

Elements of Life

On the surface, a human and a rock seem to have very little in common. Yet at their most basic level, both humans and rocks are composed of chemical elements. There are now 118 recognized elements organized into eight different groups. Some of these elements are synthetic whereas the remaining elements are found in nature. In the earth's crust, eight elements account for 98% of all matter. Approximately eleven elements account for the majority of chemicals in the human body.

Each element is composed of specified number of protons, neutrons, and electrons. The elements are numbered according to the number of protons, and then organized by number into the periodic table of the elements.

ACTIVITY: In this exercise, you will use the website WebElements (<http://www.webelements.com/>) to gather information about some of the elements found in the human body. Use the interactive periodic table at this website to gather information about the following elements: phosphorus (P), potassium (K), sulfur (S), iron (Fe), and calcium (Ca). For each of the elements listed find the following information and list this information in a Data Table format by using inserting a Table from the options listed in MS Word.

For each element, answer the following:

1. Atomic Structure
 - a. # of protons
 - b. # of electrons
 - c. # of neutrons in the most common form of the element.
 - d. # of naturally occurring isotopes and the # of neutrons in these isotopes.
 - e. # of valance electrons
 - f. Group number
 - g. Classification
2. How will this element most likely bond with other elements?
3. What important compounds will it form?
4. What is the biological role of this element?
5. What is the mass of this element within your body?
6. List a brief description of this element.
7. Uses of this element.
8. Brief history of the element

NOTE: You may work with a partner on this activity and turn in one paper for both of you.