

STRUCTURE OF THE ATOM AND THE PERIODIC TABLE - Form 2

Chemistry Notes

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[The Atom](#)

- Refers to the smallest particle of an element that can take part in a chemical reaction;
- It has an average diameter of 10^{-8} cm with a nucleus of about 10^{-13} cm;

[Parts of an Atom](#)

- The atom is made of two main parts:
 - The nucleus
 - The energy levels;

The nucleus

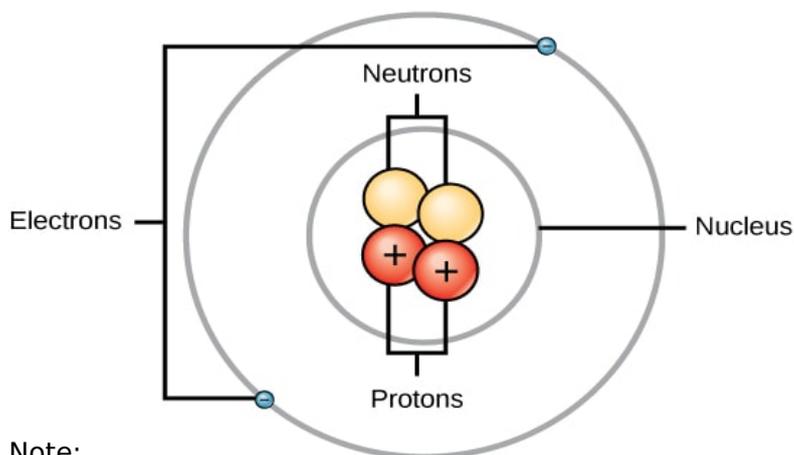
- Is the positively charged part of an atom;
- The nucleus contains two subatomic particles; neutrons and protons;
- The positive charge is due to presence of protons;

- The nuclei of all atoms contain neutrons except the hydrogen atom;
- The protons and the neutrons are together referred to as the nucleons ;

The energy levels

- They contain the electrons;
- Electrons are so small and move so fast that their path cannot be traced directly;
- Thus the energy level simple represents the region where the electrons are most likely to be found;

Structure of the Atom



Note:

- The atom can still however be split into smaller particles termed the sub-atomic particles;

The sub-atomic particles.

- Are generally three:

- Protons;
- Neutrons;
- Electrons;

Protons

- Are the positively charged sub-atomic particles;
- Are found in the nucleus and thus form part of the nucleons;
- The number of protons in the nucleus is equal to the number of electrons in the energy levels;

Neutrons

- Are neutrally charged sub-atomic particles found in the nucleus of the atom;
- They are thought to probably prevent the positively charged protons from getting too close to each other;

Electrons

- Are negatively charged sub-atomic particles found in the energy levels;
- The number of electrons in the energy levels is equal to the number of protons in the nucleus;
- This makes the atom to be electrically neutral;