The Elements of Life: Highlight are Involved in All Aspects of Life

Gowthamm Mandala
Student, Department of Biology, Center Grove High School (CGHS), USA
Muthyalu Ubbu
Assistant Professor, Department of Zoology, Osmania University

Abstract:
The four basic elements of life are: Oxygen, hydrogen, nitrogen and phosphorus. These four elements are abundant in the human body and in animals. There are other things that make up the human body, but the four that we highlight are involved in all aspects of life. Many of the items in the occasional table play a role in supporting life, be it directly to biochemistry indirectly in a particular support role. This is a catalog of how each element is used. What are the most important things in a person's life? Here we make an element-by-element journey through a periodic table and try to determine whether objects are important or not, and if they are important, whether there is a code appropriate to human genes.

There are many difficulties such as the biochemistry of many of the so-called essential elements is not well understood, and it is not clear how we should differentiate the elements involved in the destruction of invasive microorganisms, or the key elements in microorganisms by which we live in harmony. Generally, genes do not encode the genes themselves, but are made up of certain types of chemicals, e.g. Material, its oxidation status, the type and number of ligands attached, and the geometry of the connections.

Keywords: Timeline table, key elements, genetic codes, inanimate chemistry, chemical synthesis, chemical instruments

Introduction:
Today, the biological timeline is in much the same way as Mendeleev's chemical timetable of 1869: there are gaps and we need to do more research to fill them. The periodic table also provides the ability to obtain therapeutic and diagnostic novels, based on not only the essential, but also the non-essential, and radionuclides. Although the potential for medical chemistry in medicine was discovered more than 2000 years ago, this area of research is still relatively young.
Future advances in the development of inanimate drugs require more knowledge of how they work, including targeted areas and metabolism. The temporary identification of elements in their biological sites at the atomic level is a major challenge, which urgently requires new methods.

From the strongest blue whale to the smallest paramecium, life as we know it takes on very different species. However, all living things are made up of six identical essential elements: carbon, hydrogen,

nitrogen, oxygen, phosphorus, and sulfur (CHNOPS).

Why those things? To find out, Life's Little Mysteries contacted Matthew Pasek, a biogeochemist at the University of South Florida.

"First of all, carbon easily enters bonds with other atoms in carbon. This means that it creates large chains that act as fine bones for other atoms to which they are bound," Pasek said. In other words, carbon atoms are essential elements for building large molecules. "This makes it complicated."

But what explains the other five chemical ingredients of life? "The one thing that makes nitrogen, hydrogen and oxygen so good is that they are plentiful," Pasek said. "They also show the effects of acid-base, which allows them to combine with carbon to form amino acids, fats, lipids and nucleobases in which DNA and RNA are formed."

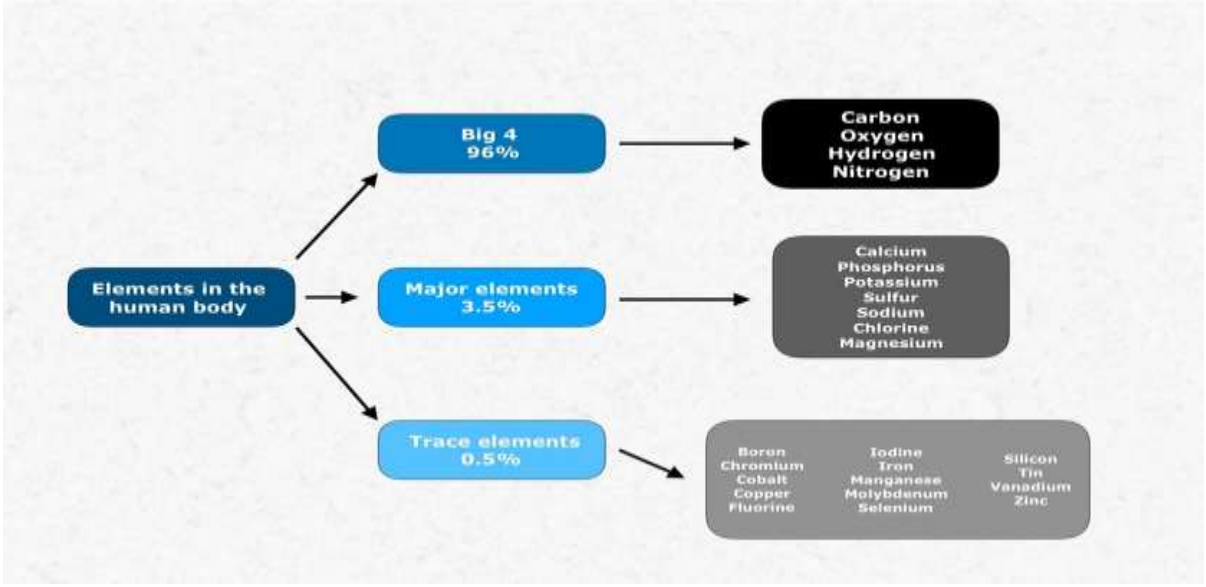
"Sulfur provides electron shuffles," Pasek continued. "Basically, with their high levels of electrons, sulfides and sulfates help stimulate reactions. Some organisms use selenium instead of sulfur in their enzymes, but not many."

Finally, phosphorus, which is commonly found in the phosphate molecule, is essential for the body's metabolism, since polyphosphate molecules such as ATP (adenosine triphosphate) are able to store large amounts of energy in their chemical bonds. Breaking the bond releases its power; do this often, say, a group of muscle cells, and you can move your arm.

Late last year, NASA scientists discovered the only known alternative to phosphorus requirements in California's arsenic-rich lake. They found a type of insect that can replace arsenic atoms instead of phosphorus in their molecules when phosphorus is low. Arsenic is like a chemical like phosphorus, making it toxic to many types of life because it disrupts the body's circulation.

In summary, "With the exception of a few, all you need for life is CHNOPS, as well as salt waste and a few metals," Pasek said. "Of course, those ingredients have to be in the right binding structure, but this seems to happen naturally. Amino acids naturally occur, as do sugars and lipids and nucleobases."What elements are present in the human body?

Scientists believe that about 25 of the known elements are essential to life. Just four of these – carbon (C), oxygen (O), hydrogen (H) and nitrogen (N) – make up about 96% of the human body.



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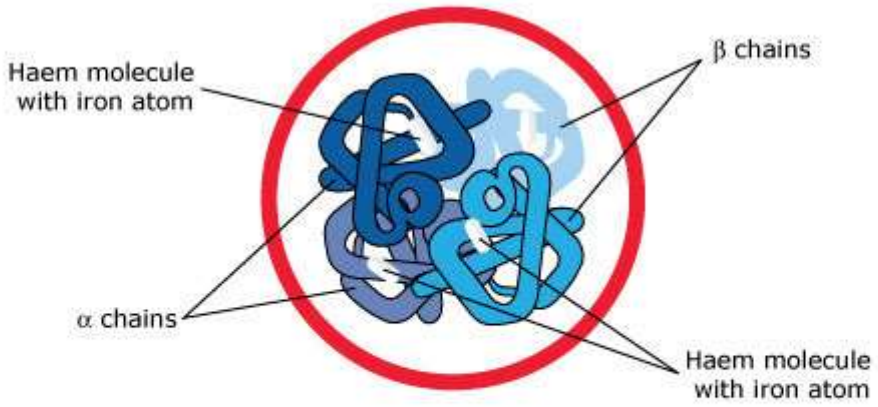
- 25 things are known to be important in life. This diagram divides the essentials into three main groups according to the required value.
- These four elements are found in the basic structure of all biochemical molecules. For example, glucose is a carbohydrate and its formula is C6H12O6 - each sugar molecule is made up of 6 carbon atoms, 12 hydrogen atoms and 6 oxygen atoms.
- Some of the findings can be divided into two main groups - major elements and tracking elements.
- The human body acts as a result of a large number of chemical reactions that involve combinations of all of these substances.
- Trace elements are important
- Although many things are needed in very small amounts, they play a vital role in keeping the body functioning:
- • 3-4 grams of iron in the body is found in hemoglobin, a substance that carries oxygen from the lungs to the rest of the body.
- **The body contains about 75 mg of copper**, about one third of which is found in the muscles. Copper combines certain proteins to produce enzymes that act as stimulants to help many bodily functions. Some are involved in the conversion of melanin to the skin color, while others help to create shortcuts in collagen and elastin and thus maintain and repair connective tissue. This is especially important for the heart and blood vessels. Studies suggest that copper deficiency is one of the leading causes of increased risk of heart disease.



Haemoglobin is made up of four chains (two α and two β), each one surrounding a haem molecule that holds a single iron atom.

Hemoglobin structure:

Iron is an important trace element. It is part of a haeme cell embedded in a large protein molecule. A piece of haeme metal can bind oxygen to it.

A well-balanced diet will provide the active body with all of its essential trace elements.

Too much or too little?

A large number of essential substances can prove to be toxic:

• Too much copper in food can lead to liver damage, discoloration of the skin and hair, and can cause malnutrition in children.

• Too much iron in food can lead to heart and liver damage.

Too little of any important thing given can lead to poor health and, if left untreated, can lead to death:

• Zinc is part of certain digestive enzymes and other proteins. Insufficient diet can lead to growth failure, swelling of the growing skin, reproductive failure and immunity.

• People with iron deficiency have symptoms such as lack of energy, fatigue and shortness of breath.

Create oxygenated water:

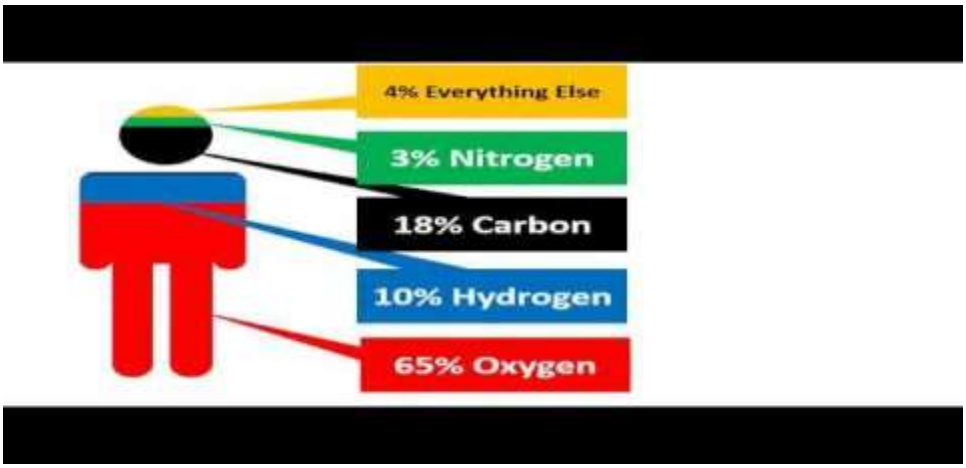
Hydrogen is one of the basic elements of organic chemistry and can be considered as the second most important element in life. It introduces to all organic molecules where they form a single bond with carbon that activates chain molecules. It is found in proteins, sugars, nucleic acids. Hydrogen was formed in the original universe and is very common today. It continues to be a major source of energy by mixing helium in the center of the Sun.

HELIUM:

Inert is a chemical, but an important step in the synthesis of many substances because three helium nuclei can connect to form carbon.

Helium nuclei also form alpha rays e.g. from radon gas, so it can be linked to genetic mutations. It also deals with the decay of Uranium-238 and Thorium-232 which burns the Earth's core.

Helium is also a by-product of nuclear fusion at the center of the Sun.



LITHIUM

Lithium is an uncommon substance on Earth, simple because of its high concentration.

Follow-up can be important for biological growth especially in the young embryo.

It can be used as an anesthetic but should not be used during pregnancy. Lithium deficiency can cause mental illness.

BERYLLIUM

Beryllium is one of the rare light-colored objects with little life function.

Beryllium-8 has a very short half-life but its energy levels are regulated as well as those of carbon-12 to allow the fusion of nuclear helium to form carbon-12.

Beryllium deficiency can cause weight loss and fatigue

BORNON

Boron is essential for plants in small amounts to strengthen cell walls.

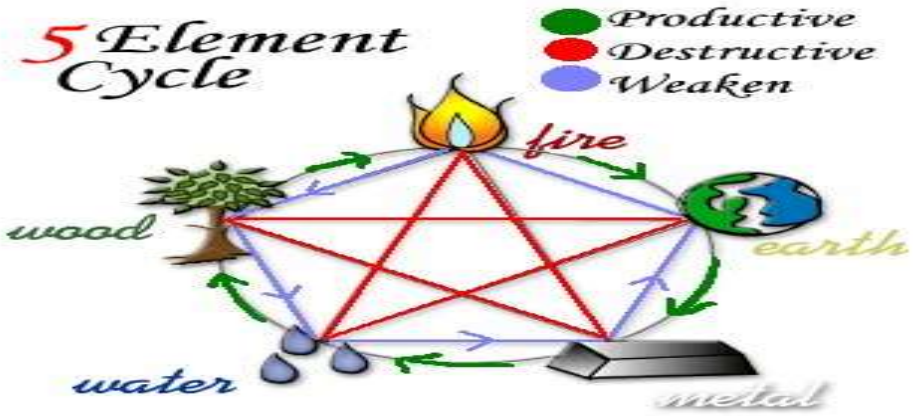
In animals it is important to track the amount of calcium metabolism used to build bones and teeth.

Lack of boron causes bone loss.

CARBON

Carbon is a descriptive element of organic chemistry and the most important element in life. It is the four interlocking bonds that allow it to form chain and branching molecules. It can form stable bonds with a variety of other substances including hydrogen, oxygen, nitrogen, phosphurus and sulfur which are essential for nucleic acids and proteins. It can also create double cord ties.

Carbon reacts with oxygen to form carbon dioxide, an important molecule in the carbon cycle between plants and animals.



1. OXYGEN:

Oxygen is the third most important element in life. It is taken into the atmosphere by animals to produce carbohydrates for energy. Plants produce oxygen from photosynthesis through photosynthesis. Oxygen creates water with hydrogen. Oxygen is present in many living organisms including all proteins.

2. FLUORINE

Fluorine is used by other microorganisms and plants but is not essential for animals. However, fluorine strengthens teeth and deficiency can be the cause of tooth decay.

3. NEON

Neon gas is the fifth largest gas in the universe, but because it is less powerful and less common on Earth it does not contribute to biology.

4. SODIUM

Sodium with salt is needed by most animals to ensure proper electrolyte balance. Too much or too little causes health problems and is therefore controlled by the kidneys in the blood. Sodium is also important in the production of nerve impulses.

MAGNESIUM

Magnesium is an important component of biological systems, present in all cells. ATP, a source of energy in cells, can only be activated when bound to magnesium ions. It stabilizes all living compounds containing phosphate including RNA and DNA. Magnesium has regenerative properties that work on chemical reactions to more than 300 known enzymes. Another important example in plants is that magnesium is needed to make chlorophyll. Magnesium deficiency in animals can cause a variety of serious symptoms.

ALUMINI

Aluminum is one of the few active materials that does not play an important role in biology. Although its mass in the universe is low (0.005%), it is the third most common element in the Earth's crust after silicon and oxygen. It is a key role and therefore helps to build a rocky substrate where life can thrive.

SUMMARY

In the first four seasons of the periodic table, all alkaline metals, alkaline earth metals, halogens and other

non-metals, and many mutation metals play a biological role. Classes of intangibles are essential to any kind of life of decent gases, metalloids, post-replacement metals and a group of three transition metals. This means that only ten of the first 36 elements have not been used in biochemistry, namely Helium, Beryllium, Neon, Aluminum, Silicon, Argon, Scandium, Gallium, Germanium and Krypton.

At the peak times Strontium, Molybdenum, Iodine, Tungsten and Mercury play a role in other forms of life. Of all the 31 natural phenomena it is known to come from biochemistry. Some things are important in life in other ways e.g. by providing nuclear energy that heats the Earth's core (Thorium and Uranium) or as a mineral substrate (Aluminum and Silicon). Helium is very important for stellar nucleo synthesis and radioactivity.

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