What are electrons also called

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A system of one or more electrons bound to a nucleus is called an atom. If the number of electrons is different from the nucleus"s electrical charge, such an atom is called an ion. The wave-like behavior of a bound electron is described by a function called an atomic orbital.

Electron, lightest stable subatomic particle known. It carries a negative charge of 1.6 x 10^-19 coulomb, which is considered the basic unit of electric charge. The electron was discovered in 1897 by the English physicist J.J. Thomson during investigations of cathode rays.

An electron is a subatomic particle with a negative electrical charge. Electrons are subatomic particles. Atoms are made of protons, neutrons, and electrons. Of these three particles, the electron has the smallest mass. Here is the definition of the electron, along with its word origin, history, and interesting facts.

Unlike protons, neutrons, or the nuclei of atoms, electrons are elementary particles. This means they are not made of even smaller particles. Also unlike protons and neutrons, electrons have essentially no mass. Finally, electrons differ from protons and neutrons in that they surround the nucleus instead of being part of the nucleus.

An electron is a negatively charged subatomic particle that can be either bound to an atom or free (not bound). An electron that is bound to an atom is one of the three primary types of particles within the atom -- the other two are protons and neutrons.

Together, protons and electrons form an atom"snucleus. A proton has a positive charge that counters the electron"s negative charge. When an atom has the same number of protons and electrons, it is in a neutral state.

Electrons are unique from the other particles in multiple ways. They exist outside of the nucleus, are significantly smaller in mass and exhibit both wave-like and particle-like characteristics. An electron is also an elementary particle, which means that it is not made up of smaller components. Protons and neutrons are thought to be made up of quarks, so they are not elementary particles.

In the early days of atomic study, scientists believed that an atom"s electrons circled the nucleus in spherical orbits at specific distances, much like planets circle a sun. In this model -- referred to as the Bohr model -- the orbits furthest from the nucleus contain the greatest amount of energy. When an electron jumps from a higher energy orbit to a lower energy orbit, the atom releases electromagnetic radiation.

The Bohr model is no longer thought to be accurate, particularly as it pertains to how the electrons orbit the nucleus. While the model can still be useful in understanding the basics of electron distribution and different

energy levels, it fails to consider the complexity of that distribution and how electrons inhabit the space around the nucleus, according to current quantum theory.

Electron movement is determined by calculating the probability of finding electrons in specific regions within the space that surrounds the atom"s nucleus -- rather than by assuming fixed trajectories. The mathematically defined regions are based on three structural patterns:

An atom"s shells are numbered consecutively, starting at the nucleus and working out. A shell"s number is often referred to as its n value. For example, the third shell might be referred to as n=3 or 3n. Letters are also sometimes used to refer to the shells. These include K, L, M, N, O, P and Q, again starting from the nucleus and working out. For instance, the third shell might be referred to as the M shell or 3m.

The subshell/orbital configuration varies from one shell to the next, growing more complex until the fifth shell, at which point the complexity starts to taper off. For instance, the second shell (L) includes an s subshell and a p subshell. The s subshell contains one s orbital, and the p subshell contains three p orbitals. This means the shell can support up to eight electrons.

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