

DEFINITIONS

MATTER: a sample of matter is a large collection of very small particles . There are THREE KINDS OF PARTICLES: atoms, ions, and molecules. The TWO KINDS OF MATTER are pure substances and mixtures.

PARTICLES: The particles of which matter is made are ATOMS, MOLECULES and IONS.

- ATOM:
- MOLECULE: A molecule is a single particle that is composed of two or more neutral nonmetal atoms that are held together by covalent bonds.
- ION: An ion is a particle that has electrical charge. The charge is either positive or negative. An ion may be either monatomic or polyatomic.
 - MONATOMIC ION: A monatomic ion is an ATOM that has electrical charge, either positive or negative.
 - POLYATOMIC ION: A polyatomic ion is a MOLECULE that has electrical charge, either positive or negative.

PURE SUBSTANCE: A pure substance is a sample of matter (a very large collection of very small particles) in which the particles are all alike. The pure substances are the ELEMENTS and the COMPOUNDS. (All pure substances are homogeneous in appearance.)

- ELEMENT: An element is one type of pure substance. An element may be composed of atoms or of molecules. Therefore, there are two kinds of elements : ATOMIC ELEMENTS and MOLECULAR ELEMENTS .
- COMPOUND: A compound is one type of pure substance. A compound may be made of molecules or ions. Therefore, there are two kinds of compounds: MOLECULAR COMPOUNDS and IONIC COMPOUNDS .

MIXTURE: A mixture is a sample of matter (a very large collection of very small particles) in which the particles are not all alike.

- HOMOGENEOUS MIXTURE: A homogeneous mixture is a mixture that is homogeneous in appearance.
- HETEROGENEOUS MIXTURE: A heterogeneous mixture is a mixture that is heterogeneous in appearance.