass of 1 molecule of } H_2SO_4 = 98 \text{ amu}$$

27 pieces





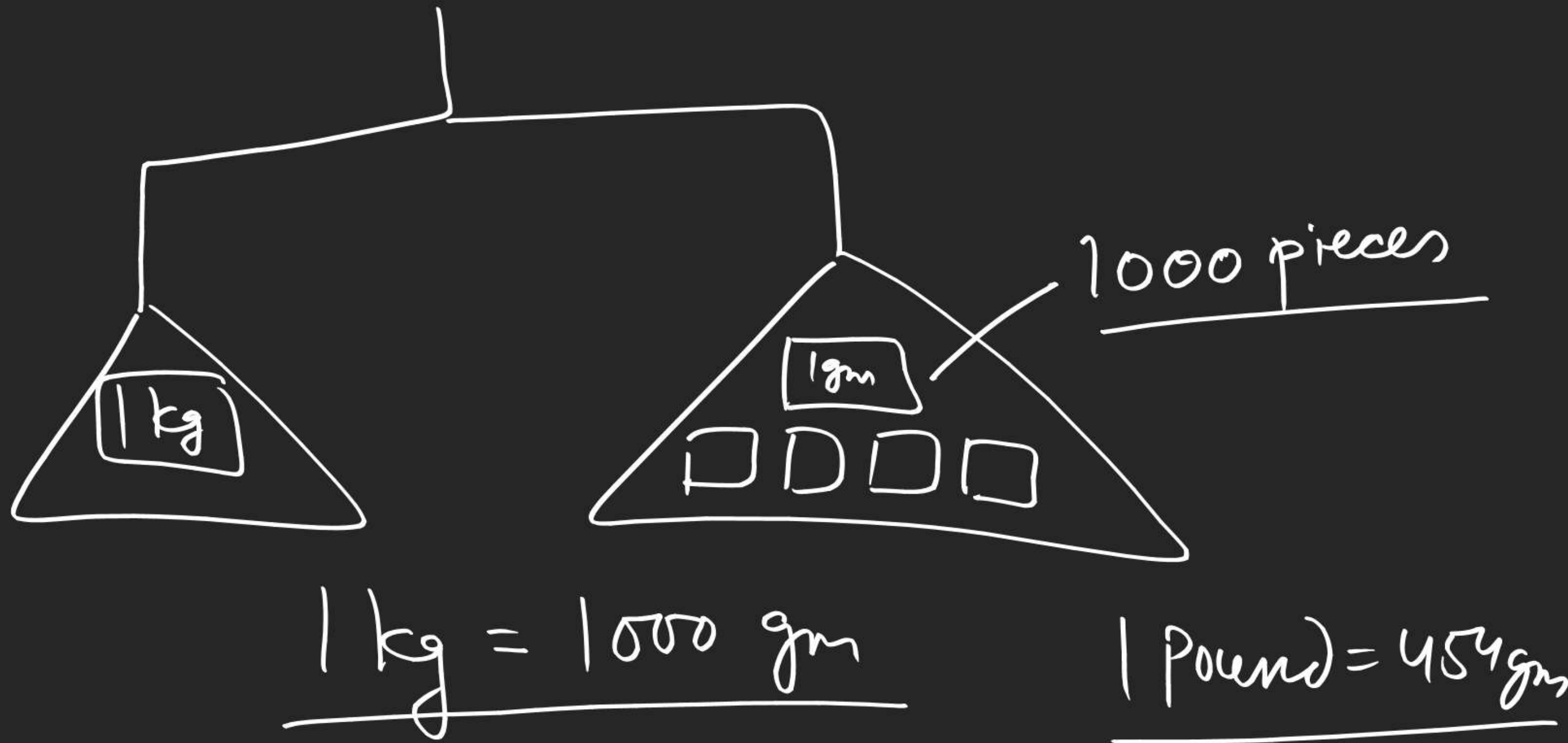
1 pound

60 kg

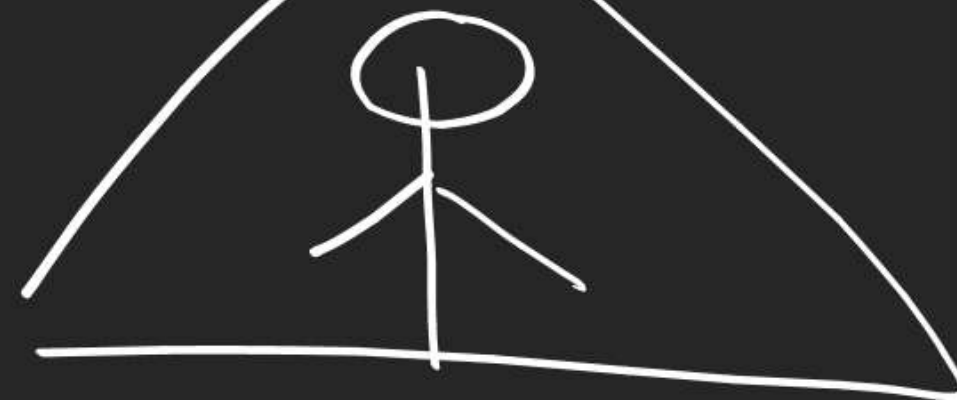
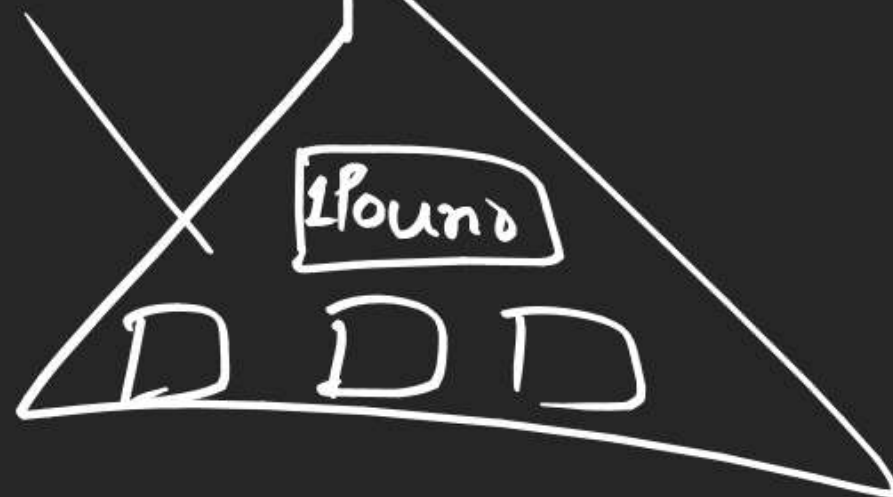
kg

gm

1 pound
= 454 gm



130 pieces



130 Pound

