

Name:
Grade: 8
Physics worksheet

Atom



Question one: A Dangerous Element

The tritium is an unstable element. It is called radioactive element and can be used in nuclear reactors. This element is used in the production of some kinds of watches to give a luminescent effect to its designs. The tritium is a very dangerous element on the human health; it may cause several diseases like cancer.

1) The nucleus of a tritium atom is composed of one proton and two neutrons.

- Determine the atomic number of tritium.
 - Calculate its mass number (A).
- Determine the composition of hydrogen atom knowing that its symbolic representation is ${}_1^1\text{H}$.
 - Compare the atomic number and the mass number of hydrogen to that of tritium.
 - Are these two atoms Isotopes? Justify
 - Write the symbolic representation of tritium atom.
 - Pick out the characteristic that explains the uses of tritium in fabrication of some watches.

Question two: Chemical Elements and Human Body

Carbon, nitrogen, sulfur, phosphorus and hydrogen are non-metals and constitute the major part of the human body. These elements are components of lipids, carbohydrates, proteins and nucleic acids.

The table below shows the atoms proportions of these elements in the human body.

Elements	Hydrogen	Carbon	Nitrogen	Oxygen	Other element
Atoms(%)	61	13	1.5	24	0.5

1) Copy and complete the table:

Atom	Electron configuration	Group	Period	Lewis dot symbol	Valence
${}_1\text{H}$					
${}_6\text{C}$					
${}_8\text{O}$					

2) Calculate the nuclear charge and the charge of the electron cloud of carbon atom, knowing that the relative charge of 1 proton = +1 and the relative charge of one electron = -1.