

VOLES

Long time ago in a far distant galaxy Chemistry lessons were very different and Chemistry teachers were even stranger... In this weird and wonderful place they used a very different measurement of chemical quantities called the vole,

1 vole is equal to 20 of anything

For instance, 1 vole of ping pong balls piled one on top of the other would probably come up to your waist.

The masses of atoms and molecules in this faraway place are much greater than on Earth so that the mass of 1 vole of substances is the same as the mass of 1 mole of a substance on Earth, e.g. 1 vole of sulfur has a mass of 32 g and contains 20 S atoms and 1 vole of CO₂ has a mass of 44 g and contains 20 CO₂ molecules.

- 1 What is the mass of 1 vole of water?
- 2 How many water molecules are there in 1 vole of water?
- 3 How many atoms are there in 1 vole of water?
- 4 1 vole of methane molecules has a mass of 16 g. Calculate the mass of 1 methane molecule.

- 5 How many C atoms are there in 0.1 vole of ethane, C₂H₆?

- 6 What is the mass of 1 molecule of ethane in this faraway galaxy?

- 7 Which sample contains the greatest number of atoms: 32 g of O₂ or 4 g of H₂?

- 8 What is the total number of atoms in 132 g of CO₂?

- 9 Which of the following samples contains the smallest number of **atoms**?
A 100 g of He B 100 g of N₂
C 100 g of S₈ D 100 g of P₄

- 10 How many H atoms are there in 156 g of C₆H₆?