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Lesson N°1

TEXT

Matter, material substance that constitutes the observable universe and, together with energy, forms the basis of all objective phenomena. At the most fundamental level, matter is composed of elementary particles, known as quarks and leptons (the class of elementary particles that includes electrons). Quarks combine into protons and neutrons and, along with electrons, form atoms of the elements of the periodic table, such as hydrogen, oxygen, and iron. Atoms may combine further into molecules such as the water molecule, H₂O. Large groups of atoms or molecules in turn form the bulk matter of everyday life.

Depending on temperature and other conditions, matter may appear in any of several states. At ordinary temperatures, for instance, gold is a solid, water is a liquid, and nitrogen is a gas, as defined by certain characteristics: solids hold their shape, liquids take on the shape of the container that holds them, and gases fill an entire container. These states can be further categorized into subgroups. Solids, for example, may be divided into those with crystalline or amorphous structures or into metallic, ionic, covalent, or molecular solids, on the basis of the kinds of bonds that hold together the constituent atoms. Less-clearly defined states of matter include plasmas, which are ionized gases at very high temperatures; foams, which combine aspects of liquids and solids; and clusters, which are assemblies of small numbers of atoms or molecules that display both atomic-level and bulk like properties.

Questions/

- 1- Give a title to the text.
- 2- Give synonyms to the underlined words in the text.
- 3- Translate text to Arabic language.