

MOLE CONCEPT

Basic Formula:

★ MUST KNOW



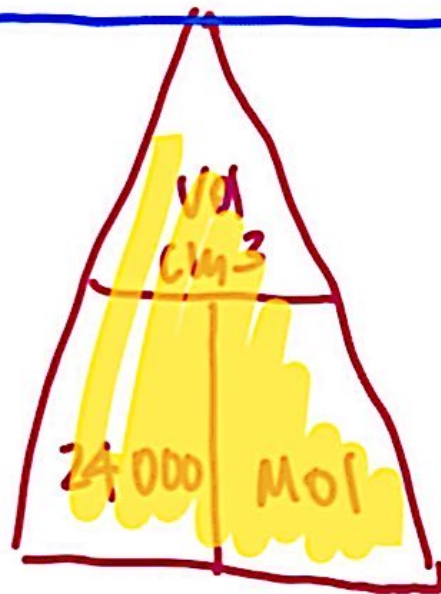
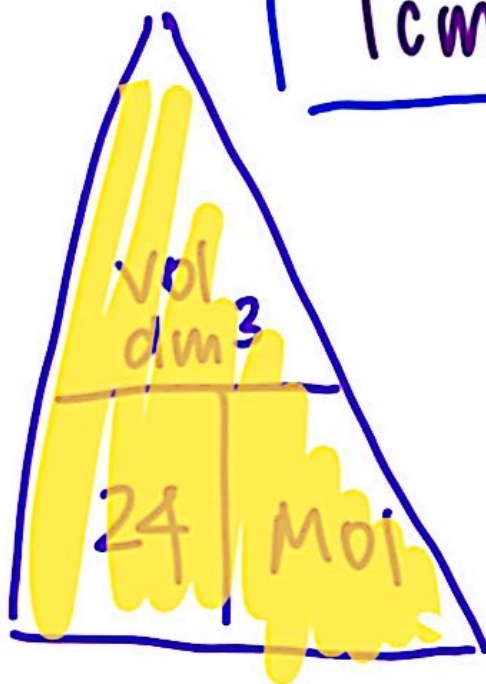
always in g, no matter what!

$$1 \text{ kg} = 1000 \text{ g}$$

$$1 \text{ g} = 0.001 \text{ kg}$$

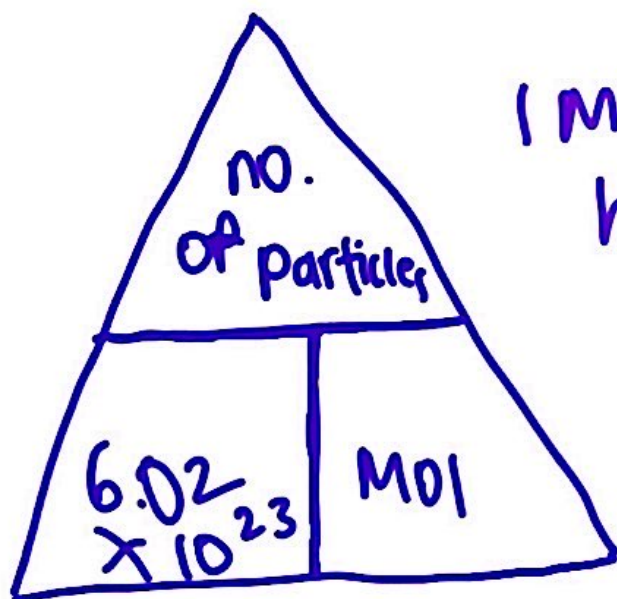
Gases

$$1 \text{ dm}^3 = 1000 \text{ cm}^3$$
$$1 \text{ cm}^3 = 0.001 \text{ dm}^3$$



quite forgotten

→ According to the Avogadro's law, gases of the same volumes at the same temperature and pressure have the same no. of molecules



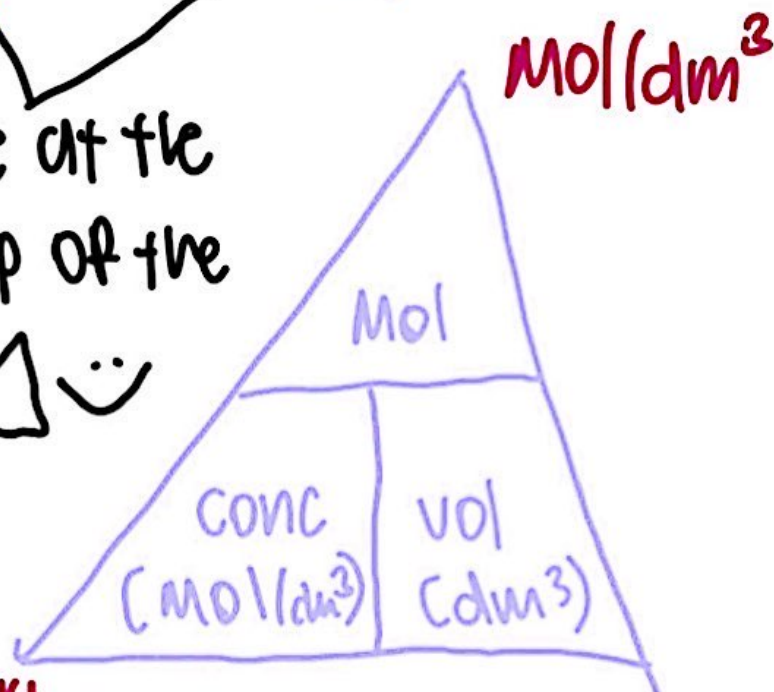
1 mol of anything
has 6.02×10^{23}
no. of molecules

common (esp
in prac!)

CONCENTRATION:

g/dm^3 Mol/dm^3

are at the
top of the
 $\triangle$ ☺



$\text{g/dm}^3 \xrightarrow{\div \text{Mr}} \text{mol/dm}^3$ convert
 $\text{mol/dm}^3 \xrightarrow{\times \text{Mr}} \text{g/dm}^3$

4 simple steps to do mole concept qns!

① Balance the eqn $\smile$
② Find out the no. of moles of a substance
w info already given in the qns

③ Mole ratio

What is known : What I want
to find out

Statement $\leftarrow$ $x : x$
 $y : y$

④ Find what is asked. (eg. Mass,
vol, conc.)

Limiting reagent : 5 steps

How to identify it is a LR qns?

$\rightarrow$ two pieces of info abt
2 diff substances are given

① Balance eqn

② Find no. of moles of the two different substances using info given

③ Special mole ratio using this

the one w
the smaller
mol is the
LR

eg.

$x : y$

$1 : 1$

$0.1 : 0.4$

identify!

Do statement!

0.4 mol of y
requires 0.1 mol
of x to react
completely
what qns wants
you to find

④ Using the no. of
moles of the LR

find the no. of moles
of the unknown

what qns wants
you to find

$x : y$
 $1 : 1$
 $0.1 : 0.1$

statement

mass,
conc. etc

⑤ Find
whatever is
asked in the
qns