Name _____

2a THE PERIODIC TABLE from the *Elements of Chemistry Series* Vocabulary Definitions

The following words and terms used in the program may be unfamiliar to you. Try to listen for these terms while viewing the program, pay close attention so you can later include them in your scientific descriptions, observations, and creative writing assignment activities.

alkali metals - Group 1 elements. They are part of the s Block group of elements.

alkaline earth metals - Group 2 elements. They are part of the s Block group of elements.

atom - The fundamental unit of matter in the universe, made up of a nucleus of protons and neutrons and orbiting electrons.

atomic number - The number of an element is determined by the number of protons in its nucleus.

atomic mass - The mass of the element.

atomic mass unit (amu) - This is a measurement of the atomic mass. One amu is roughly equal to the mass of one proton.

electron - Negatively charged particles that orbit the nucleus of atoms.

electron configurations - The patterns of the movements of electrons.

electronegative elements - Those elements that tend to attract electrons. They are on the right-hand side of the periodic table.

electropositive elements - Those elements that tend to lose electrons. They are on the left-hand side of the periodic table.

element - An atom with a unique number of protons.

energy levels - Electrons orbit the nucleus of atoms with different levels of energy. These energy levels are sometimes called shells or levels. The energy levels correspond to the periods of the periodic table.

f Block elements - Elements placed below the main body of the periodic table.

groups - Vertical columns of the periodic table.

matter - Material that makes up objects. Matter cannot be created or destroyed.

mass - The total quantity of an object's matter.

Mendeleev, Demitri - Russian chemist, 1834 - 1907.

Moseley, Henry - British chemist, 1887 - 1915.

neutron - Particle in the nucleus of atoms that has no electrical charge.

noble gases - Elements on the right-hand side of the periodic table. The valence energy levels of noble gases are full of electrons and consequently these elements rarely combine with other elements.

nuclear stability - An atom that is electrically neutral has an equal number of protons and electrons.

nucleus - The center of an atom.

Octet Rule - Atoms tend to gain, lose or share electrons in order to acquire a full set of valence electrons

orbitals - The shapes of the orbits of electrons. There are four orbital shapes: s, p, d and f.

p Block elements - Elements at the right-hand side of the periodic table.

period - Horizontal rows of the periodic table.

Periodic Law - When elements are arranged in order of increasing atomic number, their physical and chemical properties show a periodic pattern.

periodic table - The arrangements of elements according to their atomic number.

principle quantum number - Often referred to as "n." This number refers to the energy of the orbitals and corresponds to the periods in the periodic table.

proton - Positively charged part of the nucleus of atoms.

quanta - Quantities of energy.

quantum numbers - Four numbers that describe the motion of electrons.

Quantum Theory - The theory that explains matter and energy at atomic and sub-atomic levels, sometimes called Quantum Mechanics.

Rutherford, Ernest - New Zealand, British physicist, 1871 - 1937.

second quantum number - Refers to the shape of the orbital.

squares of the periodic table - Every element has its own square on the periodic table where its properties are listed.

third quantum number - Refers to the orientation of the orbital.

transitional metals - d Block elements.

transuranium elements - There are 92 elements found naturally in the universe. Several elements with atomic numbers greater than 92 have been created under laboratory conditions, which are called transuranium elements.

valence electrons - The outer ring of electrons of an element.

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