

Periodic Table

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How to use the Periodic Table

When you open any file of an element in the periodic table, you will find a small table with some basic information about that element. Here's how you use that table:

5	Atomic Number
<u>B</u>	Atomic Symbol
10.81	Atomic Mass

☀ Atomic Number

The number of protons in an atom defines what element it is. For example carbon atoms have six protons, hydrogen atoms have one, and oxygen atoms have eight. The number of protons in an atom is referred to as the atomic number of that element. The number of protons in an atom also determines the chemical behavior of the element.

☀ Atomic Symbol:

The atomic symbol is one or two letters chosen to represent an element ("H" for "hydrogen," etc.). These symbols are used internationally. Typically, a symbol is the truncated name of the element or the truncated Latin name of the element. Click [here](#) for a list of the elements and their symbols.

☀ Atomic Mass:

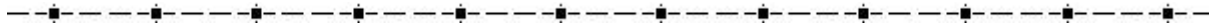
The atomic mass is the average mass of an element in atomic mass units ("amu"). Though individual atoms always have an integer number of amus, the atomic mass on the periodic table is stated as a decimal number because it is an average of the various isotopes of an element. Isotopes can have a weight either more or less than the average. The average number of neutrons for an element can be found by subtracting the number of protons (atomic number) from the atomic mass.

☀ Electron Configuration:

The electron configuration is the orbital description of the locations of the electrons in an unexcited atom. Using principles of physics, chemists can predict how atoms will react based upon the electron configuration. They can predict properties such as stability, boiling point, and conductivity. Typically, only the outermost electron shells matter in chemistry, so we truncate the inner electron shell notation by replacing the long-hand orbital description with the symbol for a noble gas in brackets. This method of notation vastly simplifies the description for large molecules.

Example: The electron configuration for Be is $1s^2 2s^2$, but we write $[He]2s^2$ where $[He]$ is equivalent to all the electron orbitals in the helium atom. The Letters, s, p, d, and f designate the shape of the orbitals and the superscript gives the number of electrons in that orbital.

Further explanation of the atom may be found [Here](#).



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