

Periodic Table Lingo

Honors Freshmen Physics/Chemistry

The following are the terms you should be familiar with in order to properly complete this unit. You are expected to be able to define each as well as apply these terms in any situation during this and subsequent units of study.

electron dot diagram- also called Lewis Dot Diagram, a symbolic way to show the number of valence electrons in an atom. The element symbol represents the nucleus and the dot(s) around the element symbol represents the valence electrons. The number of dots placed around the symbol of the element is equal to the number of valence electrons.

energy level - A term used to describe each of the fixed amounts of energy an electron in an atom may have. Electrons in the lowest energy level have the least amount of energy. Those in lower energy levels are more likely to be found closer to the nucleus than those in higher levels.

chemical symbol - A notation of one or two letters that represents an element. The first letter is capitalized and the second letter is lower case.

group - Vertical columns on the Periodic Table, made up of elements that have similar chemical properties.

period - Horizontal rows on the Periodic Table, made up of elements that have different properties which change according to an observable pattern.

periodic law - states that the properties of the elements repeat in a regular way if the elements are arranged by increasing atomic number.

nucleus - The center of an atom that has most of the mass of the atom.

proton - A positively charged subatomic particle found in the nucleus of an atom. Mass is about 1 amu.

atomic number - Represents the number of protons in the nucleus of an atom of an element.

neutron - A neutral subatomic particle found in the nucleus of an atom. Mass is approximately 1 amu.

isotopes - Atoms of the same element with different numbers of neutrons.

average atomic mass - The number that represents the average mass of all the naturally occurring isotopes of an element.

atomic mass number - The sum of the protons and neutrons in an atom. Basically the average atomic mass, only rounded to the nearest whole number.

atomic mass unit (amu or u) - A unit of mass defined as one-twelfth the mass of a carbon-12 atom.

quarks - Very small particles that make up protons and neutrons.

electron - A subatomic particle that moves freely around the nucleus of an atom and has a negative charge. Mass is approximately $1/2000$ amu.

electron cloud - The region surrounding the nucleus of an atom, which represents the most probable location of the electron.