





## CHAPTER 4: MATTER AND SUBSTANCE

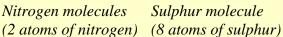
Substances may be classified according to the particles they are made of. This classification is shown in the diagram below.

## **Substances Atomic elements Molecular substances Ionic compounds** Consists of atoms Consist of molecules Consist of ions Molecules are Ions are charged Atoms are the smallest particles in particles made up of particles elements two or more atoms Examples: Sodium chloride, lead bromide, Examples: Copper, aluminium, carbon copper sulphate - chloride ion (-) sodium ion (+) Atoms of copper Sodium chloride

## **Molecular elements**

- Molecule consists of only one kind of
- Examples: Nitrogen, oxygen, sulphur







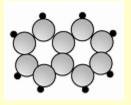
Sulphur molecule

## **Molecular compounds**

- Molecule consists of two or more types of atoms
- Examples: Naphthalene, ammonia, carbon dioxide



Ammonia molecule (1 atom of nitrogen and 3 atoms of *hydrogen*)



Naphthalene molecule (10 carbon atoms and 8 hydrogen atoms)