## What Is An Atom?

An atom is the basic building block of any material in the universe. Atoms are tiny particles. Multiple atoms combine to form molecules.

Each atom is formed of subatomic particles such as electrons, protons, and electrons. Protons are the positive-charged particles and electrons carry a negative charge, while neutrons do not carry any electrical charge. Electrons are much smaller in size than protons and neutrons.

At the center of each atom is a nucleus The nucleus contains protons and neutrons. The electrons keep spinning at a very fast speed in an elliptical orbit around the nucleus. A hydrogen atom is the only atom that does not have any neutron in its nucleus.

Electrons and protons attract each other due to their opposite charges. But an electron is repelled by another electron and a proton is repelled by another proton. There is always an equal number of electrons and protons in an atom and, hence, the positive and negative charges are balanced.

However, in a chemical reaction or due to collision with other objects, if an atom loses or gains an electron, it becomes an ion. If the atom loses an electron, it becomes a positive ion. If it gains an electron, it becomes a negative ion.





On the basis of what you have read and the diagram, label the parts of an atom in the diagram given below:



1. What is an atom?

2. What do multiple atoms form?

- 3. What are the three subatomic particles?
- 4. What is the electrical charge of protons?
- 5. What is the electrical charge of neutrons?
- 6. What is the electrical charge of electrons?
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7. Which subatomic particle is the smallest in the size?

8. What is present in the nucleus of an atom?

9. Where are electrons located?

10. What is the typical characteristic of a hydrogen atom?

11. How are the positive and negative charges balanced in an atom?

12. What is an ion?

13. How is an ion formed?

14. What is a positively charged ion?

15. What is a negatively charged ion?

