

Rule Table

Rule	Example
An atom is the smallest unit of matter that retains the properties of an element.	A carbon atom retains the properties of carbon.
Atoms consist of three primary particles: protons, neutrons, and electrons.	A carbon atom has 6 protons, 6 neutrons, and 6 electrons.
Protons and neutrons are located in the nucleus of an atom, while electrons orbit the nucleus.	In a hydrogen atom, the single proton is in the nucleus and the single electron orbits around it.
The atomic number of an element is determined by the number of protons in its nucleus.	Carbon has an atomic number of 6 because it has 6 protons.
Isotopes are variants of a particular chemical element that have the same number of protons but different numbers of neutrons.	Carbon-12 and Carbon-14 are isotopes of carbon, with 6 protons each but 6 and 8 neutrons respectively.