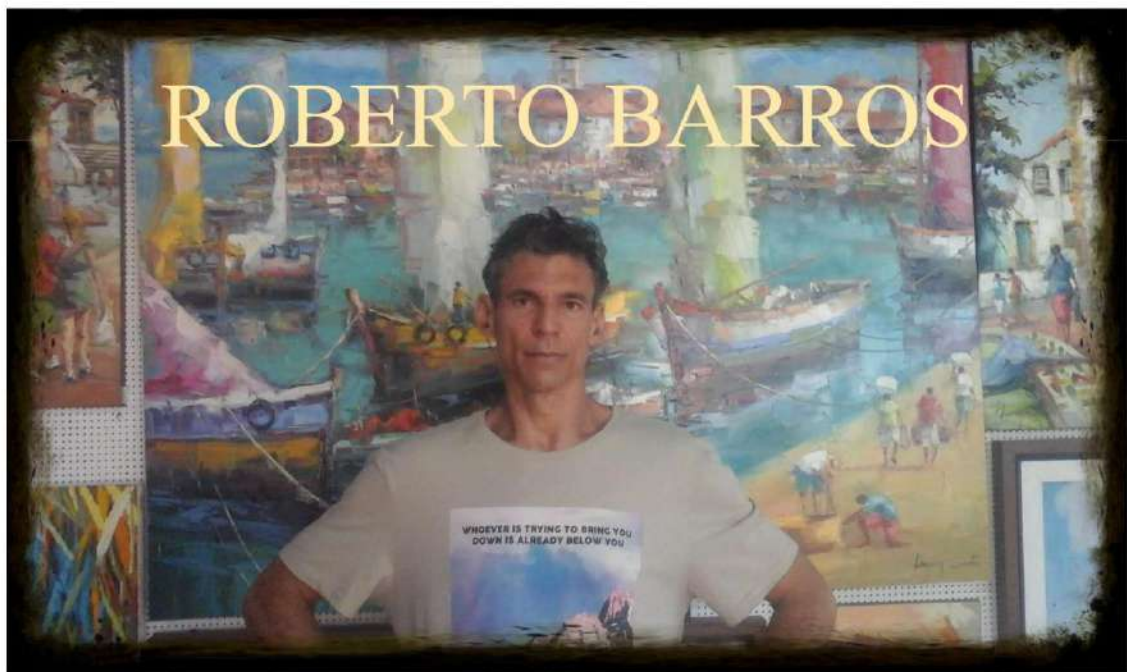


A RENAISSANCE ABOUT BIOLOGY THAT IS DEFINED IN A CHEMICAL RELATIONSHIP ABOUT ALL THE REACTIONS OF LIFE THAT IT'S CALLED FUNCTIONS AND RELATIVITIES



I want here, with a lot of love and work, to show valuable research that I did as proof of many studies that show here a well-defined relationship about a great role of man in biology that is

transcends the world of physical phenomena over the great relativity of alchemy which is called in chemistry called nuclear chemistry over every form of life, resistance and existence of the human being and natural life which is called the biological study of cells over organisms both from human being and in natural life in which we can study cells throughout the cosmos, both spatial and mental in their variable conditions, existences, transformations and life that we can discover in their chemical functions and I want to talk about chemistry and a great and first scientist called Antoine Lavoisier, who was considered the father of Chemistry, Antoine Lavoisier was the first to observe that oxygen, in contact with a flammable substance, produces combustion. He also deduced, based on chemical reactions, the famous law of conservation of matter: "In nature nothing is created, nothing is lost, everything is transformed".

Here I want to show an infinity that we build with great perfection and work on the best future and that science will reveal to us many discoveries about an unforgettable and realistic world of thinking, creating and doing. Thanks!

Who were the scientists responsible for discovering chemical elements?

Oxygen

1771

Joseph Priestley

Chlorine 1774 Karl

Wilhelm

Scheele Manganese 1780?

Hjelm

Molybdenum

1778

Karl Wilhelm Scheele

Tellurium

1782

Mueller von Reichenstein

Who were the most important scientists in early modern chemistry?

This section brings the lives and discoveries of the main scientists who contributed to Chemistry, such as Dmitri Mendeleev, Lavoisier, Avogadro, Bohr and Marie Curie.

I effectively show here that chemistry has had a great development until today in which we can understand about all the logics of the maturation of the human being that between such events and such factors, science has given great proof of great works and disciplines in the life of the human being who deeply lacks a system and source of life that we can understand today that biology teaches us about the study of life with the purpose of transforming a basis and centers of studies for the maturation and life of the human being. Biology is the science that studies life and living organisms, their structure, growth, functioning,

reproduction, origin, evolution, distribution, as well as their relationships with the environment and each other; bioscience, biological sciences [Comprises several other specialized sciences, such as, for example, ecology, biochemistry, genetics, zoology and botan

In I simply want to talk about a beginning that we can certainly now be aware of the existence of the universe and its atomic elements, which was when life gave rise to the formation of the world, creating the earth by simply an explosion that is certainly designated in a chemical fraction which we call the Big Bang, which was when the universe was densely hot and several fundamental chemical particles combined that collided and exploded, forming the particles in the primordial atom and everything had to be created from very small fundamental particles, smaller than than everything we know. How these particles were generated is still an unanswered question.

Quark, gluon, electron and photon are among the first fundamental particles formed in the Big Bang. Lemaître

He said that the entire universe was a single atom called the "primordial atom", he stated that that atom fragmented into an extraordinary number of pieces and each one fragmented into smaller ones successively until reaching the current atoms.

I want to put it firmly and say that everything is combined in a smaller fraction of the time that we designate in an atom and that we are by existences, transformations pieces of the universe that in metaphysics everything is described as a chemical reaction that in everything and through everything is established an atomic nucleus called the earth as the living beings that formed the matter. Matter is everything that has mass and volume. It is made up of molecules and atoms united and ordered in different ways, which guarantees different specific properties. There are also general properties, which are those that apply to all types of matter. Matter and energy are complementary concepts.

Here I want to designate an extraordinary role in which we can understand from the beginning that life can be an essential cause for an understanding that in everything a form of life is defined over any existence that can combine there is another like a cell can be studied further scientifically regarding the development of the universe that all the reactions and relativities of life are integrated into a reconstitution and functional development of certain fundamental elements that combine in a smaller fraction of the time in which they form in an atom in which we can show here as in biology that the logic of life would be to develop over a relative system of diverse functions that govern both the physical body of matter and the dense and subtle states that transform and make up the existence of life and here, for a simple notion, I want to talk a little about functions chemistry and molecular relativity and thank you!

THE RELATIVITIES OF MOLECULES ON THE FUNCTIONS OF THE ORGANISM

I want to say that we live in a body that can be divided from an atom into various relationships that we could classify by studying cells and atoms, a great variety of atomic elements that can be defined into a great property of certain functions that are related to the great organic development by the cells that constitute the human organism, among its most functional relationships of the spirit, such as nuclear chemistry, which begins to exert great behavior among the functions of the organism, which exerts large loads of protons and electrons that vivifies each atom in a smaller fraction of an element that was once supposed to be indivisible in a moment and in a short space enters into a great combination as space that transforms and destroys itself, giving rise to life as a centrifuge and electrons exit in a variety and combination between the cells and molecules that appear as a chemical electricity that passes from the spirit to matter, giving chemical processes and vitalizing the organism in a rectilinear movement for all organs and organic systems that we can study these theoretical functions as well as a physics of thinking and building as an electronic device that in its functions that we could observe in each material element of a computer a great relationship with the motherboard which contains the central processing unit as well as the HD which is the data storage device and the processor which is the integrated circuit capable of processing the operation of data in terms of memory, which is where the operating systems that resemble the organism are stored and we can classify a great virtue among the human body that is preserved through various processing over various chemical functions that are transformed into an atomic body called an atom in that we must preserve the most terminal nature of cells and I want them to study well the molecules that particularly

if there are beautiful constructions on atoms in which we must study in depth their development and cells in the functioning of the organism that with beautiful studies and thoughts we can create an ion cell like a bomb in which energy external to the organism will emanate which can be generalized more opponent about such chemical functions and pulsations from spirit to matter and so we can better predict diseases about each atom of protons and neutrons in which we can develop electrical bioenergy organic function and I want everyone to research the biochemical reactions of relativities and organic functions and thank you very much and enjoy a study of the relativities of alchemy and hugs!

THE RELATIVITIES OF INVISIBLE ALCHEMY

Ladies and gentlemen, I come here with an intro to tell you about my imaginations which I explain to you as a study of an alchemy that I studied and dream that it could be more generalized to infinity itself or homogenized to the universe that I tell you that scientific magic exists as well as if performs magic in a sense of reaching eternity that we never imagined by existing and being above the invisible of things that can become visible through an extensive desire to subsist behind life, making all the transformations in which God may have gone through and transformed life more visible. the very origin of life and when we talk about transmutation in relativity it would be general because we would be entering into an alchemical process of a more indivisible variety like perhaps a step over god who is omnipotent and has no beginning or end almost as much as the universe which is infinite over things omnipresent as man who can understand every detail narrated in this story that things are born from the invisible to the naked eye when there is a general understanding about the relativities of life in which life and death are distinguished about a relativity in which man can create and give his life on certain matters remaining as a study for the future of humanity on the sc

are based peacefully on the laws of God as a study of divine omnipotence on the relativities of alchemy or the alchemy of relativities as a dream and fable that we can value the existence of life over death and death over life for being more living over all man's human relations on earth.

I want to talk a little about the atomists of ancient Greece who classified matter as the elements of nature such as: fire, water, earth and air which, mixed in different proportions, would result in different physical-chemical properties as Aristotle's theory shows this composition between the human body which we call matter and which we can transmute certain substances from the invisible that will go through an alchemical process to become matter which we call the natural plane in which we can transmute from the spiritual side to the material state.

The atomists in ancient Greece

The atomists, led by Democritus and his teacher Leucippus, thought that matter was made up of tiny and invisible particles, the atoms (A-tom), "Without division". They thought that if we divided and divided again, the process would eventually stop.

For Democritus, the great variety of materials in nature came from the movements of different types of atoms that, when colliding, formed larger groups, generating different bodies with their own characteristics.

Some ideas from Democritus about atoms: Water: formed by slightly spherical atoms (water drains easily).

Earth: formed by cubic atoms (the earth is stable and solid)

Air: formed by atoms in swirling motion (air moves - winds).

Fire: formed by sharp atoms (fire hurts).

Soul: formed by the smoothest, most delicate and most active atoms that exist.

Breathing: it was considered an exchange of atoms, in which new atoms

replace used atoms.

Democritus' foundations for atoms took shape over time. Epicurus (341 BC - approximately 270 BC) complemented his ideas by suggesting that there would be a limit to the size of atoms, thus justifying the reason why they are invisible.

But even so, the most defended theory was that of Aristotle, who believed that matter would be made up of elements of nature such as fire, water, earth and air that, mixed in different proportions, would result in different physicochemical properties.

In my conception, which is about the criteria of life in which biology is classified into five kingdoms or even more because nature is a set of lives in which we can classify all the kingdoms here to have a logic and transformation of life over death and death over life that in everything and with everything in invisible alchemy we can show as the essence of life the mineral, vegetable, animal and soul kingdom that we can transcribe the fifth essence of life over an invisible world of transformation and transmutation in which the relativity of alchemy begins with the realms in which we can transmute and make materials live, both gross and dense, which are dense and subtle, which are processed by the soul, which are invisible and pass through the realm of the soul as a complete essence, turning into the fifth pleasure in which we materialize as an atom in the smallest fraction of a substantial element, life in which we can perform an invisible alchemy that will go through a process of transformation between the body, spirit and soul to create a substance, both a natural image mentalized by the mental consciousness at the same time. subconscious state of the human mind that was transformed into the natural state of matter being both liquid and solid that we can classify some existence transformed into life by the invisible alchemy in which we call quintessence.

Living world: presentation of the kingdoms The modern classification system, which distributes living beings into five large kingdoms — Monera, Protista, Fungi, Metaphyta and Metazoa

—, was created by RH Whittaker, in 1969. Thus, the known species of living beings are distributed in specific kingdoms, according to certain classification criteria.

The basic classification criteria To

classify living beings into the five great kingdoms, the following criteria were used: type of cellular

organization — defines whether living beings are prokaryotes or eukaryotes, that is, whether they are devoid of or possess a nuclear membrane, nucleolus and membranous organelles in your cells; number of cells — considers whether living beings are unicellular or multicellular;

type of nutrition — indicates whether the organisms are autotrophs or heterotrophs; This criterion also considers the way in which heterotrophs obtain their food: whether by absorption or by ingestion of available organic material.

The five great kingdoms

According to the establishment of the aforementioned classification criteria, the living world was divided into the following kingdoms:

Kingdom Monera — Covers all unicellular and prokaryotic organisms, represented by bacteria and cyanobacteria or cyanobacteria, also known as algae blue.

Kingdom Protista — Comprises unicellular and eukaryotic organisms, such as protozoa and certain algae.

Kingdom Fungi — Comprises all fungi, which can be unicellular or multicellular and are eukaryotic and heterotrophic organisms by absorption.

Kingdom Plantae or Metaphyta — Covers multicellular organisms, eukaryotes and autotrophs. This kingdom, also known as the plant kingdom, includes pluricellular algae, bryophytes (mosses and liverworts), pteridophytes (such as ferns and maidenhair), gymnosperms (such as pine trees and redwoods) and angiosperms (ipês, lemon trees, beans, grass, etc.).

Kingdom Animalia or Metazoa — Comprises multicellular organisms,

eukaryotes and heterotrophs by ingestion. This kingdom encompasses all animals, from porifers to mammals.

Here I leave a great explanation about the beautiful images that pass from a flow of our minds in which we create well through a circumstance of our subconscious and we can, through the alchemy of creation, transmute to give life as the fifth pleasure that we call the fifth essence of life that we will know about this with an atomic study of the atom about life in which we classify the relativities of life about a great and alchemical transformation between the natural elements that were converted into liquid and solid substances about life in a study focused on alchemy and chemistry in which we built life.

I want to enter a more qualified state in which life is formed by an atom in which its particles constitute life and all the natural elements that pass between the atomic forces of the universe in which we can simplify the search for existence and life simply using each atom of protein, of vitamin in transmutation the most variable liquid and solid atomic constructions in subsistence of life in which we will now show about the superlative atom to all creations:

ATOM

The word atom was proposed by the Greek atomist Democritus in 400 BC, to define the smallest constituent particle of matter. However, it is known today that atoms are divisible, but the word continues to be used to designate an organized, very small structure that makes up all types of materials.

The classical atomic model is made up of the sum of the ideas of

scientists Rutherford, Bohr and Chadwick, ideas that we will study in our class below. This is made up of a small and heavy central nucleus containing two elementary particles called protons and

neutrons, and a peripheral portion called the electrosphere, where electrons are fundamental particles of low mass that orbit around the nucleus. Observe the figure below.

Through the figure it can be seen that the radius of the nucleus is much smaller than the total radius of the atom, in real dimensions the radius of the atom can be around 10 thousand to 100 thousand times greater than the radius of the atomic nucleus.

The fundamental particles of the atom, called protons, electrons and neutrons are very small, but different in mass. The mass of the proton is very close to the mass of the neutron, with the mass of the electron being approximately 1836 times smaller than that of the proton.

Protons have a positive charge, while electrons have a negative charge, while neutrons have no electrical charge.

The fundamental physical characteristics of these particles are given below in relative values.

II. Fundamental Concepts.

Atom: extremely small and organized structure that makes up all types of materials Atomic number:

represented by the symbol Z and determines the total number of protons in the nucleus of an atom. Remember that the atom is an electrically neutral system, so the number of protons and electrons are identical for a given atom.

Z = number of

protons Atomic mass number: as we already know, the mass of the atom is concentrated in the nucleus. Therefore, the atomic mass number (A) is given by the sum of the number of protons and neutrons of that atom, as shown in the formula: $A = p + n$ or

$A = Z + n$ Chemical

element: corresponds to a set of atoms with the same number of protons (atomic number). In nature we can find atoms with different atomic mass numbers, but with the same

number of protons, these atoms are called ISOTOPES and constitute a chemical element.

Example:

^1_1H

^2_1H ^3_1H These atoms have different masses, but they belong to the element hydrogen.

The hydrogen isotopes represented above can be called: tritium, deuterium and protium, respectively.

Representing a chemical element: ^Z_AE
or ^ZAE

An

element that has 17 protons and 18 neutrons is represented as follows:

$^{35}_{17}\text{E}$ Isotopy –

Isobaria – Isotonia In nature we

can find elements or chemical species that have the same number of protons (isotopes), or with the same mass number (isobars), or with the same number of neutrons (isotones). Observe the schematic

table: ELEMENT $Z = (\text{n}^\circ \text{of } p^+)$ $A = (\text{n}^\circ P + \text{n}^\circ N)$

$N = (A - Z)$

Isotopy = $\begin{matrix} & 1 & 1 \\ 1 & & 1 \end{matrix}$

Isobaria = $\begin{matrix} & 1 & 1 \\ 1 & & 1 \end{matrix}$

Isotony = $\begin{matrix} & 1 & 1 \\ 1 & & 1 \end{matrix}$

Examples:

$^{140}_{58}\text{Ce}$

$^{140}_{59}\text{Pr}$ isobars

$^{39}_{19}\text{K}$

$^{40}_{20}\text{Ca}$ isotones

$^{16}_8\text{O}$

$^{17}_8\text{O}$ isotopes

Allotropy

Different simple substances that are formed by the same chemical element are defined as allotropic varieties. Ever

one of the allotropic varieties is the most stable and abundant in nature. The main examples are:

Cdiamond, Cgraphite* and C60 (fullerene)

O2* and

O3 Pwhite and Pred *

Srhombohedral* and Smonoclinic

* most stable allotropic form.

III - Ions.

They are atoms in electrical imbalance, that is, atoms that have gained or lost electrons.

Examples:

$12\text{Mg}^0 \rightarrow 2\text{e}^- + 12\text{Ca}^{2+}$ (note that the magnesium atom loses two electrons)

The magnesium atom has 12 protons and 12 electrons.

The magnesium ion has 12 protons and 10 electrons, so its charge is 2+.

$7\text{N}^0 + 3\text{e}^- \rightarrow 7\text{N}^{3-}$ (note that the nitrogen atom receives 3 electrons)

The nitrogen atom has 7 protons and 7 electrons.

The nitrogen ion has 7 protons and 10 electrons, so its charge is 3.

In my philosophy, everything that God creates with love is built with a feeling about the living nature of a being that would be better for you to understand because in him everything is clearer like the sunlight that is showing us on the bright side of the earth. Life the beautiful things that we cling to that we simply don't touch because it is made of love that is over any void that breaks over the human inability to be happy or love someone in life that is simply not being enlightened before God because they are relapsed from divine nature that cannot resemble the true being that God made and created over all things in paradise that we could not deceive with the negative uncertainties that insulate life in the face of the soft light of God that is over all profound things and at altitudes that we may some

day understand his space and time over our realities that are not so extensive when there is no light from our stimuli that are over any elevated feelings in life that we could not have understood his love and existence in our lives because in everything God did, created the paradise of the bankrupt and embarrassed people who have perverted from evil over the truth that cannot remain silent, invisible over everything that God has created on the earth of obstinate and uncertain men of controversial compassions over an unfaithful desire that perhaps a child would bring humanitarially this love for being more alive over the electricity that consoles our thoughts and makes us believe that the world is perfect and that we can still be happy and that perhaps we will remain constructively intact under the pretexts of God that made us illuminated by the fury of the teaching love that loves and makes us love what is good to see and feel pleasure because life would simply be a sounding board in which its rhythm can sing to us about all the positive forms and forces of life that never folded over the shadows that are broken by behind the light of day trying to forget the fear of darkness that plagues the innocent who will still know the world how beautiful and perfect it is because God made you over all the aspects that were not destroyed and may the truth of the loves that were not absorbed be well by god or whatever anonymity that could have been prescribed by the word of god as they say that angels are more cautious to stay alive and innate by the transformation of god's existence upon mortals who are consumed by madness, farce, emotional delusion that wrath the minds of men who have not yet understood to simplify their love for life how to love God over all the things that are inevitable and together we can always unite because it was God who made you and the stars in the sky like perhaps a wrath that someday we can thank him and ask him for the favor of being faithful to him like a straight arrow without deviation that cannot be our undeniable nature to the world that can become an illusion to the weakest without love who perhaps can feel that they were

always find what we are looking for because we simply learn to love and hate to consolidate ourselves in all aspects of being happy for many years that life remains pulsating and creating certain artifices that someday we will understand its pleasures and everything that God created because we are children of God and we experience the light of life in our eyes and countenances that show us how beautiful we are and we become strengthened in our memory that we witness our love for life as we pacify on the material planes the seeds that we simply keep in the soul of our thoughts that are completed on the forms and achievements that we achieve in life as a state of time in an occasion of grace that we learn to value the life that plagues us with the foolishness of youth and we see that everything that God created would be perfect because we are likeness of God and in my philosophy I simply want say that if it was God who made us, we are innate or homogeneous that through the anonymity of hidden affections we could complete ourselves on the love that made us because we would not be alive to be happy about some inferior indifference of his nature that remains for however long without unfavorable expression to the only affection that made us greater above all that we are similarity of love that perhaps we cannot say from the inside out in a few more that is simplified in the divine theory that everything that God created was with love and we learn from life less or more from its artifacts to value what God did because we wouldn't be so small and big in the hand of God who completed us in his image and love that can never be small over all the hidden affections that ruin the pure realistic compassion of living, loving and being happy because in a few years or perhaps millennia from the depths of our souls that someday we will find ourselves free from hell in paradise.

THE ALCHEMY OF THE RELATIVITY OF LIFE

The origin of alchemy is lost in time, being older than the history of humanity. Its true beginning is unknown and shrouded

in obscurity and mystery. Thus, its emergence is confused with the origin and evolution of man on Earth. The origin of alchemy is quite uncertain, as there are alchemical reports in several ancient civilizations, such as the Egyptians, Greeks, Romans, Arabs, Persians, Mesopotamians, Hindus, Chinese and Japanese. However, it is generally considered that its beginnings occurred around the 3rd century BC, in Alexandria. And classified today as a vehicle for various things in life in which we can develop various related purposes as an extensive light on various developments of human capacity on earth as a creative flow to each possibility of life and existence on a great and infinite trajectory of pulsation over life how things can identify themselves over love and hate in which everything has alchemy as alchemy for different things in which a combined and pacified relationship is absorbed between both things with human nature and all existence of life in which we can transmute different things and transform them into something living or imaginary on a point of restoration between the spirit as nuclear chemistry and matters as atomic nuclei that we see in everything and through everything we transcribe and perfect ourselves on a great and extraordinary alchemy relatively imposed on life being used as functions of creation over any existence for the material man who sees life more prone to death as for the spatial man who sees life stencil over all nature in which we can classify ourselves superlatively over the natural elements as substances of creation being used in each atom as matter of the fifth essence, remaining above all in the third plane in which we can see how life began taking into account its relativities such as that of the primordial atom as a result of the relationships and existences of god and the devil on creation perhaps from heaven and hell standing over good and evil, how the law of the entire existence of life and its unwary straining was transformed and created, the great transformation of life was generated in which small fractions of atoms were drastically concentrated in which they combined a

explosion that was formed from seminal particles on certain atomic and chemical elements on a relationship between radioactivity, electricity and magnetism that when alchemy formed from the particles into atoms, life, each element of nature being created and contained in four existences in which nature classified and is classified as water, air, earth and fire in which we can say that life and planets were created, like the earth that was formed between the four elements that entered into alchemical transformations that we can also refer to classify among them by a body called the atomic nucleus that naturally underwent a transformation of atomic and nuclear development that we have life on earth almost as a fifth pleasure with the atom, protons and neutrons combined and formed into an atomic nucleus that we have also water, air, fire and earth as related elements and as generators of our existences of life being created on earth as oxygen, blood, body, combustion and we are human beings who can also classify ourselves as earthly beings or spaces in which we take as matter the spirit and soul of the things we inhabit and that we can transmute ourselves between a cycle of both the earth and the universe, being established on a relativity of universal nature in which through an alchemy we homogenize ourselves on a deeper relativity in which we can transform us from dense to subtle and from subtle to dense, which we mean from chin and yang, which is from heaven and earth, which I mean from bottom to top and from top to bottom, leaving matter as a spiritual being, the core transmutable by the energy of spirit which is nuclear chemistry that is established on the sidereal planes of the universe when man can perhaps understand its transformation and combination that atoms enter into transformation and subtle combinations passing from the dense which is matter as an atomic nucleus to the spirit which is chemistry nuclear and the soul, the subtle electricity that was combined under the same magnetic and subtle relationship of the universe, leaving matter more static over an alchemy m

essence of life in what we call the relativity of life where all the atomic elements of life are formalized and formed, forming a living and statically developed being on the planes of universal nature.

When we talk about transmutation in relativity it would be general because we would be entering into an alchemical process of a more indivisible variety like perhaps a step over god who is omnipotent and has no beginning or end almost as much as the universe who is infinite over omnipresent things as man who can understand every detail narrated in this story that things are born from the invisible to the naked eye when there is a general understanding about the relativities of life in which life and death are distinguished on a relativity in which man can create and give life upon certain matters remaining as a study for the future of humanity on the scientific criteria that are peacefully based on the laws of God as a study of divine omnipotence on the relativities of alchemy or the alchemy of relativities as a dream and fable that we can value the existence of life over death and death over life for being more living over all human relations.

CELLS

Cells are the structural and functional units that make up all living beings. The only living beings that do not have cells are viruses.

All cells have a plasma membrane, cytoplasm and genetic material.

Cells are the structural and functional units of living beings.

All living beings are made up of cells, with the exception of viruses, which are cellular organisms. Some organisms are made up of a single cell (unicellular beings), others, in turn, are made up of several cells (multicellular beings).

Cells perform different functions and have some

basic parts: plasma membrane, cytoplasm and genetic material, which may or may not be delimited by a nuclear envelope. Cells can be classified into two large groups: prokaryotes and eukaryotes.

Humans have eukaryotic cells.

Read more: Meiosis and mitosis – two cellular reproduction processes Summary

of cells Cell is the structural and functional unit of living beings.

Viruses are acellular organisms.

There are different types of cells, which perform different functions.

All cells have a plasma membrane, cytoplasm and genetic material.

Prokaryotic cells do not have a nucleus, while eukaryotic cells have a true nucleus.

Eukaryotic cells can be divided into plant and animal cells.

Plant cells have a cell wall, central vacuole and plastids, structures absent in animal cells.

What are cells?

Cells are the structural and functional units of living beings. They are called structural units, as they form the body of living beings.

Imagine, for example, a large wall. This wall is made up of small structures, bricks. Each brick would be a cell, which, joined to the others, helps to form a multicellular organism (a living being made up of more than one cell).

Furthermore, in unicellular organisms, the cell represents the entire organism. In addition to being structural, they are functional units of living beings, and are so called because they are living units, capable of producing energy and reproducing, for example.

The term cell was coined in 1665 by Robert Hooke. Cell comes from the Latin, cellula, which means “small cell”. Hooke proposed this term because he observed a section of cork under a microscope and found only dead cells. Therefore, he only checked the presence of the wall

cell of these structures and therefore found such a cell-like structure.

Where do we find cells?

All living beings are made up of cells, with the exception of viruses.

They are found forming the body of organisms. Some living beings, such as bacteria and protozoa, have a body made up of just a single cell.

Other organisms, however, are multicellular, being made up of several cells. In some multicellular organisms, cells are grouped into tissues, which constitute organs, which are grouped into systems.

What are the functions of cells?

There are different cell types, and each one performs a different function.

There are different types of cells, each adapted to a certain function. As mentioned, in some organisms, such as protozoa and bacteria, cells represent the entire living being, since these beings are unicellular. In this case, they perform all the functions responsible for their survival.

In multicellular organisms, in turn, there are specialized cells that play different roles. Leukocytes, for example, are cells found in our body that act to protect the body against disease-causing agents.

Neurons are cells that act to ensure the propagation of nerve impulses.

Red blood cells, in turn, ensure the transport of oxygen throughout the body.

Read more: Stem cells – they are capable of transforming into any cell and a hope for medicine Basic parts of a cell

Cells are small, but very

complex structures. In general, we can say that all cells have three basic components: the plasma membrane, the cytoplasm and the genetic material.

Plasma membrane: is a structure formed by a bilayer of

lipid molecules with several proteins inserted. It surrounds the entire cell, separating and protecting all its components from the external environment. The membrane has the ability to select what enters and leaves the cell. Due to this function, we say that it has selective permeability.

Cytoplasm: in prokaryotic cells, corresponds to the entire internal region of the cell. In eukaryotic cells, in turn, the cytoplasm corresponds to the region between the plasma membrane and the nuclear envelope and is the place where cytoplasmic organelles are present. Several important chemical reactions occur in eukaryotic cells.

Genetic material: contains the information that determines the characteristics of a living being. In eukaryotic cells, most of the genetic material is contained in the nucleus, which is surrounded by a double membrane, the nuclear envelope. In prokaryotic cells, in turn, there is no nuclear envelope delimiting the genetic material.

Read also: DNA – responsible for transmitting all genetic information to daughter cells
Classification of cells

Prokaryotic cells do not have a defined nucleus, unlike eukaryotic cells.

Cells can be classified into two basic groups: prokaryotic and eukaryotic.

Prokaryotic cells

Prokaryotic cells are characterized by not having a defined nucleus. In these cells, the genetic material is not delimited by the nuclear envelope.

Furthermore, in prokaryotic cells, there is no presence of membranous organelles (small structures present in the cytoplasm that perform different functions within the cell, such as intracellular digestion and energy production). Ribosomes, structures responsible for protein synthesis, are present. As an example of organisms that have prokaryotic cells, we have bacteria and cyanobacteria.

Eukaryotic cells

Eukaryotic cells are those that have a true nucleus, with the genetic material surrounded by a nuclear envelope. In these cells, membranous organelles are also observed, such as mitochondria, Golgi complex and endoplasmic reticulum. As in prokaryotic cells, the presence of ribosomes is observed.

Examples of organisms that have eukaryotic cells include animals, plants, protozoa, algae and fungi.

Eukaryotic cells can be grouped into two types: plant cells and animal cells. Plant cells differ from animal cells due to the presence of three structures: cell wall, central vacuole and plastids.

The cell wall of plant cells is mainly made of cellulose and is located external to the plasma membrane. The cell wall provides greater resistance to the plant cell. The central vacuole is an organelle that has different functions, such as ensuring the maintenance of the cell's pH and storing substances. Finally, we have plastids, the best known type being the chloroplast, which is related to photosynthesis.

GENERAL CHEMISTRY

What is a molecule?

Carolina Batista Carolina Batista Chemistry Professor A

molecule is a set of atoms, the same or different, joined by covalent bonds.

These chemical species are electrically neutral and represent the forming unit of a substance.

There are simple molecules, such as oxygen (O₂) in the air we breathe.

However, there are also complex compounds, such as buckyballs (60 carbon atoms linked together in a sphere shape), which are the largest molecules ever found in space.

Study of the molecule

The covalent bond in a molecule corresponds to the sharing of electrons, generally between non-metallic elements.

Take the water molecule as an example of a simple compound.

water molecules

Water molecules (H_2O)

When we look at a glass of water, we have no idea that this substance is made up of several H_2O molecules. This formula indicates that water is composed of 3 atoms: two hydrogen atoms and one oxygen atom, which are sharing electrons with each other.

Sugar, which we use to sweeten juices and make cakes, is also made up of molecules. The unit that forms sugar is sucrose. sucrose molecule Sucrose

molecule ($\text{C}_{12}\text{H}_{22}\text{O}_{11}$)

This molecule is much more complex, as there are 45 linked atoms. It is made up of: 12 carbon atoms, 22 hydrogen atoms and 11 oxygen atoms.

Molecules are structures of known molecular mass, but there are also macromolecules, which are "giant structures" formed by so many atoms that their composition is undefined. An example of this type is diamond, a macromolecule formed by countless carbon atoms in a covalent network.

See also: Simple and compound substances

Covalent bond A

covalent chemical bond is established between two atoms when they share their outermost (valence) electrons. Molecules can have two types of bonds: Molecular covalent bond: the pair of electrons between the two bonding atoms is shared.

Covalent bond in the chlorine molecule (Cl_2)

Coordinated covalent bond (dative): the shared electrons come from only one of the atoms involved.

Coordinated covalent bond in ammonium (NH_4)

See also: Covalent Bond

Molecular geometry

When a molecule is formed, the atoms are positioned in different ways, so that the spatial arrangement is more stable. Therefore, the compounds have different geometries.

See below some of the geometries that molecules can present.

Molecular geometry

Linear Angular Triangular

Ex: BeH_2

Ex: SO_2

Ex: BeF_3

Pyramidal Tetrahedral Octahedral

Ex: NH_3

Ex: CH_4

Ex: SF_6

See also: Molecular Geometry: what it is, types, examples and theory

Polar and nonpolar molecules

Molecules are classified according to polarity .

Nonpolar molecules: there is no difference in electronegativity between atoms.

Nitrogen (N_2) Carbon dioxide (CO_2)

Nitrogen (N_2) is a nonpolar molecule because it is formed by the same chemical element and, therefore, there is no difference in electronegativity. Carbon dioxide (CO_2) is nonpolar due to its linear geometry, which stabilizes oxygen's attraction to electrons.

Polar molecules: there is a difference in electronegativity between atoms, with a positive pole and a negative pole. Water (H_2O) Ammonia (NH_3)

In both examples, we see that the central atoms, oxygen and nitrogen, have unpaired pairs of electrons that form electron clouds.

Because there are more electron clouds around the central atoms than there are established chemical bonds, the molecules are polar.

See also: Polar and nonpolar molecules Examples

of molecules

SubstanceCharacteristicsMoleculeFormula

HydrogenCombustible and abundant in the Earth's crust.

H₂

OxygenIndispensable for breathing and participates in several chemical reactions

O₂

SulfurYellow powder used to manufacture dyes.

S₈

Carbon dioxideUsed in fire extinguishers and refrigerants.

CO₂

EthanolCommon alcohol used as fuel and in perfumes.

C₂H₆O

See also: Molecular Formula Be sure

to check out these texts on topics related to what you just learned: Biomolecules

Organic compounds Molecular

Mass Octet

Rule Chemical Bonds

Polarity of Bonds

Intermolecular

Forces Was this

content useful? Yes No

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BIOLOGY PHYSIOLOGY

Physiology

Physiology is the part of Biology focused on the study of the functions and activities carried out by each structure that makes up a living being. Physiology is the branch of Biology dedicated to understanding the functioning of an organism, being responsible for unraveling all the physical and chemical processes involved in maintaining life. Studying the physiology of living beings is extremely important, as it is not enough to know, for example, which organs make up an organism, it is essential to understand their entire functioning and the activities carried out by each of these structures.

To understand Physiology it is necessary to have basic knowledge of several areas of Biology, such as Anatomy, Morphology, Cellular Biology, Biochemistry, Ecology and Biophysics. This is necessary, as all these areas are interconnected, and the functioning of an organism is related to processes that occur at various levels of organization.

In Physiology, we study how the organism works. Blood circulation is one of the topics covered in this area. • Human physiology Human

physiology is concerned with understanding the functioning of the human body, thus integrating chemical, physical and, of course, anatomical knowledge. This area studies everything from cells to the systems that make up the body. Among the processes studied in this area, we can mention digestion, excretion, circulation and respiration.

In human physiology, the functioning of the human body is studied. When we understand human physiology, we understand the correct functioning of the organism and, as a result, it becomes easier to understand changes in this functioning and create methods that return the body to balance. We can conclude, therefore, that this area is extremely important in the field of medicine.

Also read the text Human body to learn more about the cells, tissues, organs and systems that make up our organism. • Plant physiology Plant

physiology is the part of Botany that studies all

processes that occur in a plant, thus allowing the understanding of how plants work. In this area, all chemical and physical events that occur in the plant are analyzed and ensure its growth and development.

Photosynthesis is one of the topics covered in plant physiology.

Among the phenomena studied in plant physiology, we can highlight photosynthesis, respiration, the action of plant hormones, the movement of water and nutrients through the plant's body and plant movements.

Read also: Botanical concepts ÿ History

of Physiology The study of

physiology began in Greece around 2500 years ago.

The term physiology comes from the Greek words *phýsis* and *logos*, which together literally mean “knowledge of nature”.

One of the most influential figures in the field of ancient physiology was Claudius Galen (129-200 AD), a physician known for treating gladiators. Galen carried out several works with animals and followed a doctrine known as the “four humors”. This doctrine was based on the idea that the body was made up of four different fluids: blood, phlegm, yellow bile and black bile. According to this doctor, the heart, liver and brain were the main organs of the human body.

Another figure that deserves to be highlighted is Andreas Versalius (1514-1564), who published, in 1543, the work entitled *De Humani Corporis Fabrica*.

This work became known as a major milestone in both the study of anatomy and modern physiology, initiating a new way of understanding how the body works.

Another study that deserves to be highlighted is that of William Harvey (1578-1657).

He proposed the theory that blood circulated throughout the body thanks to the pumping provided by the heart. Until that moment, the most accepted theory stated that blood was constantly produced, and not that it circulated throughout the body. Harvey's work, without a doubt, was fundamental to the understanding of several other physiological processes.

The greatest advances in this area of Biology occurred, however, throughout

of the 19th century, especially in Germany and France. At this time, there was an understanding of cell theory and the development of experimental physiology. In the latter case, we must highlight the work of Claude Bernard, who is considered the father of contemporary experimental physiology and highlighted the importance of experimentation.

In the 20th century, several processes were discovered, and the understanding of biochemistry and molecular biology was fundamental for deepening knowledge in physiology. With technological advances, this area continues to grow and many processes are yet to be understood.

By Ma. Vanessa dos Santos

Would you like to reference this text in a school or academic work? See:

SANTOS,

Vanessa Sardinha dos. "Physiology"; Brazil School. Available in:

Exercise 1

In the history of the study of Physiology, we know that several people were essential to the development of this branch of Biology. One of the most influential was a doctor who treated gladiators and said that the body was made up of four fluids: blood, phlegm, yellow bile and black bile. Analyze the following alternatives and mark the name of this important doctor: a)

Claudius Galen

b) Andreas Vesalius

c) William Harvey

d) Claude Bernard

e) Robert Hooke

Exercise 2

Today we all know that blood circulates through the body thanks to the pumping of the heart, however, previously, the idea that blood was constantly produced by the body was accepted. The researcher who first proposed this idea of pumping blood through the

heart was

a) Claudius

Galen b) Andreas

Vesalius c) William

Harvey d) Claude

Bernard e)

Robert Hooke

Articles

Physiology Biology

Circulatory shock Check here causes, diagnosis and treatment of the different types of

Biology

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Pain Pain is a bad sensation we feel when something in our body doesn't...

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Biology Click

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Urine formation

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Formation of a pearl

Process that occurs due to the penetration of foreign substances...

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HDL and

LDL Have you ever heard of HDL and LDL? Discover what these molecules are

It is...

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The...

Somatotropin

Biology Understand what somatotropin is, its function, how it is generated and...

Biology

Sweat Click here and find out what sweat is, what hyperhidrosis is, where sweat is...

Biology

Testosterone

Learn a little more about testosterone, an important hormone...

I would like to thank you with great pleasure for this work carried out here at the Edu academy, which will help everyone to understand and study better the functions and relativities that can be developed in our organism and organic system and thank you all very much and a big

hug!

HUMAN ANTHROPOLOGY AND ITS TRICEPS ASPECTS AND A EXAMPLE OF BIOCHEMICAL FUNCTIONS

We really need to disseminate a simple idea in which man can reveal to us what we are and where we are going and that space would be a place to make us think and understand about various atomic aspects which in turn made us more physical among various ideas that can remake ourselves on a great variety supposedly equivalent to the elements that make us up and their particularities that they reserve for us in a nucleus called the human body so that we can simply understand their dynamics and organic functions that are exposed on the body, spirit and soul and we will decipher this question that by a contradictory effect we can accept its dynamics that can vary on the dense material body and the subtle spiritual body that we are going to prescribe as a lesson that there is a science that makes us understand called anthropology which is simply the science that is dedicated to the study of human species in its entirety, taking into account its origin, development (physical, social, cultural), behavior, psychology, racial particularities, habits, customs, knowledge, beliefs and perhaps its aspects because it is combined with the electricity of the spirit that governs and makes nuclear chemistry studies the transformation of one element into another through the emission of energy in the form of radiation, but it is not just to harm man that Nuclear Chemistry exists, it also brings benefits such as the use to generate energy to replace the energy generated by hydroelectric plants, and has applications in medicine, agronomy, industries, etc....

I believe that we have stopped pacifying the more relative side of life that transforms us every second of existence because of the organic functions that would be like a transmission generator to the atomic nuclear center that classifies us between a relationship between man and nature

human and elemental that proposes to us several chemical reactions that come into action and combination of certain substances of development, growth that makes our organisms develop under certain classes and food chains that we can prescribe all these systems of metamorphoses under a great variety and construction of cells to all organic chains as a particularity and development of the human being.

The atomic bomb is the result of nuclear fission!

Let's talk about the body, which is atomic and makes us feel its pulsating functions in all the chemical reactions of the spirit, as well as the universe that generates the human body, which is made up of thousands of cells, which are united to form tissues, organs and systems. The various systems of the human body work together to guarantee the functioning of the organism as a whole and consequently, our survival and we must know that there is a formation between our organic system, when checking administrative practices and relationships with the external environment of organic organizations, defined that unlike mechanistic organizations, it is a model suitable for flexible activities with complex development in an unstable environment and when we talk about an Organic Organization, we are talking about a company that has adopted a management model focused on human development . Companies that adopt this organic organization need to have a decentralized decision system, as well as a flexible hierarchy.

I simply want to talk better about their work and functions that always align with all the educational purposes in which we sow life between various and

fearless ideas about the notion of the human being in life who can have the right to such functions that would not allow destruction among the free will of the human being who is on a more straightforward panorama, capable of living that due to certain and deserted incapacities could have better consulted the scope of evolving on planet earth in which we could conceal any biological issues more prudent and

effective the human relationship of human life with animals that we can exalt good reasoning between the animal, vegetable and mineral kingdoms that we go from small living beings that we are fatally apprehending and conquering every day our planet that seems to be voracious our desires and dedication in which we ourselves can narrate certain opinions between our planet and living beings because I think we are sweeping too solid a field to believe in the existence of life because I believe we have weakened our wills about such consequences that we could simply say how much we are selfish with ourselves as much as the planet could understand the will and function of our knowledge that is giving us life and death with such consequences that we can someday understand the origin of being alive better than perhaps unraveling in various achievements that they simply go from more esoteric dreams that make us believe about such existences as nature is showing us up close its effects and side functions on the planet itself that is expanding from side effects of its existence on various destructions of human beings who do not think and rewards each shelf its role in life that is about virtues and greed of the ambition that would be in physics in relation to its construction, its own end as failure, destruction over various dilemmas of evolution and contradiction that the human being can understand perhaps among its triple aspect in which we can also unveil their knowledge and support that makes us sufferers today, perhaps from some heroine in distortion with the relationships of life in which human beings can contain themselves, act and survive certain disseminations between time and space that today we total in half a period of vast time a path that we follow in search of some answer in which we only find infertilities that we may have collected in the past and cooled down in the future in which we can still believe today that the world can be perfect in which people still they avoid and destroy, between life and death, desirable dreams that make h

maturity over uncertain ironies that time shows us how much we do and the earth forces us to establish certain doctrines between perhaps the way of living and relating to nature while the human being shows its devastating role that doesn't even make me think of the time of the monkey that perhaps we could have effectively shown more love and affection towards our planet that gave us life and that today is facing extinction perhaps by establishing false rules that define the true inconsequential value between the human being and the animal that supposedly can favor us on certain occasions in which it would only fit us between understanding and extinguishing that we better preserve our lives as we strengthen the dark side of life that we cannot be more aware of the true value of the human being that perhaps makes us twilight our days among a world of wars between a challenge between terrible beasts and human machines to undo in human beings and in life their sick actions as nature consumes us through deconstructions created supposedly in a small interval of time and in a short space called an atom which in a smaller fraction of an element is capable of entering into a combination, in a short space and moment in which perhaps we can still witness the construction of life between a universal relativity in which life was created in a smaller fraction of an element and the human being appears unchallenged with its artificial dynamics that, due to ignorance itself, would almost not be able to conquer the space that could perhaps tell us, could make us understand why we live and that nature would just be a reaction of life that is clearly being ruined by living beings that are ineffective against perhaps the highest and most ambitious way of thinking about the poor planet that expands with each moment of circulatory and vibrational life in circumstances of life and death, making us understand that we could reap something better between both things devoid of ambition and the punishing disappearance of perdition and that one day everything can come to terms with the existence of life in mere distraction that makes man die early betw

still appears to be socialized to the world that closes itself between four walls for the inhumane who try to discourage and ruin their own existence when nature reflects life and gives us an abundance of our pleasures and deforestation would perhaps be an indifferent cause of the human being who may one day understand the superlative effect that consumes us between great earthquakes, burning of the soil and forests that burn because of the flora and the terrible deforestation that harms the flora and fauna causing the biodiversity of life and even today we seek to improve the ecosystem if we have to protect nature against the fearless robberies of human beings who pretend to be innocent when large industries spill large quantities of chemicals into rivers that are absorbed into the water of seas and rivers, causing the death of several fish and marine animals and human beings conserving themselves and industrializing their desires, which in the future were nothing more than fearless twists and turns of nature, which due to the ozone layer, which in breathing and cells, uses oxygen and releases carbon dioxide. We cannot forget that oxygen, under the action of the Sun's ultraviolet rays, gives rise to ozone, which forms the ozone layer and today we are wondering how man was the moon to show us what the world is like and we can only of dreamers of the future that here we sow what we harvest among perhaps certain more evolved human beings with a human nature that makes us understand that we are returning perhaps between several countries to the beginning of the world that is this most confusing Big Bang that among so many scientific theories we can understand the cause or side effect that defines and refines us between life, perhaps more between time and space, making life denser so that we can productively eliminate every feeling and bad mood of the soul that we can disseminate the unrealities with the realities that make us confused in the social environment in which we live. that we barely believe in education, which would be the most scholarly and constitutional means for human development, and nature makes us die due to man's poor conscience about life, who is a slave to his own thou

value your life in terms of the simple existence of your planet that has always welcomed you among a perhaps more captive and insufficient world of pleasures and devastating power that has always killed human beings in life about your inconsequential extortion and way of living and I want to talk about the space that has always formalizes us between perhaps a ceremony of time in which we meet almost empty inside a planet that has always shown us where life originated and that its existence would in fact be the universe that specified our thoughts that someday we will all understand about perhaps its resonance that dances along with its pulsations of lives and deaths, everything being based on the cause and creative feat of mother nature and that this formality that is exposed on perhaps four constructive elements that gives us life, love and hate that is called air, water, earth and fire in which we can perhaps understand that in matter there is life and that the atom is endowed with four elements that vivify us and give us life called an atom that in the smallest fraction of an element we can classify matter as the atomic nucleus that between the combination of the spirit vivifying each atom on the periphery and exhaust outlets and escapes of electrons in a combination of supposed author, indivisible moment and short space and we can thank the space man who formalized us among so many ideas that today we can say that life would be more clear and easy and that we can understand why we are alive and that life would be eternally an existence of the universe that we will fully one day learn to value its existence and its own life. We really need to disseminate a simple idea in which man can reveal to us what we are and where we are going and that space would be a place to make us think and understand about various atomic aspects which in turn made us more physical among various ideas that can reconstruct ourselves on a great variety supposedly equivalent to the elements that compose us and their particularities that they reserve for us in a nucleus called the human body so that we can simply understand their dynamics and organic functions that are exposed on the body, spirit and soul a

It is contradictory to be able to accept its dynamics that can vary between the dense material body and the subtle spiritual body that we are going to prescribe as a lesson that there is a science that makes us understand called anthropology which is simply the science that is dedicated to the study of the human species in its totality, taking into account its origin, development (physical, social, cultural) which we can simplify as the body we demonstrate its physical state and its spirit as its chemical development which is spiritual which we base on its social development as the soul shows its effectiveness through the creative system of cultural development that systematically applies different flavors as a very warm recipe to a class that potentially makes us react and govern all shades of life, controlling the body and mind, establishing a dilemma for the atomic nuclear system that systematically we can understand its value and consistency over all life and we will talk about the spirit that shows us electrical means over all the formalities of life and its resistance that completes the nucleus and gives us life called nuclear chemistry which studies the transformation of an element in another through the emission of energy in the form of radiation. Nuclear Chemistry studies means of using all materials that undergo the phenomenon called radioactive decay which is Invisible, strong and Vitaline or the light of existing life that by the nature of a life or the creation of a life establishes itself to pulsate within the nucleus. nuclear that is extinguished in several functions that is one thing and no one goes too deep with the unshakable conscience to put themselves in conflict and be with the soul or perhaps be in conflict with the Self, Spirit of struggle, spirit of life or whoever gives life always with us until the turn of life or time. In a few words, the spirit is our conscience that can be good or bad and is capable of guiding our attitudes. Therefore while the soul is present in anyone as long as that individual is alive, the spirit of a person can be eternal while the soul always predominates over the life of the body and subt

constructions that human beings build in their souls because their emotions of love or hate constructions about life are simply sound and constructive, which can tell us how perfect or imperfect we are with our constructions and capabilities in which the mind aligns with all the processes that vibrate over organic functions distracting us and involving us in all the intimacies of life and social well-being or ill-being that we can only build under an atmosphere of habits appropriate to our human natures that we can say that we will be studying something relative to an ethnography that is the descriptive study of the different ethnicities, of their anthropological, social characteristics and we just need to be able to deal with the perfect orders as a defined manifestation and function created by a region of social prosperity and we must certainly move into the future , we see a restriction or perfect stage of strict and rigorous laws, a reality that pushes us more to the lower walls of society that always exposes itself to conflict and learning so that we can move forward and save ourselves from the dark and cruel disadvantage that always brings back to the world and life trying to avoid us the benefits that may be deceiving us in our dreams that we will not use the future as a precision to simplify something of power and value about the disintegration of life because we can still be the winners of a society more powerfully and voluntarily that we are capable of administering the perfect commands that give rise to a certain version of human progress in life and we can say that we are socialist creators of no blame to themselves for life that we can sociologically unravel to contain and will as ethnography because we are capable of building the world and we do not care about the weakness of life because we are a descriptive record of the material culture of a certain people who always overcome and we can manage life according to socialist ideas and within them always suppress the human well-being in life because they are the realities of steel with the simple desire of the conqueror w

the simple conditions created by life that we call art and we want to simplify the ethnography that studies and reveals the customs, beliefs and traditions of a society that are transmitted from generation to generation and allow the continuity of a culture or social and particular system. Ethnography is intrinsic to all aspects of Cultural Anthropology, which studies the processes of social interaction and the knowledge, ideas, techniques, skills, rules of conduct and habits acquired in the social life of a people who never allowed themselves to be imperfect in order to conquer life. . class and live the power to overcome and take everything as abstractions of life that we can simply manage each class and conquer the power as the first point of restoring a source of high value and appreciation for our actions and work performance for some purpose that we will never has to close as a resolution and aim for progress as dignity and prosperity to live in accordance with human rights and responsibilities as a genuine process of man on the threshold of progress, satisfaction, achievement of real life as a daily example in a context which seems more like the rules and laws of social life in the world that we call the means of progress, which are the laws of return based on a socialist impotence that we must always adhere to and never see our commitments as an idea to make life an incomplete structure that tomorrow you will have to give examples of your ideas and it is the opposite that we seek from the present to the past and from the past to the future on the path of profit and in this way we will overcome the lions by crossing the paths of domination which is the existence of human power in your life in which we can say that we are able to change a story according to the time in which the seconds passing by for the interruption of life leads us to wake up and code at a point of unexpected recovery where life is not an estimate of failures but of gains that we must always pay attention because here we exaggerate the potential failure and we live and we must always progress as a lesson that we can commit ourselves to managing o

We call it power.

We really need to disseminate a simple idea in which man can reveal to us what we are and where we are going and that space would be a place to make us think and understand about various atomic aspects which in turn made us more physical among various ideas that can reconstruct ourselves on a great variety supposedly equivalent to the elements that compose us and their particularities that they reserve for us in a nucleus called the human body so that we can simply understand their dynamics and organic functions that are exposed on the body, spirit and soul and we will classify this issue that by a contradictory effect we can accept its dynamics that can vary on the dense material body and the subtle spiritual body that we are going to prescribe as a lesson that there is a science that makes us understand called anthropology which is simply the science that is dedicated to the study of human species in its entirety, taking into account its origin, development (physical, social, cultural), behavior, psychology, racial particularities, habits, customs, knowledge, beliefs and perhaps its aspects because it is combined with the electricity of the spirit that governs and makes nuclear chemistry studies the transformation of one element into another through the emission of energy in the form of radiation, but it is not just to harm man that Nuclear Chemistry exists, it also brings benefits such as the use to generate energy to replace the energy generated by hydroelectric plants, and has applications in medicine, agronomy, industries, etc....

The atomic bomb is the result of nuclear fission!

Perhaps we are improving ourselves under a great list of activities in which we can particularly review an explanation that we will think of the body in its densest state of any materiality that we are only subject to material prejudices due to the flesh due to a religious fiction being weak to the spiritual planes that are in elevation to everything that proposes to us and absorbs us completely into dust because it is from dust that the human being was generated among a

aspect and atomic reaction that commits us to the terrestrial planes and according to spiritualism and science, space can be considered homogeneous to our nature that simply in everything and everything contains us under a relationship of three atomic elements called protons, electrons and neutrons that versificantly we call matter which is called atom so that we can understand its manifestations, development and constructions on the material plane in which we can understand all the relationships of life with nature as a key to material entry and exit in which the forces and forms of nature are It builds and destroys itself in a movement of construction and death, leaving life as a generator of setbacks for the human being and we can establish norms and doctrines, both spiritual and material, vivifying each atom between its natural relationships with the universal and material nature in which we call the first plane in which they are well encoded to the dense and subtle state of the universe in which it passes into the material state causing life on earth. We really need to disseminate a simple idea in which man can reveal to us what we are and where we are going and that space would be a place to make us think and understand about various atomic aspects which in turn made us more physical among various ideas that can reconstruct ourselves on a great variety supposedly equivalent to the elements that compose us and their particularities that they reserve for us in a nucleus called the human body so that we can simply understand their dynamics and organic functions that are exposed on the body, spirit and soul and we will classify this issue that by a contradictory effect we can accept its dynamics that can vary on the dense material body and the subtle spiritual body that we are going to prescribe as a lesson that there is a science that makes us understand called anthropology which is simply the science that is dedicated to the study of human species in its entirety, taking into account its origin, development (physical, social, cultural).

I would like to show you this fantastic text that I made a book created and developed by myself and that I did so with great honor and satisfaction,

that served as support for me to know the body, spirit and soul that we sought here for an existence in the life that I maintain as security of my life against illnesses and diseases that the world is not in touch with the reality of life itself and I want you to feel the nobility of my studies on life behind the happiness of living and being happy that are wrapped up in these countless pages theoretically by great masters of science and with great curiosity of my wisdom that rises alongside my book that enters like an emanation of light on life and its life contexts and be happy in full health.

I want to firmly highlight and indicate to readers that this compendium created and created by me is an extraordinary memory that I keep with love and affection so that everyone can read and understand with extraordinary firmness that the life within us is something very precious for human beings and children of God and know how to understand all the details narrated in these small sheets that were born from a feeling and thought that life is like an eternal box to never stop playing the same song or the same life that is a constant impulse throughout life .

Biology is the science that studies living and living organisms, their structure, growth, functioning, reproduction, origin, evolution, distribution, as well as their relationships with the environment and each other; bioscience, biological sciences [includes many other specialized sciences, e.g., ecology, biochemistry, genetics, zoology, and botany].

The vitamin is in biochemistry each of the organic molecules, present in relatively small quantities in living beings, but essential for metabolism.

Mineral salts are nutrients that provide important substances such as sodium, potassium, calcium and iron, etc.

A biochemical protein is a macromolecule composed of one or more polypeptide chains, each with a characteristic amino acid sequence and molecular weight; protid [represents a large part

of the mass of living beings and is necessary in the diet of animals and organisms that do not carry out photosynthesis.].

The cell is a microscopic structural and functional unit of living beings, consisting essentially of genetic material, cytoplasm and plasma membrane.

The human body is a set of bone and muscular structure that includes the human organism. It is also responsible for maintaining human life, along with all other vital functions that the human body performs.

Bodybuilding is a complex of muscular movements.

The mineral is a natural solid and crystalline body formed as a result of the interaction of physicochemical processes in geological environments.

Each mineral is classified and named not only based on its chemical composition, but also the crystalline structure of the materials that compose it.

The plant kingdom is the kingdom of nature that groups plants, a vast set of multicellular eukaryotic organisms, without motility and mainly photosynthetic autotrophs, containing cells that generally include one or more chloroplasts, organelles.

The mineral kingdom, different from the animal and vegetable kingdoms, is made up of everything that does not have life, for example, water, soil, gas, minerals, rocks. The origin of minerals characterized by the cooling of magma, the precipitation of salts or the rearrangement of ions (metamorphism).

Plant the kingdom: concept, is, meaning. The kingdom of Plantae is a concept that belongs to the area of biology and refers to the group made up of all land plants, including mosses on the large trees of the Amazon.

Enzymes are organic substances with the function of catalyzing other chemical reactions and improving the production of compounds essential for our health.

Autoimmune disease is a failure in a functional division of the immune system called self-tolerance, which results in immune responses against the body's cells and tissues. Any illness resulting from this

This type of response is called an autoimmune disease.

The atoms of the thinkers of atomism, each of the tiny eternal and indivisible particles that combine and disintegrate moved by the mechanical forces of nature, thus determining the characteristics of each object.

The chemical element is the set of atoms with the same atomic number, that is, with the same number of protons in their nucleus. The atomic number is the number of protons an atom has in its nucleus.

Physiology is the study of the functions and normal functioning of living beings, the physical-chemical processes that occur in cells, tissues, organs and systems, these, you were a healthy life; biophysiology.

Functions common to all living beings, also called vital functions, include: reproductive functions, including gametogenesis, fertilization, propagation of spores or other reproductive structures, etc.; metabolism functions, such as breathing, eating; the functions of catabolism.

Genes, in the definition of classical genetics, are the fundamental unit of heredity. Each gene is made up of a specific sequence of nucleic acids, the most important biomolecules in cellular control, as they contain genetic information.

Chemistry is the scientific study of the constitution of matter, its properties, transformations and the laws that govern them.

Biochemistry is an interdisciplinary science (or branch) that uses chemical principles and methods to study the transformations that occur in substances and molecules of living beings and their metabolic processes; biological chemistry, physiological chemistry.

Alchemy is the chemistry of the Middle Ages, which sought to discover the universal panacea, or remedy all physical and moral ills, and the philosopher's stone, which was supposed to transform metals into gold; spagyria, spagyric.

Metaphysics in Aristotelianism, a fundamental subdivision of philosophy, characterized by the investigation of realities that transcend reality

sensitive experience, capable of providing a basis for all particular sciences, through reflection on the primary nature of being; philosophy above all. in Kantianism, the study of constitutive forms or laws of reason, the basis of all speculations about super-sensitive realities (the cosmic totality, God or the human soul) and the source of general principles for empirical knowledge.

The body first understands what the body is, because it is the visible part, that is, what we experience in the physical world. There are passages in the Bible that state that God created man from the dust of the ground, which emerged in Roman Catholicism and Islam.

The organic composition of the body is 72% water, 14% carbon, 9% hydrogen, 5% nitrogen and 3.5% distributed among 15 other elements, such as calcium, potassium, sulfur, sodium, iodine, chlorine, zinc , between others. Coincidence or not, this is also the same organic composition as the earth. In other words, the land that gives life to human beings is the same land that produces food.

The Bible is very emphatic that Jesus became man in all things, but he was also 100% spirit. But for God, the body is his address, or sanctuary, or tabernacle of flesh, or even a little God.

The soul in the New Testament recognizes the soul as a "psyche", translated from Greek as an invisible inner part. It is considered the seat of emotions that functions in the field of the human mind and emotional feelings. Also in the Old Testament, four categories of souls were suggested: the biological soul (linked to emotions in the physical sense), the eternal soul (a gift from God, a differentiated soul), the soul as citizen and the soul as feeling (feelings such as joy and sadness).

The spirit is the part that connects Christians to God, it is the connection with spiritual things. It is something that belongs only to man. In the Bible, we see that the spirit was swollen in Adam's nostrils. The connection between the spirit and God occurs through prayer, praise and glory to him.

The spirit can govern man's life and character, representing nature and transforming it every day into the true image and likeness of God, it is the active principle of our spiritual life and is also immortal. Responsible for maintaining a connection with God and receiving his knowledge.

Homogeneous is what has the same nature and/or has structure, function, distribution, etc. similar in relation to (is said of something compared to another). It is what presents great unity, adhesion between its elements.

Physics is a science that investigates the laws of the universe in relation to matter and energy, which are its components and their interactions.

Quantum physics is a branch of theoretical science that studies all phenomena that occur with atomic and subatomic particles, that is, those equal to or inferior to atoms, such as electrons, protons, molecules and photons, for example.

The five kingdoms are the most complete category and include living beings with similar characteristics, but some important peculiarities.

Currently, we consider the existence of five kingdoms: Monera, Protista or Protoctista, Fungi, Plantae and Animalia.

The seven and five senses are taste, touch, smell, sight and hearing are not the only senses of the human body. We often hear the statement that we have five senses. But what scholars such as neurologist Alvaro Pascual-Leone and psychologists Daniel Simons and Christopher Chabris, from Harvard University in the United States, say is that our ability to perceive the world, internally and externally, goes far beyond the 5 basic senses and Aristotelian.

To get an idea of what this means, we can try to answer the questions. At first, the title request for a silly receipt: in school we learned that there are only five: sight, hearing, touch, smell and taste. Then came fiction to expand our horizons: the film "The Sixth Sense" introduced us to another, responsible for the perception of extra-sensory and supernatural experiences, while in the universe of the cartoon "Knights of the Zodiac" it is possible to reach the eighth

sense, it would be superior to all the others. But which of these assumptions is right?

The answer may seem absurd, but a little research leads us to the answer that we are not limited to the "classical" senses - however, even fiction does not find the correct explanations. The numbers vary according to the research carried out and range from a minimum of 9 to a maximum of 33 different perceptions.

Break the Myth

The most common senses we know and learn about are called the "fundamental senses." The classification is attributed to the Greek philosopher Aristotle and takes into account the most basic methods of perception of the human body, capable of explaining our relationship with the various stimuli in the environment. However, this does not mean that this information is incorrect, but merely incomplete.

Touch, taste, smell, vision and hearing are part of a consensual response: they all exist, but can be extended to more complex classifications. The problem is that there is no official formulation for how many senses there are in the human body.

As the more complex ramifications involve more specific scientific knowledge, we will address what the four additional senses of our body would be.

perceptions

Outside of fiction, perception has nothing to do with "I see the dead" or any other kind of supernatural experience. Two of the senses are strongly related to daily sensations, but you don't even think they fall into this category. proprioception When you close your eyes, for

example, you can feel the muscles and limbs of your body, even if you cannot see them: this is called the sense of proprioception or spatial position of the body. See how important it is: close your eyes and place your right index finger on your belly button. The person responsible for unconsciously "showing" you where these body parts are located is proprioception.

balance

Another important perception concerns balance, which is one of our body's most important senses. After all, it is responsible for making us stand up, walk, feel gravity acting on our bodies and play sports, for example. It works by moving the fluids present in the inner ear, which oscillate according to our actions.

The superpowers of the

skin One of the most fascinating mechanisms of the human body is what the nervous system is capable of doing with the skin. It reacts to contact with any object - otherwise if we touch it with an ice cube or a grate, for example. It is responsible for the other additional senses of the human body.

It is in the skin that the largest number of additional senses are concentrated, thanks to the high number of different nerve endings.

What we call touch, therefore, can be expanded into thermoception, which is the act of feeling changes in temperature, such as cold water or when approaching the stove, for example.

Furthermore, this is a very important defense function, as it keeps us away from possible dangers, such as very high or low temperatures. But like the body's other senses, it doesn't work without the help of other mechanisms. nociception This

perception

is generally associated with other senses, as it is activated to warn of pain. It can be a physical presence of touch, such as a fist or needle, to thermal wounds (such as burns) and chemical wounds (such as inflammation). Those responsible for detecting this are sensors that spread throughout the body called nociceptors.

The inner senses

But none of these senses would have worked without brain activity and the nervous system. In addition to the mechanisms already mentioned, the organism is capable of manifesting perceptions that you don't even realize how it works, but which are essential for our existence. The functioning of organs can also be considered senses

isolated, such as filtering the kidneys or releasing secretions from the liver.

Without going into more complex issues, it is possible to mention perceptions such as hunger, thirst or the passage of time. Furthermore, according to some of the studies that increase the number of human senses to 21 or 33, even the most specific parts of the body make the list, such as various sensory receptors spread throughout the lungs, brain or spinal cord.

Synesthesia

Some people say they are able to relate colors, smells, sounds or tastes, even if they are not present in the environment, such as combining green and a sweet taste or immediately smelling a meat smell when you see the image of a barbecue being cooked. , for example.

This is synesthesia, a very curious phenomenon regarding the senses.

Anyone who is capable of mixing more than one sensory plane, causing effects as in the examples mentioned above. Generally, this activity is related to the use of hallucinogenic drugs, but there are those who develop this "superpower" without the help of any substance. Now that you know that the human body has more than five senses, notice during your daily life how often you use each of the complementary senses and be alarmed at what it would be like to live without it.

The seven chakras and their meanings there are seven main chakras associated with the endocrine system of the human body, located along the spinal column, from bottom to top, they are: basic, sexual, umbilical, cardiac, laryngeal, frontal and coronary.

Mental power, we are talking about your ability to change your life.

Many of us are aware of the existence of a "subconscious" mind, but we don't necessarily know what it is, what it does, or how we master it.

Yoga or yoga means to control, to unite. It is a term of Sanskrit origin, a language found in India, particularly in the Hindu religion. Yoga is a concept and a philosophy, which works the body and mind, through the traditional disciplines of those who practice it.

Psychology is a science that deals with mental states and processes, human behavior and its interactions with a physical and social environment. It is a set of psychological traits characteristic of an individual or group of individuals.

Now, we will decipher several questions that I used here with a lot of love for everything related to life and its variant strategies, in which we see the human body much more effective in our eyes, which perhaps does not simply see the relationship of the human being between science and science. life and thank you all!

WHAT IS BIOLOGY?

What is biology? Who has never asked this question when studying this subject? This science is linked to the study of life in all its nuances.

Biology studies life in its most varied aspects Before we start studying any discipline, we need to know what it is.

It was probably this question that brought you here: what is biology, after all?

The name of this science derives from the combination of two Greek terms: bio, which means life, and logos, which means study. Therefore, we say that biology is the science responsible for the study of life in all its aspects. But you're wondering: what would life be like? And, after all, what aspects are studied by biology?

As incredible as it may seem, the first question is not easy to answer, because life does not have a definition accepted by all scientists. It is very difficult to clearly define what life is without excluding some clearly living organisms. Until then, the vast majority of researchers had established that a living being is an organism that exhibits metabolism, reproduces and is subject to evolutionary processes.

Other questions arise from the definition of life: what is metabolism?

What is reproduction? What is evolution? We can say that metabolism is the biochemical reactions that occur in the body and in

cells of a being. Reproduction is the ability to generate a new living being. Finally, evolution concerns the changes that living beings undergo over time. Therefore, for an organism to be considered alive, it must carry out biochemical reactions in its body, be capable of generating offspring and undergo changes over time.

Now that we know what life biologists study, it remains to know the factors related to life that were specifically studied by Biology. Unfortunately, even this answer is not simple, as this science deals with all the characteristics of a living organism. When we study this science, we analyze the physical and chemical characteristics of a being, the structures of its cells, its genes, how organs work, how the development and evolution of a living being occurs, how this organism relates with others and with the environment, among many other fundamental aspects to understand how a being is established or established on the planet.

Faced with so many questions to be answered by a living being, it was necessary to divide biology into different areas so that the study could proceed satisfactorily. Botany, for example, is an area of biology that studies plants. However, there is no professional who studies all aspects of plants, as there are botanists specialized in anatomy, physiology, taxonomy, genetics and many other aspects.

It is worth highlighting that biology does not exist just to describe living beings. It was with this that we made wonderful discoveries, such as those that occurred in the field of health and that contributed to the prevention of various diseases and the treatment of problems that were previously death sentences. This science has also achieved wonderful results in genetics, such as the creation of genetically modified organisms. Furthermore, biology plays a vital role in crime, helping to hold criminals accountable by studying biological material at crime scenes.

It is clear, therefore, that biology, despite being extremely broad, complex and full of questions to answer, is also an area full of

of beauties and fascinating aspects that make us understand the importance of each being, from the macro to the microscopic. In this space, you will discover the most curious points of biology and delve deeper into essential topics for this science. Discover the most fascinating texts on the study of life in the texts below.

Vitamins

Vitamins are organic compounds not synthesized by the body, which are incorporated through food.

They are essential for the functioning of important biochemical processes in the body, in particular as catalysts for chemical reactions.

The main sources of vitamins are fruits, vegetables, legumes, meat, milk, eggs and cereals.

Partial vitamin deficiency is called hypovitaminosis, while excessive vitamin intake is called hypervitaminosis. Avitaminosis is the extreme or total lack of vitamins.

There are also provitamins, substances from which the body is capable of synthesizing vitamins. For example: carotenes (provitamin A) and sterols (provitamin D).

Vitamins are found in a wide variety of food types Vitamins are divided into

two groups depending on the substance in which they dissolve: • Fat-soluble vitamins:

These are fat-soluble vitamins and therefore can be preserved. This group includes vitamins A, D, E and K. • Water-soluble vitamins:

these are vitamins B and vitamin C, which are soluble in water. They cannot be stored in the body, making cases of Hypervitaminosis rare. They are also quickly absorbed and excreted.

Fat-soluble vitamins

Vitamin A (retinol / beta-carotene) •

Functions: tissue growth and development; antioxidant action; reproductive functions; integrity of the epithelium, important

for vision. •

Sources: liver, kidney, cream, butter, whole milk, egg yolk, cheese and blue fish. Sources of carotenes present in carrots, zucchini, sweet potatoes, mango, melon, papaya, red peppers, broccoli, watercress, spinach.

• Hypovitaminosis: keratinization of the mucous membranes lining the respiratory tract, digestive tract and urinary tract. Keratinization of the skin and eye epithelium. Skin changes, insomnia, acne, dry peeling skin, decreased taste and appetite, night blindness, corneal ulcers, loss of appetite, growth inhibition, fatigue, bone abnormalities, weight loss, increased incidence of infections. •

Hypervitaminosis: joint pain, thinning of long bones, hair loss and jaundice.

Vitamin D

• Functions: absorption of calcium and phosphorus. Helps the growth and resistance of bones, teeth, muscles and nerves; • Sources: milk and dairy products, margarine and enriched cereals, fatty fish, eggs, brewer's yeast. • Hypovitaminosis: bone anomalies, rickets, osteomalacia; • Hypervitaminosis: hyperkalaemia, bone pain, weakness, failure to thrive, calcium deposits in the kidneys; Vitamin

E (tocopherol) • Functions: antioxidant action, protects cells from damage caused by free radicals, helping to prevent cardiovascular diseases and some

types of cancer. • Sources: vegetable oils, walnuts, almonds, hazelnuts, wheat germ, avocado, oats, sweet potatoes, dark green vegetables. • Hypovitaminosis: hemolytic anemia, neurological disorders, peripheral neuropathy and skeletal myopathy. • Hypervitaminosis: no toxicity is known. Vitamin K

• Functions: catalyzes the synthesis of blood clotting factors in the

liver. Vitamin K works to produce prothrombin, which combines with calcium to help produce the clotting effect, and is necessary to maintain bone health. • Sources: green leafy vegetables, liver, beans, peas and carrots. • Hypovitaminosis: tendency to bleed. • Hypervitaminosis: dyspnea and hyperbilirubinemia.

Water-soluble vitamins

Vitamin C

• Functions: antioxidant, healing, acts on the growth and maintenance of body tissues, including bone matrix, cartilage, collagen and connective tissue. • Food sources: citrus fruits, berries, apples, tomatoes, potatoes, sweet potatoes, cabbage, broccoli. •

Hypovitaminosis: bleeding points on the skin and bones, weak capillaries, fragile joints, difficulty in healing wounds, bleeding gums.

Exotic fruits are also excellent sources of vitamin C.

Complex B vitamins.

B vitamins include eight vitamins, which are:

Thiamine (B1) • Functions: Release of energy from carbohydrates, fats and alcohol.

Sources: wheat germ, peas, yeast, fortified breakfast cereals, peanuts, liver, potatoes, pork and beef, liver, cereals, legumes. •

Hypovitaminosis: Beriberi

(pain and paralysis of the extremities, cardiovascular changes and edema), anorexia, indigestion, constipation, gastric atony, insufficient secretion of hydrochloric acid, fatigue, general apathy, weakening of the heart muscle, edema, heart failure and pain system chronic skeletal muscle.

Hypervitaminosis: may interfere with the absorption of other B vitamins.

Riboflavin (B2)

- Functions: provides food energy, growth in children, restoration and maintenance of tissues.
- Sources: yogurt, milk, cheese, liver, kidney, heart, wheat germ, vitamin cereals, cereals, blue fish, yeast, eggs, crab, almonds, pumpkin seeds, legumes.
- Hypovitaminosis: cheilosis (cracks in the corners of the mouth), glossitis (edema and redness of the tongue), blurred vision, photophobia, peeling of the skin, seborrheic dermatitis.

Niacin (B3)

- Functions: necessary for the production of energy in cells. It plays a role in the actions of enzymes in fatty acid metabolism, tissue respiration and elimination of toxins.
- Sources: lean meats, liver, blue fish, peanuts, vitamin cereals, milk, mushroom cheese, peas, green leafy vegetables, eggs, artichokes, potatoes, asparagus.
- Hypovitaminosis: weakness, pellagra, anorexia, indigestion, skin rashes, mental confusion, apathy, disorientation, neuritis.

Pantothenic acid (B5)

- Functions: transformation of energy from fats, proteins and carbohydrates into essential substances, such as hormones and fatty acids.
- Sources: liver, kidney, egg yolk, milk, wheat germ, peanuts, nuts, whole grains, avocado.
- Hypovitaminosis: neurological diseases, headache, cramps and nausea.

Pyridoxine (B6)

Functions: plays a role in the central nervous system, participates in lipid metabolism, the structure of phosphorylase and the transport of amino acids across the cell membrane.

- Sources: wheat germ, potatoes, bananas, cruciferous vegetables, walnuts, walnuts, fish, avocado, sesame seeds.
- Hypovitaminosis: central nervous system abnormalities, skin disorders, anemia, irritability and convulsions.

- Hypervitaminosis: ataxia and sensory neuropathy.

Biotin (B8) •

Functions: energy production through food, fat synthesis, excretion of protein residues.

Sources: egg yolk, liver, kidney, heart, tomato, yeast, oats, beans, soy, nuts, artichokes, peas and mushrooms. • Hypovitaminosis: skin changes.

Folate (B9) - Folic acid •

Functions: acts as a coenzyme in carbohydrate metabolism, maintains the function of the immune system, together with vitamin B12, is present in the synthesis of DNA and RNA, in addition to participating in the formation and maturation of cells blood. •

Sources: green leafy vegetables, liver, beetroot, wheat germ, vitamin cereals, nuts, peanuts, cereals, legumes. • Hypovitaminosis: megaloblastic anemia, mucosal lesions, neural tube malformation, growth problems, gastrointestinal disorders, changes in the morphology of nuclear cells.

Cobalamin (B12)

• Functions: acts as a coenzyme in the metabolism of amino acids and in the formation of the heme part of hemoglobin; essential for the synthesis of DNA and RNA; participates in the formation of red blood cells • Sources: animal feed, liver, kidneys, lean meat, milk, eggs, cheese,

yeast. • Hypovitaminosis: pernicious anemia, megaloblastic anemia, gastrointestinal

disorders. • Find out what it is used for and where to find each type of vitamin A poorly varied diet causes diseases resulting from avitaminosis Vitamins promote several benefits for the body, in addition to keeping the body functioning. According to nutritionist André Veinert, they also belong to a group of organic nutrients that promote physical and mental well-being. Therefore, they must be consumed daily in adequate portions.

The amount to be ingested may vary according to age, sex,

person's health and physical activity. Vitamin doses need to be increased and strengthened in pregnant and lactating women and people with health problems - explains the expert.

Vitamins are classified according to the substances that dissolve them. Vitamins A, D, K, E are fat-soluble, that is, soluble in fat. If taken in excess, they can harm the body. Vitamin C and B complexes (1, 2, 3, 5, 6, 8 and 9) are water-soluble (water-soluble). They are excreted by the kidneys and can be consumed every day.

The logo warns of a lack of vitamins in the body, which can cause avitaminosis and other diseases.

- Absence may be caused by a somewhat varied diet. Those who do not consume fruits or vegetables can develop certain diseases as a result of avitaminosis - he says.

But remember that abusive consumption also becomes a health risk. Ask for expert advice, maintain healthy habits and exercise, to keep your entire body and mind in perfect harmony.

Discover the main vitamins and their most important functions:
Vitamin A

Plays a very important role in the vision, growth, development and maintenance of the skin. Where to find it: animal feed, dark green leafy vegetables, yellow to orange fruits.

Vitamin D

It is fundamental in bone metabolism, which helps prevent diseases such as rickets, osteomalacia and osteoporosis. Where to find it: fish liver oil, butter, cream, egg yolks and salmon.

Vitamin E

It is related to the prevention of conditions associated with oxidative stress, such as aging, cancer, cardiovascular diseases, among others. Where to find: almonds, corn oil, soybean oil, egg yolks, walnuts, wheat germ.

Vitamin C

Helps strengthen the immune system, helps in the process of

absorption of iron by the body, combating stress and acts as a natural antibiotic. Where to find: pineapple, strawberry, lemon, orange, passion fruit.

Vitamin K

It is important for good blood clotting to be present in fat in foods, mainly of vegetable origin. Where to find it: Green foods like green leafy vegetables and vegetables like cabbage, broccoli, and parsley.

Vitamin b12

It is associated with the functioning of all cells and also with nervous tissue. Its absence can cause neurological changes and the development of megaloblastic anemia. Where to find it: liver and kidneys, milk, eggs, fish, cheese and meat.

Vitamin B1 (thiamine)

It keeps the nervous and circulatory systems in good condition and helps with blood formation and carbohydrate metabolism. Prevents aging, improves brain function, fights depression and fatigue. Where to find: leafy vegetables (lettuce, spinach), eggplants, mushrooms, whole grains, beans, nuts, tuna, beef and birds.

Vitamin B2 (Riboflavin)

Prevents cataracts, helps repair and maintain the skin and produce the hormone adrenaline. Where to find: vegetables, whole grains, milk and meat.

Vitamin B3 (nicotinamide)

Reduces triglycerides and cholesterol and helps the nervous and immune systems function properly. Where to find it: yeast, lean meat and poultry, liver, milk, egg yolks, whole grains, leafy vegetables (broccoli, spinach), asparagus, carrots, sweet potatoes, dried fruit, tomatoes, avocado.

Vitamin B5 (Pantathenic Acid)

Contributes to the formation of red blood cells and chemical detoxification. Prevents cartilage degeneration and helps build

antibodies. Where to find it: meat, eggs, milk, whole and whole grains, peanuts, yeast, legumes (broccoli), some fruits (avocado), cold-water fish ovaries, royal jelly.

Vitamin B6 (pyridoxine)

Reduces the risk of heart disease, helps maintain the central nervous system and immune system. Additionally, it relieves migraines and nausea.

Where to find: whole grains, sunflower seeds, soybeans, peanuts, beans, poultry, fish, fruits (bananas, tomatoes, avocados) and vegetables (spinach).

Vitamin B7 (biotin)

Promotes cell growth, helps in the production of fatty acids and reduces blood sugar. Vitamin B7 prevents baldness and also relieves muscle pain. Where to find: poultry meat, liver, kidneys, egg yolks, cauliflower, peas.

Vitamin B9 (folic acid)

Promotes hair and skin health. Vitamin B9 provides nutrients to ensure the maintenance of the immune, circulatory and nervous systems and helps fight breast and colon cancer.

Vitamin B12 (cobalamin)

It acts on red blood cells, nerve cells, hormonal balance and skin beauty. When the consumption of foods rich in vitamin B12 is reduced, it is necessary to take a dietary supplement to avoid anemia and other complications. Where to find: liver, kidneys, meat, fish, eggs, milk, cheese.

MINERALS

Minerals are inorganic chemical compounds that, if grouped together, give rise to different types of rocks.

Set of different minerals for economic use Minerals are naturally formed inorganic chemical compounds that have a well-defined molecular structure. They can form on Earth or appear on the planet through meteorites and others.

non-terrestrial space bodies.

Currently, there are more than four thousand minerals listed and, as geological studies advance, more and more are discovered. Minerals, some of which have been mined since 2014, for example, a group of researchers discovered a new mineral present in a meteorite that was collected in Antarctica in the 1960s. The name of the mineral is Wassonite and it was produced on Earth only in research by laboratory.

Atoms, in general, have a crystallized structure with a consolidated chemical chain, responsible for giving this mineral its physical properties. As we have already said, they are always of inorganic origin, therefore materials of organic origin are called mineraloids, such as pearl and amber.

Depending on their composition, minerals can be classified as metallic and non-metallic: Don't stop now... There's more

after the ad;) a) Metallic minerals: as the name suggests, they are those composed of metallic chemical elements. They are generally good conductors of electricity. Examples: aluminum, iron, copper, etc. b) Non-metallic minerals: those that are not composed of metallic chemical elements, such as diamond, limestone and sand.

The study of minerals is complex. The observation of its characteristics follows some different criteria, namely: 1) Crystallization: corresponds to the three-dimensional geometric shape of the mineral.

2) Color: corresponds to the external color of the mineral, with the wavelengths absorbed by its chemical composition.

3) Transparency: the ability of minerals to absorb or not absorb light, which can be divided into translucent and opaque.

4) Brightness: amount of light reflected by the mineral.

5) Hardness: is the mineral's ability to scratch and not be scratched.

6) Trail: the color of mineral powder.

7) Fracture: is the irregular surface of the mineral resulting from its

break.

8) Density: is the number of times that a mineral is heavier than an equal volume of water.

9) Splitting: breaking level of minerals on a flat or regular surface.

10) Electromagnetic properties: the ability of minerals to conduct or not conduct electrical current and their ability to relate to magnetism, among other properties of a similar level.

WHAT ARE MINERAL SALS?

Mineral salts are part of the necessary inorganic substances that the human body needs to function properly. Like water, they are generally simpler molecules, but they perform very important functions.

They can be dissolved or not, and found in skeletal structures, in the form of ions necessary for metabolism. Living beings cannot produce minerals internally, unlike organic nutrients, which can be synthesized from other substances. Therefore, it is necessary to obtain these inorganic nutrients externally, through ingestion already in the necessary organization.

In the case of the human body, for example, they help in the formation of bones and teeth, in the transmission of electrical commands, in coagulation and in balancing the fluid transition between cells and the rest of the body. When the body lacks mineral salts, it is possible that this deficit leads to death.

Find out more about mineral salts, their importance in the human body and what are the main salts we use in our bodies: What are the main functions of mineral salts?

Among the various functions of mineral salts in the human body, the following stand out: if:

- Important substances in the formation and repair of bones in the body, especially those related to calcium;

- Regulation of enzyme performance, through presence in the body; •

Central role in balancing osmosis processes; •

Participate in the formation of some mainly organic molecules; It is important to note that the human body is unable to produce its mineral salts. Unlike some organic nutrients, which end up being converted into calories through various processes, salts cannot simply be replaced. Therefore, it is necessary to ensure that the diet always includes an adequate amount of substances.

Main mineral salts used by the body Among the various mineral salts used, some stand out for their central functions in the body:

Football

Calcium is one of the most abundant minerals in the human body. It adapts mainly to bone and dental structures. In addition to actively participating in bone formation, it is an essential part of cell permeability control mechanisms.

Calcium is also important in the muscular, hormonal and blood spheres, releasing hormones and participating in blood clotting.

Iron

Iron is another mineral essential for the functioning of the body. More specifically, it helps in the formation of hemoglobins, which are necessary for transporting oxygen and nutrients throughout the body. It is also directly related to oxygen in the muscle, storing the substance in the cells.

Fluoride Best known for its orthodontic use, fluoride helps with dental and bone health, in addition to participating in the construction of tissues

and cells Phosphorus Phosphorus has two main functions in the human body. One is the substance's participation in skeletal formation, together with calcium. The other is its energetic importance, being part of the composition of ATP, an energy molecule that all cells in the body

our body use to carry out its activities.

Iodine Iodine is essential in the cardiovascular, skeletal, urinary and respiratory systems. Furthermore, it is central to the composition of the thyroid, one of the most important in human metabolism. Furthermore, it is essential in the growth process not only of humans but also of numerous organisms.

Magnesium Magnesium is a mineral salt that is slightly less common in nature, but is absolutely important, especially in the process of duplicating nucleic acids. Furthermore, it helps in the transmission of nerve impulses, exchange of electrons and synthesis of certain nutrients in the body.

Potassium Potassium, like sodium, acts directly on nerve impulses. It is also important for the regulation of metabolism, from problems related to water, to the regulation of blood pressure and the production of certain nutrients in the body.

Sodium Sodium is a fundamental part of the electrical impulses of nerve cells. It is also involved in the process of regulating water and pressure in the body.

PROTEIN

Proteins are the most abundant organic macromolecules in cells, fundamental to the structure and function of cells. They are found in all types of cells and viruses.

They are formed by amino acids linked together and joined by peptide bonds.

Amino acids

Amino acids are organic molecules that have at least one amino group - NH_2 and one carboxylic group - COOH in their structure.

General Amino Acid Structure

Proteins are polymers of amino acids linked together by peptide bonds.

A peptide bond is the union of the amino group (-NH_2) of one amino acid with the carboxylic group (-COOH) of another amino acid.

They are the basic units of proteins. All proteins are formed by the sequential connection of 20 amino acids. Some special amino acids may be present in some types of proteins.

Protein composition

With an extremely high molecular weight, proteins are composed of carbon, hydrogen, nitrogen and oxygen and practically all contain sulfur. Elements such as iron, zinc and copper may also be present.

All proteins are made up of a set of 20 amino acids, arranged in several specific sequences.

Types of proteins

Depending on their function in the body, proteins are classified into two main groups: •

Dynamic proteins: this type of protein performs functions such as defending the body, transporting substances, catalyzing reactions, controlling metabolism;

- Structural proteins: as the name suggests, their main function is the structure of cells and tissues in the human body. Collagen and elastin are examples of this type of protein.

Protein classification

Proteins can be classified in the following ways: Composition

- Simple

proteins: release only amino acids during hydrolysis; • Conjugated

proteins: upon hydrolysis, they release amino acids and a non-peptide radical, called a prosthetic group.

Regarding the number of polypeptide

- chains • Monomeric proteins: formed by only one polypeptide chain; •

Oligomeric proteins: more complex in structure and function, they are made up of more than one polypeptide chain.

Regarding form •

Fibrous proteins: most fibrous proteins are insoluble in aqueous media and have very high molecular weights. They are generally formed by long molecules with an almost rectilinear shape and parallel to the fiber axis. This group includes structural proteins, such as collagen in connective tissue, hair keratin, muscle myosin,

among others; • Globular proteins: have a more complex spatial structure and are spherical. They are generally soluble in aqueous media. Examples of globular proteins are active proteins such as enzymes and transporters such as hemoglobin.

Find out more, read

also: • protein structure

Polymers •

Biomolecules

Protein function The main functions of proteins are: • energy supply; Cell

structuring; • Catalyst of biological functions, in the form of enzymes; • Regulation of metabolic processes; • preservation of substances;

• transport of substances; • Build and repair tissues and muscles; • Body defense, in the form of antibodies; • Production of hormones and neurotransmitters.

Foods rich in proteins Foods

rich in proteins Foods rich

in proteins are those of animal origin and in smaller quantities of vegetable origin: • Animal

feed: meat, various fish, eggs, milk and dairy products; • Plant-based foods: beans, lentils, soybeans, quinoa, wheat, peas.

What are proteins used for? Understand its importance in our foods Protein-

rich foods bring many benefits to the body, including improving brain health. Are you definitely tired or

discovering that proteins are one of the essential nutrients for the body to function properly. Do you know exactly why this is so important? To begin with, it is worth remembering that athletes who want to gain lean mass and increase muscle definition do not opt for a diet rich in this substance by chance: proteins are made up of amino acids that contribute precisely to tissue growth. In addition, they also replenish lost energy, help defend the body, transport substances throughout the body and act on the nervous system. Take a look at the article to find out more details!

Protein is an essential substance in the diet of athletes. Anyone who is an athlete or practices daily physical activities must be very careful when choosing the type of food to follow, so that the body has the necessary energy to perform the exercises and improve the results of training. Among the most suitable foods are those that are rich in proteins, precisely because they provide more energy and contribute to the increase in lean mass and the definition of muscles - both protein supplements, such as the one using whey protein, are allies of the diet who want faster results.

This increase in mass is related to the fact that proteins appear as building nutrients, which act directly on the formation and growth of tissues.

The substance has a regulatory function - and an example is insulin. Another important advantage of proteins is that they help regulate certain metabolic functions. A good example of this is insulin - which, although many people don't know it, is a protein hormone. Often mentioned in diabetes, it is responsible for controlling blood glucose (sugar) levels and its deficiency can cause serious

problems for those suffering from the disease.

To increase insulin production and reduce resistance to the substance, the tip is to focus on foods that can be true allies in this function, such as cinnamon, flax seeds and green leafy vegetables.

Can help strengthen nails and hair

Did you know that proteins can also bring aesthetic benefits, strengthening nails and hair? But, to really take advantage of this advantage, it is necessary to follow a diet rich in the substance - since, absorbed through food, it breaks down into small amino acids that satisfy the body's main needs before acting on secondary parts.

Protein provides a feeling of satiety and speeds up metabolism

When it comes to increasing the feeling of satiety, foods rich in fiber are the most remembered, but proteins can also contribute to this function! This is because the substance is digested slowly, which makes the body feel full more quickly and does not need to alternate between meals. Furthermore, it also helps to speed up metabolism, which is great for those who want to lose weight in particular.

Greater immunity is also among the benefits

For the body to be disease-free, it needs protection against the action of harmful agents. Antibodies: in fact, they are defense proteins that increase immunity and prevent foreign bodies from causing complications in the body, which are the ones that

perform this function. This is why anyone who has the flu, cold or any other health problem that affects the immune system should opt for a diet rich in proteins to enjoy all the benefits of the protective function that this substance has.

High protein diet also affects brain health Our brain needs a specific amount of amino acids –

that is, proteins - to function well, with their cognitive functions properly activated. Therefore, this is another reason to increase the absorption of this nutrient through the consumption of certain foods, such as meat, cheese, eggs, tofu and beans.

The result is a healthier nervous system, with much greater concentration, concentration and better motor coordination.

WHAT ARE CARBOHYDRATES?

Click here and learn about carbohydrates, important substances that serve as a source of energy for all living beings.

With the exception of honey, carbohydrates are only found in

vegetables. Carbohydrates can also be called carbohydrates or sugars and are the main source of energy for living beings, and are present in different types of food. With the exception of honey, all carbohydrates are of vegetable origin, such as cereals (rice, wheat, oats, etc.), roots and tubers (potatoes, cassava, carrots, beets, etc.), legumes (beans, peas, soybeans) etc.), fruits (banana, mango, apple, etc.) among many others.

In addition to serving as a source of energy, carbohydrates also have a structural function, as they participate in the formation of some structures in living beings, such as cellulose and chitin. Furthermore, carbohydrates participate in the structure of DNA and RNA.

Carbohydrates are the main source of energy for living beings.

Carbohydrates can be classified into three groups:

monosaccharides, disaccharides and polysaccharides.

Monosaccharides are very simple sugars and their main representatives are glucose (produced by plants during photosynthesis), fructose (present in honey) and galactose (present in milk). Monosaccharides are soluble in water.

Disaccharides are formed by the union of two monosaccharides and their best-known representatives are sucrose and lactose. You

Disaccharides are soluble in water.

Sucrose: formed by a glucose molecule and a fructose molecule. Sucrose is the sugar we consume at home, which we use in our coffees, juices, sweets, etc. This carbohydrate is found mainly in sugar cane and beets.

Lactose: formed by a glucose molecule and a galactose molecule. It is the sugar present in milk and is the main source of energy for the baby during breastfeeding.

Polysaccharides are formed by the union of hundreds and even thousands of monosaccharides and are not soluble in water. The best-known examples of polysaccharides are: •

Starch: main source of energy in our foods. Plants use starch as an energy reserve, which is why we can find it inside the stems, but mainly in the roots, tubers and seeds. • Cellulose: cellulose is the main component of the plant cell wall. • Chitin:

main constituent of the exoskeleton (external skeleton) of arthropods, such as insects, arachnids, crustaceans, etc.

The main function of carbohydrates is to provide energy. As we have seen, carbohydrates are essential for living beings, as in addition to serving as a source of energy, they are also part of the constitution of several important structures. This is why we must maintain a balanced diet, as this way we can obtain all the nutrients necessary for our body to function properly.

ILLNESSES

Information and summary about various diseases, symptoms, prophylaxis, medications, treatments and forms of contagion.

Diseases and other topics •

Allergies: allergies, their manifestations, antigens, antibodies, immunoglobulins, histamine, lymphocytes, ...

- Diseases caused by fungi - The main diseases caused by fungi in humans, ...
- Amebiasis: information about amoebiasis, protozoa, causes, diagnosis, symptoms, ...
- Anemia - What is anemia, symptoms, health problems, ...
- Arthritis: information about arthritis, its causes, types, processes...
- Osteoarthritis: more information about osteoarthritis, its causes, types, photos,...
- Ascariasis - Discover what this disease is, forms of contamination , ...
- Autism: information about autism, mental disorder, cause, treatment,...
- Kidney stones
 - What is kidney stone, kidney stone, causes,...
- Mumps: what is mumps, symptoms, causes, disease, transmission, contagion, ...
- Cholera - What is cholera, disease, forms of contamination, symptoms, ...
- Celiac disease - Find out more about celiac disease, causes, symptoms, treatment, ...
- Diseases caused by bacteria - The main diseases caused by bacteria in humans,...
- Diseases caused by protozoa - The main diseases caused by protozoa in humans,...
- Migraine: discover what this disease is, causes, symptoms, treatment, ...
- Scurvy - What is scurvy, symptoms, lack of vitamin C, ...
- Leptospirosis: characteristics of leptospirosis, symptoms, treatment, prevention, contamination
- Typhoid fever - typhoid fever, bacteria, symptoms, how to avoid, transmission, prevention, information ...
- Heartworm - heartworm or elephantiasis, transmission, mosquito transmitter, heartworm, characteristics
- Giardiasis: information about giardiasis, protozoa, cause, infection, symptoms, ...

- Gigantism: what is gigantism, the cause, characteristics, growth hormone • Hansen's

disease: Hansen's disease, bacteria, causes, transmission, symptoms, disease prevention • Jaundice: information

about jaundice, causes, types, pigments biliary • Hypertension:

...

information about hypertension, causes, triggers, symptoms, ... •

Urinary

infection - urinary tract infection, Escherichia coli bacteria, causes, symptoms, prevention, treatment •

Leishmaniasis: information about leishmaniasis, manifestation, types, symptoms, transmission, ...

- Leukemia - Leukemia, a disease that causes abnormal production of blood cells ... •

Alzheimer's disease - Find out more about this disease, symptoms, treatment, information •

Parasitosis - What are the human parasites, the most common, the diseases...

- Polio: more information about polio, viruses, infantile paralysis, vaccine,... • Cold:

what is a cold, symptoms, causes, diseases, transmission, contagion,... •

Rotavirus -

Rotavirus - Information about diseases caused by rotavirus, rotavirus, ... •

Rubella - What is rubella,

symptoms, health problems, ...

Measles: information about measles, symptoms, stages of • ...

Scabies: information about scabies, skin infections, mites, itching, ... • Sinusitis

- Learn more about this disease, symptoms, treatment, prevention, viral.

WHAT IS THE CELL?

WHAT IS BIOLOGY?

Understanding what a cell is and that all organisms are made up of this structure was essential for the advancement of biology. The cell is the smallest living unit of living

beings. Cells can be defined as the structural and functional units of all living beings. These structures are alive, carry the genetic information of a given organism and are capable of transmitting this information at the time of cell division.

According to cell theory, all living organisms are made up of cells. In unicellular individuals, a single cell constitutes the entire body of the sample; In multicellular beings, several cells are needed that work together to form the body. Man is an example of a multicellular organism and bacteria are examples of unicellular beings.

When we look at cells from different organisms, we can see that they have very different morphological characteristics. In our body, for example, there are more than 100 different types of cells.

It is worth highlighting, however, that, although they are visually distinct, when we analyze their internal organization and biochemical processes in detail, we can conclude that they are quite similar, even in different organisms.

What are the basic parts of a cell?

A cell is made up of some basic parts. We normally say that all cells have a plasma membrane, a cytoplasm and a nucleus. However, there are cells that do not have this last structure, an aspect that is also a way of differentiating two types of cells: prokaryotes and eukaryotes.

Prokaryotic cells are those that do not have a defined cell nucleus, therefore the genetic material is dispersed in the cytoplasm.

Eukaryotic cells are those in which the genetic material is present in a cell nucleus surrounded by a double membrane. In addition to this crucial difference, we can also mention that prokaryotic cells do not have proteins called histones linked to their DNA or cytoplasmic membranous organelles.

Don't stop now... There's more after the ad ;)

The plasma membrane and cytoplasm, unlike the nucleus, are present in all types of cells. The plasma membrane, characterized by a double layer of phospholipids, is extremely important for the cell, as it controls the passage of substances inside and outside. Due to this property of selecting what enters and leaves the cell, we say that it has selective permeability.

The cytoplasm, in turn, is a region delimited by the plasma membrane. This region is made up of a matrix, called cytosol, which contains substances such as amino acids, energetic nutrients and ions. Immersed in this matrix are cellular organelles, structures responsible for controlling the cell's various activities.

What are cellular organelles?

Cellular organelles are structures that function like small organs within the cell. Each organelle performs a certain function and is essential for the proper functioning of the cell. There are several cellular organelles, in particular:

- Centriole
- Chloroplast
- Golgi complex •
- Lysosome
- Mitochondria
- Peroxisome
- Endoplasmic reticulum
- Ribosome

It is therefore observed that, although small, cells have a variety of complex biochemical structures and processes that are essential for the maintenance of life. Without the development of these small structures, life would not be possible.

WHAT CELLS ARE USED FOR

All living beings are made up of cells. Some, like the amoeba,

are made up of a single cell (unicellular organism), while we have around 60 trillion cells.

So, talking about the function of cells is talking about all the phenomena that characterize life.

What I mean by this?

Well, now think about all the things you need to do to stay alive.

Thought? Also think about the things you are capable of doing, but that are not essential to your survival.

Well, all these things you thought are somehow mediated by the cells that make up our body.

For example: we know that we breathe because we need oxygen in the air. After inhaling this gas, it heads towards our lungs and is transported to the cells from there. What we call cellular respiration occurs in cells (you may have already heard of it), which is a process that has chemical energy that is important for our survival, because it is this energy that gives us "strength" to carry out all the activities of our metabolism) . We need oxygen precisely because it is part of one of the phases of this energy production process.

As we can see, this process takes place inside our cells.

Therefore, we can say that one of the many functions of cells is to produce energy and that this energy is essential for the cell itself to be able to carry out its many other functions.

Thus, we can refer to the cell as a structural unit (because it constitutes the body of all living organisms) and also as a functional unit (because it is capable of performing all the functions of an organism, such as breathing, growing, reproducing, etc.) . It is important to understand the size of this topic, also to know that we are made up of many different cells (not all of them are the same as the drawings we see in books) and that each type of cell has different functions. Blood cells, for example, have several functions that epithelial cells, bone cells or any other type of cell do not have. Furthermore, plant cells are capable

to perform functions that animal cells do not perform.

Author: Gabriela Teixeira

HUMAN BODY

The human body is made up of various parts, including skin, muscles, nerves, organs, bones, etc.

Each part of the human body is made up of countless cells that define shapes and functions. Furthermore, there are tissues, organs and systems that function in an integrated manner.

We can compare our body to a complex and perfect machine with all its parts working in sync.

ANATOMY: THE STUDY OF THE HUMAN BODY

The human body is divided into head, trunk and limbs

Human anatomy is the area of biology that studies the structures of the human body, including systems, organs and tissues. Also see how body structures can be influenced by genetics, environment and time.

The human body is divided into three basic parts: head, torso and upper and lower limbs.

The anatomical description considers that the body must be in a vertical position, standing, with the face facing forward, the upper limbs stretched and parallel to the trunk, with the palms facing forward, the lower limbs must be united. This is called anatomical position.

Levels of organization of the human

body The human body is made up of simple structures, such as cells, even more complex ones, such as organs.

The level of organization of the human body is as follows: cells, tissues, organs, systems and organisms. Each of these structures consists of a hierarchical level up to the formation of the entire organism.

More information about each of the structures that are part of the

organization of the human
body:

cell Animal cell and its

structures Cells are structures made up of three basic parts:
the plasma membrane, the cytoplasm and the nucleus.

Each cell in the body can vary in shape (stellate, elongated,
cylindrical, etc.), size and lifespan. Bone cells, for example, last
several years, while skin cells renew themselves in 35 to 45 days.

Each cell type develops to play a role in the body.

The muscle cell, for example, is capable of contracting. Red
blood cells carry oxygen throughout the body. The nerve cell is
capable of receiving and transmitting
stimuli.

textiles The human body is made up of different types of
tissues Human life begins with a single cell. From there, it divides and
gives rise to two new cells, which divide and form two more, and so on.

During the formation of the fetus, in the uterus, cells develop, based
on their position and function in the body. This process is called
cell differentiation.

In the human body there are many types of cells, with different
shapes and functions. Cells work in groups, are organized in an
integrated way, performing a certain function together.

These cell groups form tissues. The tissues of the human body can
be classified into four types: • Epithelial
tissue •

Connective tissue

• Muscular tissue

• Nervous tissue organs

Main organs of the human body

Tissues, like cells, also group together. The set of tissues that perform
a certain function is called an organ. In

In general, an organization, no, is made up of different types of tissues.

Various organs form the human body, including the heart, lungs, brain, stomach, intestines, liver, pancreas, kidneys, bones, spleen, eyes, etc. Most of the organs are located in the trunk region.

The skin is the largest organ of the human

body. systems Human

body systems A set of bodies that act in an integrated manner constitutes a system. The systems of the human body perform specific functions, but they act in an integrated manner.

The human body is made up of several systems: respiratory, circulatory, digestive, cardiovascular or circulatory, muscular, nervous, endocrine, excretory, lymphatic, reproductive and bone muscles. Each system has its specific function. The respiratory system, for example, is responsible for absorbing oxygen from the body from the air and eliminating carbon dioxide removed from cells.

Body

Finally, the set of all functional systems constitutes the organism that, together, maintains the individual's survival.

Therefore, the organism represents the highest level of organization.

- parts of the human body
- limbs of the human body

Bones of the human

body Muscles of the

human body Nerves of

the human body Fun facts about

the human body • The largest bone in the human body is the femur, the thigh bone of the leg. The smallest bone is the struts,

located in the inner ear. • An adult's heart beats approximately 100,000 times a day. • On average, 2 kg of body weight is represented by bacteria that

populate our body. • The kidneys filter about 1.3 liters of blood per minute.

- A nerve impulse can reach 360 km / h.
- An adult has 206 bones, while a child has 300.

HUMAN BODY

The human body is capable of performing various functions thanks to the complex structures it has.

The human body is a complex machine with several structures that work together.

The human body is a complex structure that allows us to carry out a series of important activities. We can walk, run, remember past events, eat, remove oxygen from the atmosphere, think, among many other activities, all thanks to the various cells, tissues, organs and systems that make up the human body.

Levels of organization of the human

body We know that all animals, including humans, are multicellular, that is, they have more than one cell that makes up their body. These cells have different shapes and functions and form different tissues, organs and systems. When we consider cells as the first level to be studied, we have the following level of organization: We know each of these levels

better:

- Cells: they are the functional and structural units of most living beings, with the sole exception of viruses. In the human body, as we know, several cells are found, because we are multicellular beings. The cells that make up our body have a membrane-bound nucleus and also membranous organelles and are therefore eukaryotes.
- Tissues: are made up of similar cells and perform the same function. In humans, we observe four basic types of tissue: epithelial, connective, muscular and

nervous. Organs: are made up of groups of tissues that work together to perform a certain task. Heart, stomach, lungs, kidneys, esophagus, liver and spleen are some examples of

organs. • Systems: are made up of organs that work together to perform a function. As an example of systems, we can mention the cardiovascular, digestive, endocrine, reproductive, urinary and

nervous.

To better understand these levels, imagine a muscle tissue cell (myocyte), which is connected to others that form cardiac muscle tissue. This tissue forms our heart, an organ that is part of the cardiovascular system. In this case, we have: Myocytes, cardiac striated muscle tissue, heart, cardiovascular system.

Read also: Is leather a tissue or an organ?

Cells of the human body

The human body is made up of trillions of cells, each with a specific function. See some examples of cells and the role they play in our body. • Adipocytes: cells that store lipids (fats). • Schwann cells: responsible for the formation of the myelin sheath of neurons. • Beta cells: cells in the pancreas responsible

for producing insulin, a hormone related to blood glucose levels. • Sperm: male gametes.

Note that the human body has several types of cells. • Red blood cells, erythrocytes or red blood cells: blood cells that function in the transport of oxygen throughout the body. These are the cells found in the largest quantity of blood. • Hepatocytes: liver cells that synthesize proteins and bile, in addition to acting in the detoxification of various substances. • Leukocytes or white blood cells: blood cells responsible for the body's defense. There are several types of leukocytes, such as neutrophils, eosinophils, basophils, lymphocytes and monocytes. •

Myocytes or muscle fibers: cells that make up muscles. • Neurons: cells of nervous tissue that ensure the transmission of nerve impulses. •

Oocyte: female gamete also known as egg.

Tissues of the human

body In the human body, we find four basic types of tissues, which have

its subtypes. Next:

Read also: Human body tissue • Epithelial

tissue: tissue characterized by the presence of cells very close to others, consequently presenting little substance between them (small extracellular matrix). This tissue can be divided into two basic types: lining epithelial tissue and glandular epithelial tissue. • Connective tissue: the most surprising feature is the

presence of a large amount of extracellular matrix. This is the type of tissue that has the most subtypes, namely: • connective tissue itself; • Adipose tissue; • Bone tissue; Cartilaginous tissue; •

blood tissue. • Muscle tissue:

has cells with the capacity for

contraction. Muscle

tissue can be

classified into three different types: smooth or non-striated muscle, striated skeletal muscle and striated cardiac muscle. • Nervous tissue: has cells capable of interpreting and transmitting nerve impulses. It is this tissue, therefore, capable

of acquiring information from the external and internal environment and generating responses.

Read also: Skeleton and muscles

Organs of the human body

Our body has several organs, made up of groups of tissues.

These organs are responsible for various functions and are grouped together to form systems. Here are some of the most important organs in our body and the role they play in our bodies.

The human body has several organs, made up of groups of tissues. • Bladder: an organ of the urinary system that stores urine. • Heart: it is undoubtedly one of the most important organs in our body, being responsible for increasing blood throughout the human body.

Because the blood contains oxygen and nutrients, the heart ensures that

these elements reach all cells. • Stomach:

is an organ of the digestive system and, therefore, is related to the digestion of food. It produces gastric juice, which turns the cake into a chime.

Small intestine: where the digestion process ends and most nutrients are absorbed. • Large

intestine: where water absorption and feces formation occur. • Larynx: organ

of the respiratory system that is distinguished by the presence of so-called vocal cords. • Ovaries:

organs present only in women and where female gametes and female sex hormones are produced.

Lungs: have a spongy appearance and are related to oxygen intake. •

Kidneys:

organs of the urinary system in which urine is produced. •

Testis: organs present only in men and where male gametes and male sex hormones are produced. Human body systems The human body is made

up of a series of systems, which act in the most varied functions. Here are some of the main systems in the human body.

The systems of the human body are made up of sets of organs. •

Cardiovascular: formed by the heart and blood vessels and is

responsible for circulating blood throughout the

body. • Digestive: is formed by the mouth, pharynx, esophagus, stomach, intestine and attached glands. It is responsible for breaking down food into

smaller particles. • Endocrine: is the system formed by all the endocrine glands in the body, responsible for the production

of hormones. • Skeletal: made up of bones and guarantees, among other functions, the support of the body and the

protection of internal organs. • Excretory: also called urinary system,

it is made up of kidneys, ureters, bladder and urethra. He is responsible for production

of urine.

- Muscular: consists of all the muscles in the body. •

Nervous: is responsible for allowing the capture of internal and external stimuli and generating responses to these

stimuli. • Creator: is the system responsible for

creation. • Respiratory: consists of nose, pharynx, larynx, trachea, bronchi, bronchioles, alveoli and lungs. Ensures the intake of oxygen and the elimination of

carbon dioxide. • Integumentary: formed by skin, hair, nails and glands. It performs several functions such as lining and protecting the body.

HUMAN BODY BIOLOGY

The human body is made up of different organs and systems, which together perform several essential functions for the individual's survival.

The human body is made up of a large number of cells.

ADVERTISING

The human body is made up of different organs and systems, which work together to ensure the perfect functioning of the organism.

If we look at the microscopic level, we can perceive the presence of thousands and thousands of cells, which form you, organs, systems and systems, a characteristic that allows us to affirm that human beings are multicellular organisms.

Levels of organization of the human

body The human body can be analyzed at different levels of organization. We can study cells, tissues, organs or even various systems. Considering cells as the first hierarchical level of organization, we have: Cells are considered functional units and structural aspects of living beings. In our body, we find thousands of cells and,

therefore, we are classified as multicellular organisms. The cells found in our body are eukaryotes, that is, they have a defined nucleus and membranous organelles.

In multicellular living beings, a group of similar cells with the same function is called tissue. We have four basic types of tissue in our body: epithelial, connective, muscular and nervous.

Tissues can be organized into organs, which are defined as groups of tissues that perform certain specific functions. Organs, in turn, can be interconnected to form systems that perform even more complex functions.

The human body has several organs, which have specific functions to ensure the functioning of the body as a whole.

To better understand these levels, imagine, for example, osteoblasts, osteocytes and osteoclasts. These cells come from bone tissue, responsible for the formation of bones, the organs that make up the skeletal system. The skeletal system, together with other systems such as the digestive, muscular, cardiovascular and nervous systems, forms the human body.

Human body cells The

human body has different types of cells, which perform the most varied functions. Here are some types of cells present in our body and their functions.

- Adipocytes:

cells that store fat.

- Schwann cell: produces

the myelin sheath of neurons.

- Beta cells: cells in the pancreas

responsible for producing insulin.

- Chondoblasts: young cells in

cartilaginous tissue that form the cartilaginous matrix.

-

Chondrocytes:

cartilage tissue cells, derived from chondroblasts, that occupy gaps in the cartilage matrix.

- Sperm: male

gametes.

- Red blood cells,

erythrocytes or red blood cells: blood cells that ensure the transport of oxygen throughout the body.

- Hepatocytes: liver cells that synthesize proteins and bile, in addition to ensuring the detoxification of various substances. •

Leukocytes or white blood cells: blood cells that act in defense of the body. The existing types of leukocytes are neutrophils, eosinophils, basophils, lymphocytes and monocytes.

In the human body, different types of cells can be observed. • Neurons: cells responsible for transmitting impulses nervous.

- Osteoblasts: bone tissue cells responsible for producing the organic part of the bone matrix. •

Osteocytes: mature bone cells that derive from osteoblasts and are located in empty spaces in the bone matrix. •

Osteoclasts: bone tissue cells that act in the reabsorption of this tissue. •

Oocyte:

female gamete.

Human body tissues •

Epithelial tissue: the most important characteristic is the presence of cells juxtaposed with a reduced extracellular matrix. It can be classified into two basic types: lining epithelial tissue and glandular epithelial tissue.

Epithelial tissue is characterized by the presence of cells close to each other. •

Connective tissue: its main characteristic is the presence of a large amount of extracellular matrix, a characteristic that differentiates it from epithelial tissue. There are several types of connective tissues, namely: connective tissue itself, adipose tissue, blood tissue, cartilaginous tissue and bone tissue. • Muscle

tissue: distinguished by the presence of cells capable of contraction. We can classify muscle tissue into three types: smooth or non-striated muscle, striated skeletal muscle and striated cardiac muscle.

Muscle tissue has a capacity for contraction and can be classified into three different types.

- Nervous tissue: has cells capable of capturing, interpreting and transmitting so-called nerve impulses. Organs of the human body A human organ can have different tissues, as can be seen in the following diagram: Don't stop now... There's more after the ad;)
Observe the various tissues of the stomach, an organ of the digestive system. All organs in our body are important, but some are vital and others are not. See some examples below.
- Bladder: place where urine is stored after the formation of this product by the kidneys.
- Heart: organ responsible for transporting blood to the body. Thanks to this pumping, cells are able to acquire oxygen and other necessary nutrients.
The heart is a muscular organ responsible for the pump, blood flow to the body.
- Esophagus: muscular tube that ensures that food is removed from the mouth to the stomach.
- Stomach: organ of the digestive system where part of digestion occurs. It is responsible for the production of gastric juice and the transformation of chyme.
- Read also: stomach noise
- Small intestine: where the digestion process ends and the absorption of most nutrients removed from food occurs.
- Large intestine: where water absorption and feces formation occur.

- The small intestine and large intestine are part of the digestive system.
- Larynx: this organ of the respiratory system connects the pharynx to the trachea. It is in the larynx that the vocal cords are located.
- Ovaries: organs exclusive to women in which female gametes and female sex hormones are produced.
- Pancreas: mixed gland responsible for juice production

pancreatic hormone and two important hormones (insulin and glucagon), which regulate blood glucose levels.

The pancreas is responsible for the production of pancreatic juice and the hormones insulin and

glucagon. • Lungs: spongy organs of the respiratory system rich in alveoli, which are the places where gas exchange occurs.

Read also: pulmonary embolism

• Kidneys: organs of the urinary system in which urine is produced. • Testis: organs exclusive to men in which male gametes and male sex hormones are produced.

Fallopian tubes: part of the female reproductive system where fertilization usually occurs. •

Uterus: part of the female reproductive system where the embryo develops during pregnancy.

Main systems of the human body

The human body has several systems that ensure, for example, oxygen capture, use of nutrients and locomotion. •

Cardiovascular: composed of the heart and blood vessels, it ensures blood circulation throughout the body and, consequently, the transport of oxygen and nutrients to all cells. • Digestive:

formed by the mouth, pharynx, esophagus, stomach, intestine and attached glands, it is responsible for ensuring the decomposition of food, transforming it into smaller particles that can be used. •

Endocrine:

is formed by all the body's endocrine glands, responsible for the production of hormones that, in turn, act in the chemical regulation of different activities in the body. • Skeleton: composed mainly of

bones, it is related to functions such as protection of internal organs, locomotion, support, calcium conservation and production of

blood cells. • Excretory: also known as the urinary system, it is made up of kidneys, ureters, bladder and urethra and is responsible for the production and elimination of urine.

- Muscular: made up of muscles and is related to the movement of our body and the contraction of organs. •

Nervous: is responsible for ensuring the perception of internal and external stimuli and for generating responses to these stimuli.

Thanks to this system, we are able to memorize, coordinate, speak, hear, see

and learn. • Creator: is the system responsible for our creation.

The female reproductive system ensures the formation of female gametes and the pregnancy of the baby. The male reproductive system is responsible for the production and transfer of the male

gamete to the female. • Respiratory: formed by the nose, pharynx, larynx, trachea, bronchi, bronchioles and alveoli, it is responsible for

ensuring the exchange of gases. • Integumentary: formed by

the skin, hair, nails and glands and performs several functions, such as a

barrier against water loss and the entry of microorganisms, in addition to regulating b

THE INTERNAL ORGANISMS OF THE HUMAN BODY

The human body is like the machine. It is a unique design as it is made up of different biological systems, which are regulated by internal organs.

Read on to get detailed information about the internal organs of the human body. The human body can be divided into head, torso, hands and legs.

The head and torso play an important role in protecting certain crucial internal organs of the human body. They are made up of many tissues, cells and connective tissues, which help in regulating various biological systems.

Some of the major organ systems are skeletal systems, circulatory system, nervous system, digestive system, immune system, respiratory system, urinary system, reproductive system, lymphatic system, and endocrine system, etc., which they are overlapping and interdependent.

LIST OF INTERNAL ORGANISMS OF THE HUMAN ORGAN

Humans and other complex multicellular organisms have organ systems that work together, carrying out processes that keep us alive.

The body has levels of organization and they pile up. Cells form tissues, tissues form organs, and organs form organ systems.

The function of an organic system depends on the integrated activity of its organs. For example, the organs of the digestive system cooperate to process food.

The survival of the organism depends on the integrated activity of all organic systems. Often coordinated by the endocrine and nervous systems.

Brain:

The human brain is protected by the skull, keeping it very safe as it is the center of the nervous system. The structure of the human brain can be compared to other mammals, but it is three times larger and more advanced than other mammals.

It houses our precious memories, plans for the future and keeps us alert in the present. The brain helps the body activate muscles and secretes chemicals that allow it to respond to external stimuli. None of the other animals have the ability to think and weigh things logically.

But the human brain performs some executive functions, such as self-control, planning, reasoning, and abstract thinking, that make humans the most intelligent species in the world.

The human body does incredible things every day. From sending signals that spread throughout the brain at high speed to distributing oxygen across more than 1,000 kilometers to 1,600 kilometers of airways.

HEART:

The main function of the heart is to supply oxygenated blood to all organs in the body through blood vessels through rhythmic contractions. Also known as heartbeat.

The heart is made up of involuntary cardiac muscles and that is why the heart continues to beat even when we sleep. The heart weighs 250 to 350 grams and is about the size of your fist.

It is located on the left side of the chest and is protected by the rib cage. The pericardium, a double-walled sac that surrounds the heart. It not only protects the heart, but stays around the anchor structure and prevents the heart from overfilling with blood.

LUNGS:

The human body is made up of two lungs and performs the functions of the respiratory system. The lungs work closely with the heart.

The lungs supply pure oxygen from the atmosphere to the blood, which in turn is distributed from the heart to various organs. The lungs also remove carbon dioxide and other impurities from the blood in the veins.

The heart is almost flanked by the lungs, so it also acts as a gentle shock absorbent for the heart and also maintains the pH level of the blood.

STOMACH:

He is the main actor in the digestive system. The stomach is a pear-shaped organ located in the abdominal cavity between the esophagus and the intestine. The stomach can change its shape and size depending on the position of the body and the amount of food inside. Since it is

muscular and elastic in nature.

The stomach is the large organ and its multiple chambers house the bacteria that produce special enzymes necessary for digestion. It is full of gastric acid, hydrochloric acid and maintains the pH level, which helps in digestion of edible food. It is one of the important internal organs of the human body.

INTESTINE:

The intestine is the digestive tract located between the stomach and the anus. It can be divided into large and small intestines. The small intestine is narrow and measures 6-7 meters in length, while the large intestine is only 1.5 meters long but has a large diameter.

Most digestion occurs in the small intestine, where most essential nutrients are absorbed. The function of the large intestine in digestion is fundamental, as it absorbs water and is responsible for the excretion of waste.

The intestinal muscles perform rhythmic contractions called peristalsis to move undigested food. It then absorbs it as food throughout the intestinal tract.

LIVER:

It is located on the right side of the abdominal cavity. Some of the important functions of the liver include filtering harmful substances from the blood. Maintain the level of cholesterol and glucose in the blood, secretion of some amino acids. Preserves vitamins and minerals by secreting chemicals that break down fats and converting glucose into glycogen, etc.

In addition to these, there are several internal organs in the human body, such as kidneys, bladder, pancreas, thymus, eyes, pituitary gland. Hypothalamus, spleen, appendix, adrenal glands, etc., including the different reproductive organs of men and women.

The study of the body's internal organs, which are part of human anatomy, is essential for any health discipline. Dysfunction of internal organs can be fatal and therefore it is important to understand their functions.

This will help you understand the human body well to keep it fit and healthy.

CULTURE, A COMPLEMENTARY SPORT

One of the advantages of weight training is that it can be practiced as a complement to many other sports.

In reality, it is a discipline perfectly associated with different sectors, allowing you to improve your performance as far as you are concerned. These are, in particular, combat and endurance sports, which combine well with weight training. The latter has a non-negligible activity and guarantees a useful complement.

Bodybuilding and combat sports

For a long time, we believed that weight training and combat sports were incompatible. Some people imagined that working with loads caused them to lose speed and dexterity, essential qualities for combat sports. However, many athletes today find that weight training improves their strengths and strengthens their muscles for their respective workouts.

Combining bodybuilding and combat sports, therefore, allows you to:

- acquire power (strength and speed)
- ensure better stability, essential for this type of sport
-

- prevent injuries, strengthening muscles and joints
- relax muscles during periods of rest
- increase the muscular mass whose aesthetic appearance is not insignificant...

If you want to combine combat sports and bodybuilding, don't

forget your objective, which is to make bodybuilding compatible with improving sporting qualities and maintaining permanent contact with your favorite sport. You can alternate between power and strength training, as well as regularly practice resistance training circuits (for example, start your session with a run of about ten minutes).

Do not carry heavy weights and vary your training program. This way, with 2 or 3 sessions a week, you will eliminate physical and psychological saturation, develop different skills and diversify your practice.

Bodybuilding and resistance sports:

Weight training is also an excellent ally for resistance sports professionals. It brings strength and solidity, with the condition of achieving a fair balance between the two disciplines. In fact, it is necessary to avoid mixing them and practice them separately. Likewise, bodybuilders should engage in regular cardio sessions, as bodybuilding alone is detrimental to endurance.

Contrary to popular ideas, cardio training is not harmful to muscle mass.

In general, weight training improves the performance of endurance athletes, whether they are cyclists or runners. It does not cause mass to escape, but improves anaerobic capacity, stride efficiency and performance. In cycling, weight training brings strength to the legs, more sprint performance and increases maximum effort time. It's also a great way to combat fatigue nervous.

Benefits of bodybuilding - Discover the top 10 1.

Home page> 2.

Tips> 3.

Benefits of bodybuilding - Discover the top 10 Benefits of bodybuilding - #1 Muscle

toning: the practice of weight training tones your muscles and helps you lose calories. Weight training improves even more

this muscular resistance.

Benefits of Weight Training -

#2 Help Prevent Osteoporosis: The person who does weight training is less likely to develop a disease called osteoporosis as it helps to strengthen the bones of the human body.

Benefits of bodybuilding - #3

Greater strength: weight training strengthens the person, helping with resistance to daily work and possible moments that require the use of strength.

Benefits of bodybuilding - #4

Strengthens the spinal region: helps prevent spinal problems, in addition to strengthening the lower back, reducing local pain.

Benefits of bodybuilding - #5

Reduces the chances of diabetes: practicing physical exercise is a great ally for preventing diseases such as diabetes. Weight training is one of the beneficial practices that can help prevent the onset of the disease and, for those who already have diabetes, it can help treat and balance blood sugar.

Benefits of Bodybuilding - #6

Improve your immune system: Apart from doing other exercises, weight training also helps in the functioning of the immune system.

Benefits of Bodybuilding - #7

Digestive System Benefits: People who suffer from constipation may notice an improvement in bowel function in the first few days of weight training, as it helps the digestive system function properly.

Benefits of Bodybuilding - #8

Increase your balance: Weight training practiced regularly helps improve balance and hand-eye coordination.

Bodybuilding Benefits – #9

Helps during pregnancy: pregnant women who do weight training have better recovery or postpartum, a lower incidence of cramps during pregnancy, a lower chance of developing varicose veins and even reduced weight gain.

Benefits of Weight Training - #10

Improve Mood: Weight training improves mood, self-esteem, and social interactions.

Now that you know the main benefits, it's time to get your hands dirty!

Let's do this workout and take care of your health. And to enjoy the journey, how about knowing what are the best sources of protein to gain muscle mass?

ALTERNATIVE THERAPIES: HEALTH FOR THE BODY AND THREAD MIND

Taking care of your body and mind is essential for quality of life. One of people's concerns is weight loss, and how this is followed to achieve this goal can harm health. The search for healthy weight loss is becoming more and more, and one of the alternative practices, or alternative medicine, which deals mainly with the mind, when it is a great ally during the weight loss process.

What are alternative therapies for weight loss Alternative therapies work with the mind, reducing stress and fatigue. This type of therapy uses alternative techniques, which aim to reduce anxiety, without any type of short or long-term symptoms, in which other means of weight loss cause symptoms, such as the use of weight loss medications. Anxiety is one of the causes of weight gain and, as alternative therapies work to reduce it, it makes the weight loss process easier.

Types of Alternative Therapies

The practice of alternative therapies has gained a large number of

followers. Currently, there is a very wide range of alternative therapies used to relieve stress. Here are some alternative therapies:
Acupuncture

and acupuncture: Acupuncture is an alternative therapy that uses needles at points on the body. To relieve tension, this technique is widely used in Chinese therapy. For the weight loss process, needles are placed in places related to digestion. Acupressure uses the same techniques as acupuncture, but is performed with the help of the hands, where pressure is used on specific points.

Hypnotherapy: hypnosis is used, in which the psychologist tries to discover the problem and begins to work on this fact to correct it. In the case of weight loss, it is used to detect blocking barriers that hinder the weight loss process, but must be combined with the process of self-knowledge.

Aromatherapy: this therapy uses essential plant oils, which activate the areas of the brain responsible for emotions, mainly reducing anxiety. These oils can be used in massages, during baths or even through inhalation. For the effects of essential oils to be effective, they must be pure.

Yoga: Yoga is one of the best-known and widely used alternative techniques. This technique involves meditation, which ensures physical conditioning and is associated with mental well-being. The therapy provides readjustment of posture, quality of breathing, as well as improving the quality of sleep and concentration, reducing stress.

Do alternative therapies really lose weight?

Practicing alternative therapies alone does not promote weight loss. However, when combined with regular exercise and a balanced diet, weight loss becomes healthier. Minerals

Minerals

are inorganic chemical compounds that, if grouped together, give rise to different types of rocks.

Posted by: Rodolfo F. Alves Pena in Physical
Geography Set of different minerals for economic use

Minerals are naturally formed inorganic chemical compounds that have a well-defined molecular structure. They can form on Earth or appear on the planet through meteorites and other non-Earth space bodies.

Currently, there are more than four thousand cataloged minerals and, as geological studies advance, more and more minerals are discovered, some of which are of extraterrestrial origin. In January 2014, for example, a team of researchers discovered a new mineral found in a meteorite that had been collected in Antarctica in the 1960s. The mineral's name is Wassonite and it was produced on Earth only in laboratory research.

Atoms, in general, have a crystallized structure with a consolidated chemical chain, responsible for giving this mineral its physical properties. As we have already said, they are always of inorganic origin, therefore materials of organic origin are called mineraloids, such as pearl and amber.

Depending on their composition, minerals can be classified as metallic and non-metallic: a) Metallic

minerals: as the name suggests, they are those composed of metal chemical elements. They are generally good conductors of electricity.

Examples: aluminum, iron, copper, etc. b) Non-metallic

minerals: those that are not composed of metallic chemical elements, such as diamond, limestone and sand.

The study of minerals is complex. The observation of its characteristics follows some different criteria, namely: 1)

Crystallization: corresponds to the three-dimensional geometric shape of the mineral.

2) Color: corresponds to the external color of the mineral, with the wavelengths absorbed by its chemical composition.

3) Transparency: the ability of minerals to absorb or not absorb light, which can be divided into translucent and opaque.

4) Brightness: amount of light reflected by the mineral.

5) Hardness: is the mineral's ability to scratch and not be scratched.

- 6) Trail: the color of mineral powder.
- 7) Fracture: is the irregular surface of the mineral resulting from its rupture.
- 8) Density: is the number of times that a mineral is heavier than an equal volume of water.
- 9) Cleavage: level of degradation of minerals on the surface, flat or regular.
- 10) Electromagnetic properties: the ability of minerals to conduct or not conduct electrical current and their ability to relate to magnetism, among other properties of a similar level.

KINGDOM OF VEGETABLES

The plant kingdom, or kingdom of Plantae, is characterized by autotrophic organisms (they produce their food) and chlorophylls.

Through sunlight, they carry out the process of photosynthesis and, for this reason, they are called photosynthetic beings.

Remember that photosynthesis is the process by which plants absorb solar energy to produce their own energy. This occurs through the action of chlorophyll (a pigment associated with the green color of plants) present in their chloroplasts.

Plants form the base of the food chain. They produce organic matter and feed heterotrophs, that is, they represent the group responsible for the nutrition of various consuming organisms.

This indicates that without the existence of these autotrophies, life on Earth would be impossible.

General characteristics of the plant kingdom •

Eukaryotes (organized nucleus) •

Autotrophic (produces their food) •

Photosynthesis (production of photosynthesis) •

Multicellular (multicellular) • Cells

composed of vacuoles, chloroplasts and cellulose Find out more:

-

chlorophyll • Plant

hormones • Autotrophic and heterotrophic

beings Plant structure

Main structure of an angiosperm plant As for its structure, plants are basically formed by the root (fixation and feeding), stem (support and transport of nutrients), leaves (photosynthesis) , flowers (reproduction) and fruits (seed protection).

Classification of the plant

kingdom The plant kingdom is made up of vascular plants (pteridophytes, gymnosperms and angiosperms) that have lymph-conducting vessels and avascular plants (bryophytes), devoid of these vessels.

bryophytes Bryophytes are small plants that do not receive direct sunlight, as they live in humid places, for example mosses.

The reproduction of this group occurs through the process of metagenesis, that is, it has a sexual phase, producing gametes and an asexual phase, producing spores.

Furthermore, they do not have lymphatic vessels, which differentiates them from other groups of plants. Therefore, nutrient transport occurs through a slow process of cellular diffusion

Pteridophytes

Deer Horn

Pteridophytes have more varieties than bryophytes. These are plants that, in most cases, are terrestrial and live in places with a lot of humidity.

Some examples of this group: ferns, scallops and xaxin.

They have lymph-conducting vessels, roots, stems and leaves and, like bryophytes, the reproduction of these plants occurs through a sexual and an asexual phase.

When the stem of the pteridophyte is underground, it is called a rhizome.

Epiphytes, on the other hand, are plants that rest on other plants, however, without damaging them, such as ferns and deer antlers.

gymnosperms Araucaria

The group of gymnosperms is made up of a wide variety of trees and shrubs of different sizes.

They are vascular plants (presence of lymphatic-conducting vessels), which have roots, stems, leaves and seeds. Some examples of gymnosperms: sequoias, pines, araucaria, among others.

The reproduction of gymnosperms is sexual. Fertilization occurs in the female organs through pollen, produced by the male organs and transported with the help of nature through wind, rain, insects and birds.

What differentiates them from the group of angiosperms are mainly their seeds, since they have so-called naked seeds, that is, not surrounded by the ovary.

angiosperms Angiosperms are vascular

plants, that is, they have conducting vessels. They live in different environments and represent a very varied group, made up of small and large plants.

Characteristic angiosperms, they are the largest group in the plant kingdom, with around 200 thousand species.

They are distinct from gymnosperms in that their seeds are stored within the fruit. Its reproduction is sexual and fertilization occurs with the presence of male pollen. curiosity The plant kingdom is made up of

around 400,000 known species, making it one of the largest groups of living beings.

Because they are self-sufficient (autotrophic) organisms, plants were the first living beings on planet Earth.

Carnivorous plants

Carnivorous or insectivorous plants are a curious case of the Plant Kingdom, as they have a peculiar characteristic that has attracted the attention of many scientists.

They also carry out photosynthesis, however, since they inhabit

Nutrient-poor soils seek nutritional supplementation through the digestion of some small animals. To do this, they generally capture small insects or, in some rarer cases, frogs, mice, small mammals and birds.

Parasitic plants

Other vegetables are known as parasitic plants because they need sap to feed. They look to other photosynthetic organisms for the energy they need to survive, as they do not produce enough.

There are around 300 species with these characteristics, some of which are: grass, ghost plants, mistletoe, golden vines, among others.

MINERAL KINGDOM

The mineral kingdom, different from the animal and vegetable kingdoms, is made up of everything that does not have life, for example, water, soil, gas, minerals, rocks. The origin of minerals is characterized by the cooling of magma, the precipitation of salts or the rearrangement of ions (metamorphism).

Characteristics of the mineral kingdom

- inorganic beings •
- absence of life •

geometric order •

Durability, transparency, color, shine (rocks and minerals) • Solid and crystalline (rocks and minerals)

Deprived of intelligence and extinct minerals

Minerals are solid, natural and inorganic substances that have an internal arrangement (crystallization) characterized by certain physical and chemical properties that over the years have been formed by the intervention of nature between temperature, heat, pressure, etc.

In other words, minerals are chemical compounds formed by crystalline solids, divided into: metallic and non-metallic minerals.

1. Metallic minerals: these minerals have in their composition elements with physical-chemical characteristics of metals, such as iron, copper, aluminum, among others.

2. Non-metallic minerals: this group is made up of minerals that do not contain metallic properties in their composition, such as sand, diamond, limestone, among others.

Fossil organic materials

Called fossil energy resources, these minerals are composed of elements of organic origin, such as petroleum, natural gas, mineral oils, coal, resins, asphalt and bitumen.

Examples of minerals

Graphite

- crystal
- diamond

• gold

• Silver

• copper

• quartz •

feldspar •

Non-

Tourmaline

stones

Natural, multigranular aggregated rocks composed of two or more minerals and, depending on their formation, the rock types are: 1.

Sedimentary rocks: formed by the sedimentation of particles and organic matter, for example sandstone.

2. Magmatic (igneous) rocks: formed from magma, for example granite.

3. Metamorphic rocks: undergo changes in their structure, for example marble.

Examples of

Granite rock

- Sandstone

- Marble •

Basalt •

Mylonite •

Rhyolite

- Coquinas

- Migmatites

- Curiosity •

The science that studies minerals is called mineralogy. •

The study of crystals is called crystallography. •

Most minerals are made up of two or more elements, however, there are minerals made up of one chemical element, such as gold (Au) and diamond (C). • The term

"mineral" is used to indicate that a rock or mineral is of economic importance, for example bauxite, hematite, tourmaline and quartz. • Water is

considered a mineraloid, with characteristics similar to minerals.

- Mercury is the only liquid

mineral

THE CLASSIFICATION OF MINERALS (GEOGRAPHY)

Minerals are classified as follows: metallic minerals and non-metallic minerals.

Minerals are natural resources found underground and of great value for industrial production, as they serve as raw materials for the production of consumer goods, such as household utensils, electrical cables, jewelry, construction materials and also as a source of energy.

Cities are made up of constructed buildings, to design them it is necessary to extract a series of minerals from nature and by-products, such as bricks (clay), cement (limestone), hydraulic material (oil), sand and many others.

In the industrial sector, from the machines used in production to the constructed product, they are extracted from mineral resources that are not equal in terms of physical-chemical composition and are therefore classified into two groups: metallic and non-metallic minerals, including resources fossil energy sources.

- Metallic minerals: contain physical and chemical metal elements in their composition, which allow reasonable conduction of heat and electricity. Examples: iron, aluminum and copper.
- Non-metallic minerals: minerals that do not contain metallic properties in their composition. Examples: diamond, limestone and sand, among others.
- Fossil energy resources: minerals that contain elements of organic origin in their composition. Examples: oil, natural gas and coal.

Kingdom Plantae

BIOLOGY

Plants belong to the kingdom Plantae and are very important for maintaining life on Earth, as all living beings depend on them to survive.

The kingdoms of Plantae are multicellular, with eukaryotic cells. They are self-sufficient, that is, they produce their own food through photosynthesis, therefore they are called autotrophs.

All plant cells have cells and, in their cell wall, vacuoles and chloroplasts inside.

Vegetables were the first colonizers of planet Earth. Thanks to their food self-sufficiency, they were able to conquer the environment. It is through plants that life on the planet is maintained.

Vegetables are classified according to the presence or absence of flowers. Plants that do not have flowers and whose reproductive structure is barely visible are called cryptograms; and plants that have flowers and whose reproductive structure is very visible, we call phanerogamous.

Plants, in terms of the presence or absence of conducting vessels, are classified into vascular and non-vascular plants.

Mind map: Kingdom Plantae

To download the mind map in PDF, [click here!](#)

Non-vascular plants are devoid of lymph-conducting vessels.

The phyla that have non-vascular plants are: Vascular plants, also called tracheophytes, have lymph-conducting vessels. Vascular plants include those that have seeds and those that do not have seeds.

The phyla with vascular and seedless plants are: The plant phyla that have vascular plants with seeds are gymnosperms and angiosperms.

1. Gymnosperms: plants that do not have flowers, cryptogams or fruits.
 2. Angiosperms: plants with flowers and fruits.
- Phylum Magnoliophyta or Anthophyta (trees, herbs, etc.).

Discover what minerals are really for...

Among the nutrients necessary for health, in addition to proteins, fats, carbohydrates and vitamins, there is a group of elements called minerals.

Minerals, like vitamins, cannot be synthesized by the body and therefore must be obtained through food. They do not provide calories but are found in the body that perform several functions.

Minerals have essential roles, as structural components of the body's tissues, for example calcium and phosphorus, which form bones and teeth; as organic regulators that control nerve impulses, muscle activity and the body's acid-base balance.

In addition, many minerals are involved in the body's growth and development process. As components of food, minerals participate in flavor, activate or inhibit enzymes and other reactions that influence the consistency of food.

Theoretically, all foods should contain minerals, but industrialization and other modern food production methods

can eliminate them.

Minerals are also important in sports, because during exercise the loss of water through sweat is always accompanied by the loss of electrolytes, salts, in particular sodium, chloride, potassium, magnesium and calcium. Therefore, a lack of these can lead to the appearance of muscle cramps.

CHOOSE TO LIVE BETTER, HEALTHIER

You don't have to be radical and give up the things you like to do and eat to be healthy. We just need to adapt our routine, incorporating important habits, such as regular physical activity and eating with balance and discretion. After all, who can do more for your health than you?

DISCOVER ENZYMES AND THEIR VEGETABLE ADVANTAGES

Enzymes are organic substances with the function of catalyzing other chemical reactions and improving the production of other compounds essential for our health. Those of plant origin are extracted directly from fruits, vegetables, legumes and roots and can be found in ready-made liquid extracts with the following ingredients: watermelon, chayote, melon, papaya, pineapple, avocado, carrot, spinach, pear, kale, tomato, apple, banana, cucumber, guava, ginger, bean sprouts, celery, watercress and sucrose.

The enzymatic extraction process is carried out through the natural fermentation of all ingredients without the addition of any chemical component during the process, therefore it is completely natural. With all these ingredients, the liquid extract is rich in vitamins, minerals, carbohydrates and proteins, without adding chemical components.

Some of the enzymes extracted are: •

Papain - for the treatment of ulcers, improves healing, anti-inflammatory and improves varicose veins.

- Bromelain: anti-inflammatory, increased immunity, accelerates healing, improves digestion, improves circulation and the cardiovascular system. •

Coenzyme Q10 and betaine: improves muscle strength, improves the cardiovascular system, reduces the effects of stress and reduces the risk of chronic diseases.

Enzymes also help fight the following diseases: Asthma.

Rheumatism.

Bronchitis.

- Skin diseases, such as blemishes and pimples. •

Hair loss. • Liver

and kidney diseases. •

Imbalance of the nervous system. •

High pressure.

There is only one contraindication to the use of enzymes for diabetics and people who are allergic to any compound in the ingredients.

We recommend taking two tablespoons. mixed with water, juice and other drinks. Three times a day: in the morning on an empty stomach and half an hour before meals (lunch and dinner).

You can find the liquid concentrate of plant enzymes in 500 ml or 250 ml in Relva Verde natural products stores in Londrina and in our online store with delivery throughout Brazil.

6 Natural remedies against autoimmune diseases

When our own body attacks us, it is necessary to look for alternatives so as not to lose our quality of life. Let's talk about autoimmune diseases.

- Coconut Vinegar: Top Uses and Benefits •
- Amazing Benefits of Frankincense Essential Oil •

Benefits of Peppermint Oil for Body Health Below we offer six natural remedies for autoimmune diseases that will help you improve your quality of life and increase your well-being -be.

Autoimmune diseases occur due to an error in the immune system. They attack the body's cells. When this problem arises, there is usually an exaggerated response against the substances and tissues themselves. In other words, the body defends itself.

Common

symptoms •

fatigue •

temperature •

Redness • Swelling • Chronic

inflammation • muscle and joint pain •

Excessive heat for no apparent reason Six natural remedies for autoimmune diseases Although autoimmune diseases are very diverse, there are some remedies that will be very useful to improve quality of patients' lives. Among the most common and effective are those that we will discuss below.

1. Drink tea

Green tea and black tea contain beneficial compounds such as flavonoids, catechins and flavonoids. These are excellent for combating and reducing the effects of autoimmune diseases.

As teas can bring a new flavor to your palate, it is advisable to incorporate them gradually. Otherwise, you may find the taste unpleasant and stop taking it soon.

A good option to create a habit of drinking tea is to accompany it with fruit, such as citrus fruits or berries.

2. Eat more apples

Another natural remedy for autoimmune diseases is apples. These fruits are rich in quercetin. This element reduces allergic reactions and reduces inflammation, two common characteristics in autoimmune diseases. Quercetin is also found in: • Wild fruits •

Capers

- Red grapes • red onion

It is important to know that the highest percentage of quercetin is found in the skin of these foods. Therefore, you should avoid eating the peeled apple.

3. Include several carrot recipes in your diet

Carrots contain carotenoids, the plant pigments that include beta-carotene. Consumption of these foods corrects the deficiency and greatly reduces inflammation. Other sources that contain carotenoids are:

- Sweet potatoes
- Apricots
- Spinach
- Pumpkin
- Cabbage

If the patient suffers from inflammation, try including one of these foods in their daily diet. Before long, the inflammation will subside.

4. Add some ginger Ginger is a

very beneficial root for the body and is another natural remedy for autoimmune diseases.

Helps reduce inflammation by inhibiting prostaglandins, suppressing the production of pro-inflammatory and chemokinetic cytokines. All of this means it reduces the impact of autoimmune diseases.

This food is particularly suitable for patients with rheumatoid arthritis.

You can include it in your diet or drink a cup of ginger tea a day.

5. Another omega

3 Omega-3 is an essential fatty acid that balances the formation of chemical compounds that cause inflammation. This substance can be obtained from the following foods: •

- Chickpeas •
- Salmon
- Sardines

- Anchovies
- Peanuts
- Flax seed •

Soybeans 6. Include more

fiber in your diet With a healthy and active colon, it is possible to promote intestinal transit, which undoubtedly alleviates the burden on the immune system. For this to happen, you need to increase your fiber intake in your daily diet. The best type of fiber is found naturally in: • Fruit • Whole grains • Green leafy

vegetables Fiber

is one of the best natural remedies for autoimmune diseases.

It helps regulate the body by providing various nutrients.

Try to avoid consuming processed foods, even if the label indicates that they are rich in fiber. The problem with these products is that they are also rich in sugars and preservatives, two elements that worsen problems.

Other measures to increase quality of life 1. Reduce stress

It is necessary to look for ways to successfully alleviate daily stress. In this way, we are able to combat problems caused by autoimmune diseases.

The most effective methods are: Yoga Meditation • Relaxing

massages

- Other relaxation

techniques It would be good for the

patient to practice several of these techniques during the week. Gradually, you will discover which ones are the most and which ones offer the most immediate benefits. The secret is to keep trying until you find the ideal one for your particular case.

2. Get enough sleep

Getting enough rest is essential to combat the symptoms of autoimmune diseases. Keep in mind that insomnia or poor sleep can worsen other symptoms, and in some cases make them worse. Ideally, sleep between 6 and 8 hours at night. If you have difficulty achieving this goal, try preparing or training more during the day.

3. Maintain a healthy diet A

correct diet maintains good health and provides energy. Furthermore, it is capable of improving symptoms caused by autoimmune diseases. Food is essential for the body and the better the quality of the food, the greater the benefits.

Autoimmune diseases (AID) are becoming more common, affecting more women in the world population than men. In today's article, it will be possible to understand them better, as well as learn about their main causes, symptoms and forms of treatment, but before that, it is necessary to understand once and for all what exactly an autoimmune disease is.

First of all, it is important to know that there is a group made up of more than 100 diseases considered autoimmune and which we call IAD.

More briefly, we first need to know that the immune system is responsible for producing antibodies that protect our body from possible harmful external agents, as in the case of bacteria, for example. When one of these agents invades our body, the immune system automatically recognizes the invasion and produces antibodies that will destroy them, thus protecting our body. However, when an immunological disease is at play, this defense system can no longer distinguish what is or is not part of the body itself and ends up producing antibodies to destroy organs and systems of itself, as a form of protection, but this does not happen. completely.

In other words, the disease in question is a problem existing in an individual's immune system, which, instead of performing its primary function of protecting the body, does exactly the opposite: it attacks it. This is why we say that DAI usually attacks two or more of a person's organs or systems or simply focuses on one

single target. Next, we will talk more about other aspects of autoimmune diseases. Learn more about causes, types, symptoms, autoimmune diseases, how to diagnose and treatments below: 1. What are the causes of autoimmune diseases?

A specific cause that leads to autoimmune diseases has not yet been discovered. However, some internal (organism) and external (environmental) factors can trigger them, such as:

- Inheritance/genetic predisposition for the development of an autoimmune disease;
- Exposure to bacteria, viruses and/or toxins that the immune system has not successfully combatted;
- Hormonal changes;
- Immune system often weakened;
- fatigue;
- medications that destabilize the immune system;
- Excessive hygiene, which weakens the immune system, causing infections.

2. Types of autoimmune diseases

In general, autoimmune diseases can affect organs and tissues, such as the thyroid, kidney, stomach, intestine, pancreas, joints, skin, platelets, etc. There are more than 100 types of autoimmune diseases, the best known are:

• type 1 diabetes (affects the pancreas);

• Lupus (affects skin, kidneys, brain, joints);

• Psoriasis

(affects the skin);

• Vitiligo (affects the skin);

• Rheumatoid arthritis (affects the joints);

• pernicious anemia (affects the stomach);

• Hemolytic anemia (affects the blood);

• Hashimoto's thyroiditis (affects the thyroid);

• Graves' disease (affects the thyroid);

• multiple sclerosis (affects the brain and spinal cord);

• Crohn's disease (affects the digestive tract).

- celiac disease (affects the intestine).

3. What are the symptoms?

When it comes to autoimmune diseases, there is no way to be precise about the symptoms that actually reflect its existence in an individual's body. The same disease can present different symptoms in two people, so this inaccuracy makes diagnosing the problem difficult, taking on average around five years for someone diagnosed with AIDS. Below, we will list some of the most common symptoms that can arise in cases of this type, but remember, pay attention to their frequency and duration and, of course, always look for a professional to safely clarify your case.

Symptoms are: • headache (headache); Anxiety crisis; • Some type of mental confusion; • Difficulty maintaining attention

(deficit); • appearance of acne; •

red spots on the skin that may or may not come off; • emergence of

psoriasis; Eczema; • problems with dermatitis and allergies in general; • dry

mouth symptoms; • Colds that occur frequently; • increase or decrease

weight; Asthma; • diarrhea and gas; Cramps problems in the stomach area;

•

Appearance of

stiffness and pain similar to the symptoms of

fibromyalgia; Constipation • Feeling of a bloated stomach.

There are still many other factors that can be considered symptoms of AIDS, however, as noted, most of the above symptoms are common to several diseases, which makes the diagnosis process difficult. The important thing is to always seek medical attention if

symptoms persist, as the body may give some warnings about this or another possible disease. Stay tuned!

4. How an autoimmune disease is diagnosed

Because many symptoms are confused with other diseases, diagnosing autoimmune diseases can be difficult. Doctors often suspect an autoimmune disease due to the fact that it affects multiple organs.

Furthermore, a single test fails to detect the presence of an autoimmune disease, which requires a more complex investigation. The doctor assesses the condition based on the patient's complaints and medical history, performs a physical examination and requires some additional tests that will depend on the cause of the disease, such as blood tests and complete antibodies (antinuclear factor).

5. Treatments

And when diagnosed, is the autoimmune disease treated? Of course. Even if there is no cure, you can treat it and take care that your immune system does not harm it, as happens in these cases. And just as there are many of these diseases, there is no standard treatment model that works for everyone. What generally happens is treatment that uses immunosuppressive drugs, such as corticosteroids, capable of inhibiting an individual's immune system.

The big negative factor of this type of treatment is precisely the fact that these medications do not target only the antibodies that cause damage to the body, as well as all the others that should be beneficial, and this means that patients are treated for autoimmune diseases. remain at greater risk of contracting infections, bacteria and even fungi. But being treated is important and crucial for the individual to survive in the face of such a disease.

Therefore, if you have more than one of the symptoms exposed here, look for a professional to clarify your case and, if there is a diagnosis of an autoimmune disease, get the treatment correctly and don't worry about whether you will be able to live normally. you just can't ,

Stop taking care of yourself, okay? You can't joke with health and it is definitely the greatest treasure you can have in life.

6. Home Remedies for Autoimmune Diseases

Turmeric: Turmeric contains a substance called curcumin that suppresses enzymes that increase inflammation in autoimmune diseases such as arthritis, Crohn's disease and ulcerative colitis. Boil a glass of milk, add a teaspoon of turmeric powder and take it 3 times a day with meals. •

Ginger: The anti-inflammatory properties in ginger can also help manage autoimmune diseases. It helps reduce inflammation, which is a common problem in autoimmune diseases. Boil a glass of water, add a teaspoon of chopped ginger. Drink tea 2 or 3 times a day.

- **Coconut oil:** A study showed that virgin coconut oil has anti-inflammatory and analgesic properties. Take 2 tablespoons of coconut oil to combat inflammation. • **Aloe Verda or**

Aloe Vera - aloe vera contains lupeol and salicylic acid which have analgesic properties, as well as certain chemical compounds, such as fatty acids, which have an anti-inflammatory effect on arthritis.

Blend 2 tablespoons of aloe vera with lemon juice and drink 1 glass a day. •

Pineapple: Pineapple contains a class of enzymes called bromelain that has anti-inflammatory properties. To be more effective, mix pineapple juice with 3 teaspoons of turmeric. • **Fish oil:** Fish

oil contains essential fatty acids with anti-inflammatory properties that relieve joint pain, stiffness and even reduce drug dependence in patients with rheumatoid arthritis. Take one 500 mg capsule per day. • **Cayenne pepper:** when you consume pepper, the

property called capsaicin inhibits the activity of a chemical in the body responsible for transmitting pain signals to the brain. For this reason, cayenne pepper has been effective in treating rheumatoid arthritis and spinal spondylitis pain. Furthermore, also

improves general blood circulation, which lubricates the back and joints.

Mix a spoonful of cayenne pepper with honey and take it 2 or 3 times a day. •

Apple cider vinegar

– Apple cider vinegar is beneficial for autoimmune diseases. Contains vitamin B5 (pantothenic acid), which helps reduce swelling and inflammation.

Calc, io, manganese, potassium and phosphorus make joint pain even easier.

Mix a spoonful of apple cider vinegar in a glass of hot water. Then add honey and ginger and drink it twice a day. • Cinnamon: a study published that cinnamon is an effective anti-

inflammatory medicine in the treatment of chronic diseases, such as rheumatoid arthritis. Mix a teaspoon of cinnamon powder and honey in a

glass of hot water. Drink every day. • Oregano oil: The anti-

inflammatory properties of oregano oil are also

important for treating autoimmune diseases such as rheumatoid arthritis and spondylitis. Add 3 or 4 drops of oregano oil to a glass of water or juice and drink 3 times a day.

WHAT IS AN ATOM?

The atom is a structure (composed of proton, neutron, electron, nucleus, levels, sublevels and orbitals) that forms matter. Atom is the name given to the formation of matter (everything that occupies space and has mass). This name was proposed by the Greek philosophers Democritus and Leucippus. Chemical elements, molecules, substances and organic or inorganic materials are formed by atoms.

In its constitution, the atom has particles (protons, neutrons and electrons), which are not the smallest part of matter. However, its display is not possible.

What is known about the atom is related to scientifically proven physical, chemical and mathematical experiments.

The evolution of knowledge about the atom has led to the development and improvement of different technologies.

Basic composition of an atom •

Nucleus: the densest region of the atom and contains protons and neutrons; • Energy levels: regions that surround the nucleus and that

contain sublevels, orbitals and electrons. There are seven energy levels, represented by the letters K, L, M, N, O, P

and Q; • Secondary energy levels: these are regions that host orbitals.

They are present at all levels and are represented by letters (s, p, d, f). Its quantity depends on each level: K (has sublevels s), L (has sublevels s, p),

M (has sublevels s, p, d), N (has sublevels s, p, d, f), O (has sublevels s, p, d, f), P (has sublevels s, p, d, f) and Q (has sublevels s, p, d, f); • Atomic orbitals:

regions that are likely

to encounter an electron.

Each sublevel has a different number of orbitals: s (one orbital), p (three orbitals), d (five orbitals) and f (seven orbitals); •

Protons: positive particles (represented by p); • Electrons:

negative particles that also show the behavior of waves (represented by e);

• Neutrons: uncharged particles

that reduce the repulsion between protons in the nucleus (represented by n).

Mind Map: Atom

Representation of an atom

The easiest way to represent an atom is to use the acronym of the chemical element it forms. The acronym Se, for example, represents all the atoms that make up the chemical element selenium.

The acronym that represents the atom can also provide two important pieces of information: the atomic number (represented by the letter Z and always in the lower left part of the atom's acronym) and the mass number (represented by the letter A, which can be positioned to the left or on the right above the acronym of the atom).

Acronym for an atom with mass number and atomic number •

Atomic number (Z): indicates the number of protons present in the nucleus

of the atom and the number of electrons (e) present in the energy levels. •
Mass number (A): indicates the mass present in the nucleus of the atom,
resulting from the sum of the number of protons (p) and the number of
neutrons (n).

Don't stop now... There's more after the ad ;)

Formula that indicates the representativeness of the mass number

Atomic similarities Atoms

of the same chemical element or different chemical elements are
compared in terms of number of protons, electrons, neutrons and mass, being
classified as follows: a) Isotopes Atoms that have: Same

atomic

number; • same number

of protons; • different

mass number; • different

number of neutrons; Example:

Atoms A and B are isotopes Atoms

A and B

are isotopes because: • Atom A

has 15 protons, an atomic number of 15,

15 electrons, 15 neutrons, and a mass number of 30. • Atom B has 15

protons, an atomic number of 15, 15

electrons, 20 neutrons and a mass number of 35. b) Isobar Atoms that have:

• different atomic numbers; • different number

of protons;

• different number of

electrons; • same mass numbers;

• different number of neutrons.

Example:

Atoms C and D are isobaric Atoms

C and D are isobaric because:

- Atom C has 32 protons, an atomic number of 32, 32 electrons, 23 neutrons, and a mass number of 55. •

Atom D has 37 protons, an atomic number of 37, 37 electrons, 18 neutrons, and a number of mass of 55.

c) Isotons

Atoms that have: •

different atomic numbers; •

different number of protons; •

different number of electrons; •

different mass numbers; • same
number of neutrons. • Atom

E has 20 protons, an atomic number of 20, 20 electrons, 20 neutrons, and a mass number of 40. • Atom F has

30 protons, an atomic number of 30, 30 electrons, 20 neutrons, and a number of mass of 50. d) Isoelectronic

Atoms that have:

- same number of electrons.

NOTE: isoelectronic atoms can still have the same mass number (isobars), the same number of neutrons (isotons) or the same number of protons (isotopes).

Example:

G and H atoms are isoelectronic G

and H atoms are isoelectronic because: • G

atom has 16 protons, an atomic number equal to 16, 18 electrons (the -2 sign indicates that it has two more electrons than the number of protons), 17 neutrons and a mass number equal to

33. • The H atom has 21 protons, an atomic number of 21, 18 electrons (the sign +3 indicates that it has three electrons less than the number of protons), 27 neutrons and a mass number of 48.

CHEMICAL ELEMENTS

Chemical elements are groups of atoms that have the same number of protons inside their nuclei.

A chemical element is defined as a set of atoms that have the same number of protons within their nucleus, that is, atoms with the same atomic number (characteristic represented by the letter Z). Chemical elements can also be called simple substances.

A very important fact regarding the definition given to a chemical element is that, under no circumstances, can it undergo decomposition, that is, it cannot give rise to new simple substances, it only participates in the formation of new compound substances.

An example is sodium chloride, which, being a compound substance, can be decomposed into the simple substance sodium (Na) and the simple substance chlorine (Cl_2) through igneous electrolysis. This fact cannot happen with Neon gas (Ne), for example, which is a chemical element and, consequently, a simple substance. It is important to note that an isolated atom also represents a chemical element. In the formula for water (H_2O), for example, we have two atoms representing the element hydrogen and one atom representing the element oxygen.

Chemical elements are represented by an acronym, in which the initial letter is capitalized and can be accompanied by one or two lowercase letters. In this acronym, we have to place the atomic number in the lower left corner, as shown below: ZX The element

name acronym can refer to different aspects, such as the element name in Latin, the element name in another language, the name of the discoverer, the tribute to a scientist, the location of the discovery, etc.

here are some examples: Don't stop now... There's

more after the ad;)

- Beryllium - acronym Be ,

which derives from the Greek beryllium;

- Boron

- acronym B , which derives from the name in Arabic (buraq) and Persian

(burah);

- Cobalt - acronym Co , which derives from the German cobalt or coboldo (spirits)

malignant or demon of the mines). It got its name because of its toxicity; • Sodium - acronym Na, which derives from the Latin Natrium; • Strontium - acronym Sr, in honor of a Scottish village called Strontian; • Lithium - Acronym Li, which derives from the Greek Lithos (stone); • Magnesium - acronym Mg, called magnesia in Greek in reference to the region of Thessaly; • Roentgênio - acronym Rg, a tribute to the scientist Wilhelm Conrad Roentgen, who discovered X-rays; • Californium - acronym Cf, named after the University of California, where it was synthesized.

There are many chemical elements known today. They are organized in increasing order of atomic number in the famous periodic table, proposed by Moseley in 1913. Regardless of whether they are natural or synthetic, many of the chemical elements are very important, as they are part of the composition of thousands of others. chemical rooms that surround the lives and everyday lives of human beings.

We created a space to allow access to texts that talk about characteristics, functions, origins, uses and ways of obtaining various chemical elements.

Be sure to check out the texts below!

Happy studying!

"Chemical Elements" Articles •

Beryllium

This article provides information about how the chemical element beryllium occurs in nature, its applications and how highly toxic it is. • Boron Click here to learn

about the characteristics and use of boron. • carbon Learn more about carbon

and its allotropic forms, where it is found and its applications in everyday life. • Chlorine Click and discover the characteristics, uses

and physical and

chlorine chemicals and discover how this chemical element is produced.

Cobalt

Check out the importance of cobalt for our body and in what other situations this element is used. • Element

111: Roentgenium [Click here](#)

to learn about the main characteristics of Roentgenium, a relatively new element.

Calcium element

Find out the percentage of this element on the Earth and the Moon. • Magnesium

element Where it can be found and what its main functions are. •

sodium element

Discover the main characteristics and uses of sodium! •

artificial elements

Artificial elements are atoms of chemical elements not found on the Earth's surface and that were synthesized, that is, created in the laboratory. • natural and synthetic

elements Check out the main

characteristics of natural and synthetic elements here! • sulfur [Click and learn](#)

everything

(atomic characteristics, ways of obtaining, properties) about the chemical element sulfur.

Strontium

Metal used in cathode ray tubes of color televisions.

Insoluble iron: properties of this element The

solubility of metals in water. • argon

gas Gas used

in the conservation of oxidizable materials. • krypton

gas Check out

the resources and applications of krypton gas here! • neon gas

[Click here](#)

and discover how neon gas is obtained, also see where it is

commonly used!

Hydrogen

Click and learn about the history, characteristics, ways of obtaining and the main uses of the chemical element Hydrogen.

Iodine Check out the importance of iodine for the body and what the food sources of this mineral are!

Lithium Discover the properties and uses of the lightest metal there is.

• metallic mercury Be

aware of the dangers posed by this heavy metal. • nickel The toxic effects

of this metal on our body. • nitrogen Click and discover everything

about the element Nitrogen, as well as the forms in which it can be found in nature. • oxygen Access this link to learn about the main

characteristics of the most abundant element on the Earth's surface, oxygen. Know the properties and peculiarities of its atoms, the importance of its allotropic forms, in addition to the applications of this element in general.

Platinum

Click and see the atomic and physical characteristics, history, achievements and uses of the chemical element Platinum! •

Potassium

In nature, potassium is a metal, in our body it is a mineral. Click and understand!

• Radon

Radon,

family of noble gases, decay of uranium-238, position of radon in the periodic table, presence of radon in nature, physical characteristics of radon, applications of radon. • Rubidium Click here to learn about the

characteristics and uses of rubidium!

- titanium

- Learn more about the characteristics, properties and uses of titanium.

Click here! •

Ununócio

Discover how this element was synthesized in the laboratory. • Xenon Click here to

learn about the main resources, uses and also interesting facts about xenon. •

zirconium Discover the chemical

element

zirconium, its discovery, its properties and main applications in industry and everyday life.

Chemical elements and their functions

Hydrogen: H

(hydrogen)

Daily applications: Illustration: •

missile fuel; • hydrogenation

of fats; Balloon filling; • oil

desulfurization. metals:

REPS: Na (sodium)

Daily applications: Illustration: • table

salt; Organic

syntheses; • Street

lighting; • cooling for the

atomic reactor; • accumulator; • sodium

hydroxide; •

glass.

Be (beryllium)

Daily applications: Illustration: •

window for X-ray tubes;

- material to slow down neutrons without atomic reactors;
- spring (for watches);
- spark-free tools.

Al (aluminum)

Daily applications:

Car, rocket, airplane;

- windows, doors, windows, pans;

Illustration:

- sheet, tube, cable;
- lighting, fireworks;
- concrete;
- tooth filling.

K (potassium)

Daily applications: Illustration:

- glass lenses;
- chemical

fertilizers;

- phosphorus, gunpowder;

- oxygen mask;

Salt diet.

Ca (calcium)

Daily applications: Illustration:

- plaster, cement, cement;

- metal preparation;

- sheath for the accumulator cable;

- chemical fertilizers;

- loading paper and ink material.

TRANSITION:

Sc (scandium)

Daily applications: Illustration:

- seed germination;

- Leak detector;

- material for space activities.

V (vanadium)

Daily applications: Illustration: • Tools;

• construction

material; • jet engine; • catalyst

for the production

of sulfuric acid.

Rh (rhodium)

Daily applications: Illustration: •

headlight reflector; •

telephone retransmission; • fountain

pen tip; • exhaust gas catalyst;

• aircraft engine spark plug.

Ass (copper)

Daily applications:

PHYSIOLOGY

More information about physiology, study of the functions of living beings What is

physiology Physiology

is a biological science that studies the functions (physical, organic, biochemical) of living beings. The word is of Greek origin, where physis means nature and logos means study or knowledge.

Physiology brings together important principles of physics, chemistry and mathematics, giving meaning to the interactions of the basic elements of a living being with the environment.

There are three main areas of physiology: - Animal

physiology (includes human physiology)

- Plant physiology

- Bacterial physiology

Vital functions

Vital functions refer to the necessary functions performed by every living being to maintain life. Even single-celled living beings can perform vital functions, since the only cell in existence can perform them independently.

There are three main vital functions: nutrition, reproduction and relationship with the environment.

Major vital functions

Nutrition

Nutrition brings together all the activities that living beings carry out to obtain the matter and energy essential for life. Nutrition consists of several factors: -

Food: the survival of living beings is only possible with the intake of foods that provide the proteins and nutrients necessary for their development. There are two types of nutrition: heterotrophic and autotrophic. The first is used by humans and animals and is based on the production of matter from organic matter. In other words, food is digested and reduced to simple molecules. The digestive system is fundamental, with digestion, which is a chemical and mechanical process in which the breakdown of nutrient molecules, such as lipids, proteins, carbohydrates and nucleic acids, occurs. The second type of nutrition is used by plants and consists of the creation of organic matter from inorganic matter, through photosynthesis.

- **Circulation:** circulation is essential for matter to reach all parts of the body. Circulation occurs through blood tissue and blood circulates through vessels, arteries, veins and capillaries. Human circulation is double, closed and complete.

- **Excretion:** excretion is the elimination of metabolic waste resulting from chemical reactions in the body's cells. These residues, such as ammonia, urea and uric acid, cannot remain in the bloodstream as they are toxic. In the case of humans and animals, waste

They are eliminated through urine and feces, thanks to the excretory system.

- Breathing: breathing is included in nutrition, as it is the metabolic process that allows us to process and maintain the energy we obtain through food. It is represented by the processes of inspiration (oxygen entering the body) and expiration (expulsion of carbon dioxide). The respiratory system is made up of the airways through the lungs. reproduction Reproduction is the vital function that

guarantees

the survival of the species, transmitting genes to future generations. There are two types of reproduction: sexual and asexual. Sexual reproduction is what requires two individuals of the opposite sex and is accomplished by the union of sex cells (eggs and sperm), or gametes, from each individual, which is called fertilization. Asexual reproduction is that of unicellular beings, in which only one individual intervenes.

Relationship with the environment

Allows living beings to perceive changes in the environment, internal and external, and develop responses to these stimuli. In this way, the relationship of living beings with each other and with the environment becomes possible and the guarantee of survival.

PHYSIOLOGY

Human vital functions

Discover the vital functions for the functioning of the human machine: Digestion
Chemical

and mechanical process, in which nutrient molecules decompose. These nutrients are lipids, proteins, carbohydrates and nucleic acids. The way of feeding is as follows: mouth, esophagus, stomach, duodenum, small intestine (fasting), large intestine and rectum, where feces come out.

The liver emulsifies fats, facilitating the action of lipases. The hormones involved in digestion are: gastrin, secretin,

cholecystokinin and enterogastrone. All secreted by the epithelial cells of the digestive tract.

The intestinal folds or villi are formed by blood and lymphatic vessels, connective tissue and epithelial tissue with microvilli, which increases the absorption surface.

Tips: remember that gastric (stomach) enzymes do not break down carbohydrates, but only proteins, due to the action of pepsin, which is activated by HCl in gastric juice.

Trypsin and chyme trypsin are initially in the form of trypsinogen and chyme trypsinogen, which are activated by enterokinase in the duodenum when pancreatic juice is released.

Monosaccharides are obtained from disaccharides in the small intestine by the action of enteric enzymes: maltase is sealed and removed.

All food is used as a source of energy or construction of living matter. Whatever is in excess will be stored in the form of lipids, in adipocytes (fat or adipose tissue cells). When there is a lack of nutrients, fats begin to be mobilized as a source of energy and the person loses weight.

Digestive tract problems: Peptic

ulcer - caused by drugs or the bacteria *Helicobacter pylori*, the lining of the stomach or duodenum cannot be defended and gastric acidity attacks this lining and lesions and wounds appear, causing pain and heartburn; Constipation occurs when the peristaltic movements of the intestine are very slow and waste remains in the intestine for a long time, where it hardens due to the large reabsorption of water; Diarrhea occurs when the small intestine becomes irritated and peristaltic movements are too rapid.

Liver functions: storage of glucose in the form of glycogen, storage of certain vitamins, transformation of carbohydrates into lipids and proteins, production of bile, among others Excretion: Elimination of metabolic ...
waste

resulting from chemical reactions in the body's cells. This excretion of nitrogen cannot remain in the

bloodstream because it is toxic. They can be ammonia, urea and uric acid. •

Ammonotelic animals: expel ammonia because it is a substance that is very soluble in water;

- Uricotelic animals: expel uric acid, which is poorly soluble and does not require a significant amount of water; •

Urothelic animals: expel urea, which requires little water and is well adapted to human excretion, as we need to save as much water as possible.

Our excretion is carried out by nephrons, which are the filtering unit of the kidneys. There are about one million nephrons in each kidney. Our kidney is of the metanephros type, as it removes all metabolites directly from the blood. 99% of the water is reabsorbed and urine is formed in the collecting duct, stored in the bladder and released through the urethra.

Tip: Two hormones act on human excretion: aldosterone and antidiuretic hormone (ADH). ADH is released from the pituitary gland and facilitates water reabsorption in the nephrons. Alcohol inhibits ADH, producing more dilute and abundant urine. Aldosterone, from the adrenal glands, increases the reabsorption of ions in the nephron tubules and, therefore, acts in the osmotic control of the blood.

Urinary tract problems: Uremia

- high blood urea velocity; Glomerulonephritis - inflammation of the glomeruli.

Kidney stones - accumulation of mineral salt crystals in the kidneys and the possibility increases due to low water intake.

Breathing

Represented by the processes of inspiration and expiration. The respiratory system is made up of the airways and lungs. Inspired air, rich in oxygen, fills the lungs at the level of the alveoli (bags in which gas exchange with the blood occurs (hematosis)). The lungs are protected by the rib cage, formed by the sternum and ribs. They are made up of the diaphragm and intercostal muscles.

When we inhale, the chest expands and the diaphragm descends, entering

up in the air. When we exhale, the chest returns to normal and the diaphragm rises again, expelling air, full of carbon dioxide. The blood must nourish the tissues and therefore absorb nutrients and respiratory gases. When it reaches the cells of different tissues, an exchange occurs between them and arterial blood, which releases oxygen and receives carbon dioxide, which is carried mainly in the form of bicarbonate ions, but is also dissolved in plasma and connected to hemoglobin.

Carbon dioxide is the enzyme that catalyzes the reaction of water with carbon dioxide in the blood. Hemoglobin is the pigment in red blood cells that gives them their characteristic color and, through its iron ions, transports inspired oxygen to all cells in the body. This oxygen will be used for cellular respiration, with an energy balance of 38 ATP.

Tip: CO (carbon monoxide), an odorless gas, creates a highly stable bond with hemoglobin, preventing the transport of oxygen. If an individual is exposed to CO for a prolonged period, they may die from asphyxiation.

At higher elevations, the air is thinner and oxygen availability is lower. People who live at sea level, when they reach these altitudes, feel the impact of oxygen deficiency. To make up for this deficiency, the body begins to produce more red blood cells in the bone marrow, through the action of the hormone erythropoietin and, therefore, there will be a greater number of hemoglobin molecules to capture more oxygen.

Respiratory problems:

Flu and colds - caused by viruses, which attack the respiratory tract, sinuses and ears;

Tuberculosis and pneumonia - caused by bacteria. The trachea and bronchi can become inflamed, which can cause acute bronchitis, which can reach the lungs - bronchopneumonia. Chronic bronchitis occurs due to constant irritation of the airways due to smoking, allergies and air pollution. Emphysema is destruction

progressive development of the alveoli, caused mainly by smoking. Asthma is an inflammatory reaction in the bronchi, with edema, hypersecretion of mucus and smooth muscle contraction, which causes shortness of breath.

Circulation:

Circulation occurs through blood tissue. Blood circulates through vessels, arteries, veins and capillaries. Human circulation is double, closed and complete. Blood passes through the heart twice in a complete circuit that lasts about 1 minute. The heart is made up of four cavities: two atria and two ventricles.

The right atrium receives venous blood from the body through the vena cava. The right ventricle pumps this blood to the lungs, where hematosis occurs, through the pulmonary artery. Arterial blood enters the left atrium and is pumped to the body through left ventricular systole and leaves the heart through the aorta and carotid arteries.

The cavities are separated by valves, and there are also valves between the ventricles and the vessels through which blood flows. The myocardium is the heart muscle (striated cardiac muscle - involuntary movements). It has a certain independence in relation to the nervous system, as it allows heartbeats through bundles of cells that transmit an electrical impulse that allows the systole and diastole movements of the atria and both ventricles. It is the sinoatrial node; the atrioventricular node; the hissing bundle and the purkinje fibers.

Arterial blood absorbs nutrients, respiratory gases, and hormones into tissues and collects excreta and carbon dioxide. The exchange occurs at the level of capillaries, very thin vessels, and what leaks and does not return due to the difference in pressure in the arterial and venous part of the capillary, is collected by the lymphatic circulation, which also transports lymphocytes, the body's defense cells. What is collected is later returned to the blood through the subclavian veins.

Tip: a vein is every vessel that enters the heart and an artery is every vessel that leaves the heart, regardless of the type of blood I carry

(arterial or venous).

Circulatory tract problems: •

Atherosclerosis: hardening of blood vessels due to the deposition

of fatty plaques (atheroma); • Ischemia:

difficulty transporting oxygen and oxygenating cells in general; •

Thrombosis - blockage of a vessel, preventing the passage of blood;

Cerebrovascular accident (CVA) - rupture of an artery in the brain due to a sudden increase in blood pressure; • Heart attack:

death of the myocardium due to obstruction of the arteries that feed the heart, the coronary arteries. Symptoms are angina pectoris (pain in the left chest that radiates to the arm), neck pain, sweating and breathing difficulties.

Causes of heart and circulatory problems: sedentary lifestyle (lack of exercise), obesity, foods rich in animal fats and trans fats, smoking, stress, depression and use of anabolic steroids.

GENES

What are genes, heredity, human genome, genetics, DNA and RNA, chromosomes.

What is it

The gene is the fundamental unit of heredity. Each gene consists of a specific sequence of nucleic acids (the most important biomolecules in cellular control, as they contain genetic information).

There are two types of nucleic acids: deoxyribonucleic acid - DNA and ribonucleic acid - RNA).

Functions, location and other information

Genes control not only the structure and metabolic functions of cells, but also the entire organism. When found in reproductive cells, they pass their information to the next generation.

The gene is made up of a DNA sequence that forms nucleotides (compounds rich in energy and that help metabolic processes, mainly biosynthesis in most cells).

Nucleotides are composed of a nitrogen base, a pentose (sugar with five carbon atoms) and a phosphate group. Nitrogen bases can be classified into: pyrimidine and purine.

The gene is usually found interspersed with non-protein-coding DNA sequences. These strands are called "useless DNA". When this type of DNA occurs within a gene, the coded part is classified as the noncoding part.

Useless DNA makes up 97% of the human genome, and despite the name, the genes must function properly.

Each species has a defined number of chromosomes. Changes in the number or arrangement of genes can cause genetic mutations.

When mutations occur in germ cells (egg or sperm), the changes can be passed on to future generations. Mutations that affect somatic cells can cause some types of cancer.

The genetic composition of an organism (genotype) plus the influence received from the environment will be responsible for the phenotype, that is, the observable characteristics of the individual.

The sum total of genes is called the genome. Research carried out with the aim of identifying the location and function of each gene is known as the human genome.

WHAT IS CHEMISTRY?

Chemistry studies transformations involving matter and energy.

Chemistry is a branch of natural sciences that studies matter, its properties, its constitution, its transformations and the energy involved in these processes.

Matter is the main object of study in chemistry and can be defined as anything that occupies space and has mass, that is, the entire material world around us and even ourselves.

Regardless of form, origin (present on our planet or universe) or living or dead, there is no material that is beyond the reach of chemistry.

Chemistry has a huge impact on technology and our society, as its studies play a fundamental role in the development of all branches of science. After all, it is through the study of matter that we can understand the properties and possible transformations that each substance can undergo and then use this knowledge to our advantage. It is very easy to see the different contributions made by Chemistry throughout the history of humanity. Among these, we can highlight:

- development of processed foods;
- Increased shelf life of products;
- Increase the effectiveness and action of cosmetics;
- Development of medicines to combat the most varied diseases;
- Development of alternative fuel sources;

Production of substances in the laboratory; •
Development of techniques and solutions for environmental problems.

Chemistry is a science with three basic levels:

1. Macroscopic: transformations that can be observed, that is, that deal with properties involving large and visible objects; 2.

Microscopic: is the interpretation of macroscopic phenomena through transformations that we cannot see directly, such as the rearrangement of

atoms; 3. Symbolic: chemical symbols, such as molecular, structural and electronic formulas, as well as mathematical equations

and formulas, are used to represent the transformations and phenomena studied.

In this space, you can clarify all your doubts about the most varied topics and questions involving Chemistry, or all the knowledge related to the main areas of Chemistry required in the entrance exams still in force and in Enem, namely:

General Chemistry:

- It matters
- Physical states of matter
- Properties of matter
- Substances and mixtures
- To Tom

Inorganic Chemistry: -

Acids

- Fundamentals -

Oxides

- To enter
- Chemical reactions related to the substances highlighted above physical chemistry:
- Solutions
- Collective properties
- Chemical kinetics
- Thermochemistry
- Electrochemistry
- Chemical balance
- Radioactivity

Organic chemistry:

- Characteristics of carbon
- Oxygenated organic functions
- Organic functions of nitrogen
- Isomerism
- Organic reactions
- Polymers
- Biochemistry

Environmental chemistry

- Air pollution
- Water pollution
- Ground pollution
- Acid rain

Depletion of the ozone layer

- Waste disposal -

Waste recycling Now,

feel free to click on each of the texts proposed below and further expand your knowledge of chemical science.

BIOCHEMISTRY AND BIOLOGY

Biochemistry is the part of biology that deals with the chemical processes that occur in living organisms.

The discovery of the structure of DNA has been fundamental to the advancement of biochemistry

Biochemistry is the part of biology responsible for studying the structure, organization and molecular transformations that occur in the cell. These transformations configure what we call metabolism, which is none other than the extremely coordinated reactions, fundamental to guarantee the survival, growth and reproduction of living organisms.

Metabolism is generally classified into anabolism or catabolism.

In the first case, chemical reactions are focused on the synthesis of complex molecular structures from simple molecules. In the case of catabolism, complex molecules are broken down into simpler structures. It is worth mentioning that both processes occur in all living cells.

Biochemical processes of living beings At a biochemical level, despite the great diversity of life forms, many structures and processes are shared by very different living beings, which facilitates the understanding of life as a whole.

All species, for example, are composed of basic elements, such as carbon, hydrogen, oxygen, nitrogen, phosphorus, sulfur and complex molecules, which carry out chemical processes to produce the energy necessary for survival.

In general, we can say that all organisms carry out four basic biochemical processes to maintain life: Synthesis of biomolecules, such as carbohydrates, lipids, proteins and nucleic acids; Transport of substances through membranes; Production of energy; Elimination of metabolites and toxic substances.

Biochemical discoveries

Among the main biochemical results that deserve to be highlighted, we can mention the understanding of the structure of DNA (deoxyribonucleic acid), the understanding of the importance of the gene in protein synthesis, the determination of the structure of proteins and the understanding of metabolic pathways.

Understanding these processes was, without a doubt, fundamental for the development of different areas, such as biotechnology, medicine and agriculture. In the field of medicine, for example, we can highlight the importance of this science in advancing genetics and understanding metabolic diseases, such as diabetes and even degenerative problems. In the agricultural sector, the development of transgenic varieties has ensured greater crop success.

We observe, therefore, that biochemistry is nothing more than the study of the chemistry involved in all living beings, and is therefore fundamental for understanding the processes that allow the maintenance of life and the development of techniques that guarantee a better quality of life. product. life for everyone. It is worth mentioning that, despite the great development of the area, there is still a lot to be studied and constant investments are essential in this field of study.

Check out the texts displayed below to learn more about the chemistry of life! Good studies!!!

ALCHEMY

Alchemy is an ancient practice, ancient chemistry practiced in the

medieval. It combines in its broad cognitive spectrum notions of chemistry, physics, astrology, art, metallurgy, medicine, mysticism and religion. The most widespread belief is that alchemists try to find in the Philosopher's Stone, a mythical substance, the power to transform everything into gold and, even more, to provide those who find it with eternal life and a cure for all ills.

According to researchers, however, Alchemy goes further. Its objectives have a symbolic value, which means that its practitioners are actually seeking something greater: spiritual transmutation.

Therefore, the famous Elixir of long life would be nothing more than a resource of the human organism, capable of granting those who carry out the long process of spiritual purification a life extended to infinity. It is also said that this substance is an important point in the philosophy of Yoga. Alchemists attempted to intensify the search for this elixir through laboratory experiments that used the four elements essential to alchemical work: fire, water, earth and air.

In extreme observation of nature and its components, alchemists achieved very important knowledge, some of which has recently been absorbed by quantum physics, as proof that all things are interconnected in the cosmos. This holistic vision contributed greatly to the treatments carried out by the Swiss doctor Philippus Paracelsus, who started from this point of view in his mission as a healer. He believed that substances such as salt, mercury and sulfur permeate all living beings, even the human organism.

Currently, this same belief is saved by anthroposophy, a spiritualist current that also compares the concepts of alchemy with the active forces of the soul - thought would correspond to salt; the feeling of mercury and the desire for sulfur. Some of its thinkers see the gold pursued by alchemists as a representation of the "self", the human essence. alchemy is not currently

considered a science, as scientific knowledge is conceived today, but a spiritual vision more interested in ancient traditions than in discovering new things is

considered an ancestor of modern chemistry and medicine. In addition to chemical experiments with alchemists, there was a constant concern with carrying out a series of rituals.

Alchemy also addressed some points of Kabbalah and Magic, in addition to cultivating a hermetic philosophy. From Kabbalistic theory, alchemy inherited the search for the harmony of opposites. The Philosopher's Stone could, therefore, be the search for perfection, which could not be achieved without the balance between the polarities that man possesses. Therefore, the manipulation of metals would be a symbol of the spiritual metamorphosis that permeates all living beings. But there are many interpretations of alchemical texts and, to date, there has been no consensus on the real meaning of alchemical symbols. Filed under: Philosophy, Chemistry The secret of alchemy For Celsus simplifies the mysterious, magical and supernatural concept of alchemy and clarifies: "The baker is also an alchemist, who converts flour into bread, who produces wine and weaves the thread with his strength" .

Alchemy is the mother of chemistry, allopathy, homeopathy, but it totally differs from the current sense of pharmacy and laboratory.

Alchemy is physical, psychic and spiritual. It gives a deifying meaning and humanizes everything.

As alchemy is the greatest treatise in hermetic philosophy, it is based on immutable principles, which are the states of matter: the volatile, which goes beyond the gaseous state, the solid, the liquid and the pasty. It is the "tree" that best represents it: the tree's life begins in a volatile state, where pollen from its flowers is carried through the air. It is solid in the consistency of its trunk. It becomes pasty in the sap, in the resin, in the milk, in the latex. Become liquid in coconut water and fruit juice. It is partly animal in its composition. It is a mineral that is made from stone when it becomes amber, when it is made from incense. He is a magician, human and divine, due to his alchemical function.

The phrase that symbolizes alchemy: "solvi-te corpora et coagulate spiritum" (dissolve the body and coagulate the spirit).

No other science allows this type of transmutation to be achieved,

metamorphosis.

The secret lies in the same process that differentiates the brain from the computer.

The computer only knows what is programmed.

As for the brain, what we program with knowledge ferments and resonates throughout the body, mind and soul. As it is a universal treatise, it can extract the essence of a star, a plant, a mineral or a man.

The spirit is solar, the body is terrestrial and the soul is the alchemical fusion of body and spirit.

Also: mercury, sulfur and salt, they give us an equivalence to the trinity or the "fineness".

Mercury is the creator.

Sulfur is the conservative.

Salt is the pain transmuter.

To transform lead into gold, that is, negative into positive: Metaphysics is the basis of philosophy and also the branch responsible for studying the existence of being.

Through metaphysics, an interpretation of the world, nature, constitution and basic structures of reality is sought.

What is that?

The word metaphysics derives from the Greek and the prefix "meta" means "beyond". The first philosopher to treat the topic systematically was Aristotle.

In fact, he himself called this idea "first philosophy" because he understood that it would be the foundation of philosophical reflection. Therefore, the term metaphysics was not coined by him, but by one of his disciples who organized his work.

In addition to "first philosophy", Aristotle studied the "science of being as it is". So he was interested in questioning what makes history different and at the same time private.

Aristotle

Unlike Plato, Aristotle thought that the principles of

reality were not in the intelligible world, but in our sensible world.

Reality is subject to time and space.

Aristotle stated that four causes condition the existence of

beings:

1. Material cause: the body is composed of matter. such as blood, skin, muscle, bone, etc.

2. Form: if, on the one hand, we have matter, we also have a form. One head, two arms, two legs, etc. Therefore, this form transforms us into unique beings that differ from others.

3. Efficient: why do we exist? The first answer is because someone created us. This would be an answer from the "efficient cause" field: we exist because we were created.

4. Final: we exist for something. This answer transcends the previous one because we are facing a goal, a target. All beings were created for a purpose. The field of philosophy he studies is called "theologian already".

Kant It is common to know that Kant (1724-1804) would have killed metaphysics. However, what Kant meant is that the human being is incapable of answering some metaphysical questions, such as the existence of God and the soul, for example.

Kant will try to evaluate the reason. If I can't find rational evidence, I don't need to deal with these questions, or at least they don't belong in the realm of reason.

So Kant will change the questions. Instead of asking what is truth, he will ask himself how truth exists.

Kant set out his thoughts in the work "The Foundation of Metaphysics of Customs", written in 1785.

The history of metaphysics is divided into three periods:

1. First period: begins with Plato and Aristotle (between the 4th and 3rd centuries BC) and ends with David Hume (18th century). At this stage, metaphysics has been understood as a reflection of being in its most general sense. One of the great scholars of this time would be Thomas Aquinas, who recovered Aristotelian philosophy and applied it to his theological studies.

2. Second period: begins with Immanuel Kant, during the 18th century, and ends in the 20th century with Edmund Husserl and his studies on phenomenology. Kant will continue Hume's studies, emphasizing the primacy of reason over the transcendental questions raised by metaphysics.

3. Third period: is the period that begins in the second decade of the 20th century until the present day. It corresponds to contemporary metaphysical studies. The most negative criticisms of metaphysics arise with the recovery of materialism and the creation of positivism. On the other hand, at the end of the 20th century, we have a renaissance of metaphysics through esoteric currents.

4. Ontology

The area of philosophy that deals with the nature of being, which is the reality and existence of things, and metaphysical issues in general, is called ontology.

In the philosophical sense, it has several definitions and some authors consider it the study of contemporary metaphysics.

The word derives from the union of the Greek words *ontos* (being) and *logos*

(word). Ethics Ethics is a set of moral systems that influence the way people make decisions. It can be defined as a moral philosophy.

The term ethics derives from the Greek word *ethos*, which means habits, customs or character.

Ethics is addressed in different segments of society, such as religion, politics, philosophy and culture.

While metaphysical studies are a being, ethics deals with cause and effect. For Aristotle, ethics is based on metaphysics.

Epistemology

Epistemology is the study of the origin and acquisition of knowledge, therefore, there is a specific area to verify the validity of metaphysics knowledge.

Today, modern epistemology is based on two fundamental points: empiricism and rationalism.

Positivism

Positivism is the main current in opposition to metaphysics. Positivist thinking maintains that the objective of science is logic.

Emotions and thoughts are not considered.

Man is composed of body and soul, although in some cases the term "spirit" is added. Both the soul and the spirit are contrasted with the body to express the incorporeal part of man.

There is, however, a distinction between soul and spirit. The word "soul" is used to express the immortal moral part of the human being, and is sometimes used for "person", as in the verse in Genesis 46:26, which says: "All the souls that came with Jacob into Egypt" "Eight souls are saved" (1 Pet. 3:20). "The sinful soul will die" (Ezek. 18:4).

The Hebrew word usually translated as "soul" is nefesh. In many passages it translates "life", as in Jonah 1:14: "...we did not perish by this man's life." In the New Testament, the same Greek word is used for soul and life: "For whoever wants to save his life (or soul) will lose it, and whoever loses his life (or soul) for my sake will find it. Why does a man gain does the whole world lose its soul (or life)? Or what will a man give in exchange for his soul (or life)?" It is in the soul, as distinct from the spirit, that appetites and desires are found.

The rich man said: "And I will say to my soul, Alma, that you have many possessions stored up for many years: rest, eat, drink and take a break" (Luke 12:19). That night, his "soul" was sought. The salvation of the soul cannot be separated from the salvation of the person.

The spirit is clearly the highest part of man. It marks consciousness, individuality and distinguishes man from the inferior creatures of creation. God breathed into man's nostrils the breath of life, and so man was placed in a relationship with God, and he cannot be truly happy apart from him and his existence, present and eternal. The same words used in the original Hebrew and Greek for "spirit" are also used constantly for the S

pirito di Dio or the Holy Spirit, and they are also used for angels, in the sense of spirits and for evil spirits.

The Word of God is sharp and capable of dividing a man's soul and spirit, although it cannot be easy for the human mind to perceive this division. The apostle prayed for the Thessalonians that the spirit (which is probably shown as the place where God works) and the soul and body might be sanctified (1 Thessalonians 5:23). In the Epistle to the Jews we read of the "spirits" of the perfect righteous; Your place is with God through redemption. Apparently the word there means the person separated from his body.

The Christian, having received the Holy Spirit as the source of life in Christ, is urged to pray with the spirit, to sing with the spirit, to walk in the Spirit, so that in some cases it becomes difficult to distinguish between the Spirit of God and the Spirit. Christian spirit.

What is homogeneous:

Homogeneous is an adjective attributed to everything that has the same nature or has a similar structure or function, compared to something else.

Generally, the term is used in situations where it is not possible to clearly determine the composition or formation of a specific thing or space, for example.

Examples:

Agricultural land is much more homogeneous.

This article about the country's economy contains very homogeneous information.

This term can also be used to refer to something in order to express consistency or demonstrate a correspondence between two things.

Examples:

This is a characteristic of a homogeneous government.

The journalist presented a very homogeneous text.

Homogeneous in

chemistry For the area of chemistry, the term homogeneous is connected to the system that is composed of a mixture of substances that contains only one phase

(single-phase) when two or more elements are mixed.

When we say that a mixture is homogeneous, we mean that its composition is uniform, that is, that the components mix easily and it is not possible to perceive the substances separately.

Difference between homogeneous and heterogeneous In chemistry, the difference between homogeneous and heterogeneous lies precisely in the fact that pure substances mix. So, what defines whether a mixture is classified as heterogeneous or homogeneous is the way in which the substances used are mixed and whether the result will have one or more phases.

Mixtures can be formed from two or more pure substances and will be classified as homogeneous or heterogeneous.

In this sense, a homogeneous mixture is one that visibly presents a single phase. The heterogeneous mixture, on the other hand, has two or more phases, being two-phase or three-phase, for example.

Salt water is an example of a homogeneous single-phase mixture, that is, it has only one phase. This occurs because, when mixing water and salt, it is not possible to notice the difference or separation of the substances that make up this mixture.

Water and oil are the best-known examples of a heterogeneous mixture, since these substances are well mixed. In this case, it is a heterogeneous two-phase mixture, as it is possible to perceive each of the substances separately.

See also the meaning of heterogeneous.

Homogeneous in mathematics

In mathematics, the term homogeneous refers to an equation in which the terms that make up the expression have the same value, the same degree, or the same direction.

In the so-called homogeneous linear equation, the result of the equation formed by independent terms will always be equal to zero.

See this example: $3a + 2b - c = 0$.

Synonyms for homogeneous

The term can be replaced by synonyms such as: equal, analogous,

identical, equal, similar, similar, similar, uniform, simple, connected, smooth, even, cohesive, harmonious, coherent, cohesive, balanced.

WHAT IS PHYSICS?

Physics is the area of natural sciences that studies phenomena that occur with matter in space and time.

The word physics has its origin in the Greek term *Physiké*, which means "nature", its use/meaning is always related to the word *episteme*, which, of Greek origin, also means "knowledge", "science". Therefore, physics was defined as: The science that studies nature.

However, this was the definition given by the Greeks of ancient Greece. For them, all natural phenomena were intriguing and there was no distinction between a body falling, a plant sprouting, and wine fermenting.

Over time, there was a division of natural sciences and thus chemistry, biology and physics were born - which began to have their own field of study.

Physics tries to describe, predict and justify by law the phenomena that occur with matter in space and time.

The phenomena studied by physics are present everywhere, in our daily lives, on our planet, in other galaxies, in short, throughout the universe. When dealing with these phenomena, Physics uses the scientific method, since hypotheses must be confirmed by experiments; thus, predictions are made and it is possible to check whether the experiments conform to these predictions.

Physics is traditionally divided into branches. Each branch groups the study of facts that have similar properties and that can be related and described by common laws.

So, here are the branches of physics:

Mechanics: studies the movements of bodies.

Thermology: studies phenomena related to temperature and heat.

Optics: studies phenomena related to light.

Wave: studies phenomena related to waves, their characteristics, properties and behaviors.

Electricity and magnetism: studies electrical and magnetic phenomena.

Modern physics: deals with physics developed in the 20th century, which can include relativity, quantum physics and nuclear physics.

What is quantum

physics: Quantum physics is a branch of theoretical science that studies all phenomena that occur with atomic and subatomic particles, that is, equal to or inferior to atoms, such as electrons, protons, molecules and photons, for example.

All these microparticles cannot be studied from the point of view of classical physics, as they are not influenced by the laws that compose them, such as gravity, the law of inertia, action and reaction, etc.

Unlike classical physics, quantum physics is classified as "nonintuitive," meaning that in this branch of study, certain things are true even when they appear not to be. In fact, because it is considered non-intuitive, quantum physics has become known as a "false theory".

Also known as quantum mechanics, this revolutionary theory of modern physics emerged at the beginning of the 20th century, with the physicist Max Planck (1858-1947), who was one of the pioneers in the development of its basic principles and which contradicted most of the time. basic laws of classical physics. Planck was responsible, for example, for creating the "Planck constant" ($E = h\nu$).

However, it was Albert Einstein, the creator of the theory of relativity, who first named Planck's quantum equation (a Latin word meaning "quantity"). Quantum is a reference to the physical event of quantization that consists of the instantaneous change of electrons that contain a minimum level of energy into a higher level if they are heated.

Although quantum physics theory focuses on phenomena

microscopic, they are reflected in all macroscopic aspects, since everything in the universe is made up of molecules, atoms and other subatomic particles.

During the 20th century, several scientists and physicists contributed to the development of quantum physical theory, such as: Werner Heisenberg (1901-1976), Louis de Broglie (1892-1987), Niels Bohr (1885-1962), Erwin Schrödinger (1887) . - 1961), Max Born (1882-1970), John von Neumann (1903-1957), Richard Feynman (1918-1988), Wolfgang Pauli (1900-1958), among others.

Since then, quantum physics has become the basic theory of many other branches of physics and chemistry, such as atomic physics, nuclear physics, molecular physics, quantum chemistry, particle physics, etc. In fact, the principles of quantum physics are also applied in various sectors of human knowledge, revolutionizing not only the exact sciences, but also philosophical currents.

The main link between quantum physics and philosophical and spiritual concepts, according to defenders of this relationship, is the condition of randomness and uncertainty of this theory, according to which it is possible to have two different and simultaneous situations for a given subatomic body.

This principle was observed in quantum physics by the so-called "wave-particle duality", that is, when a particle behaves like a particle or like a wave, a completely abnormal statement before classical physics.

From this idea, for example, different theoretical study hypotheses emerge, such as the "multiple worlds theory", according to which it is possible to have different alternative realities for each individual.

Quantum physics and spirituality

This relationship is controversial, as it consists of the debate between two distinct groups, one formed by those who defend the veracity of quantum influence on the spiritual plane and the other who completely deny the use of quantum mechanics as a way of explaining spirituality.

For those who defend the existence of a relationship between physics

Quantum and spiritual physics, the power of human thought can exert great power over the individual reality of each person, being, with the correct indications, capable of altering the world around them.

Quantum physics and thought

Several internationally renowned physicists relate the principles of quantum physics to theories of human consciousness and the power of thought as "builder of reality."

In short, the human mind would have a profound capacity to influence the arrangement of atomic microparticles around people, the way they behave and how they construct each individual's reality. For scholars who believe in this idea, people's intentions influence the construction of reality.

THE FIVE KINGDOMS OF LIVING BEINGS

Discover the five kingdoms of living beings and discover more about their differences.

Animals and plants are classified respectively into the kingdoms Animalia and

Plantae. We know that, according to their similarities, all living beings are grouped into different categories, varying from kingdom to species. A kingdom is the most widespread category and includes living beings with similar characteristics but some important peculiarities.

Currently, we consider the existence of five kingdoms: Monera, Protista or Protoctista, Fungi, Plantae and Animalia. This classification was proposed by researcher Whittaker in 1969 and is still one of the most accepted and studied in elementary and secondary education.

The kingdom of Monera is a group of very simple beings. All members are made up of a single cell (single cell) and do not have a defined nucleus (prokaryotic cell). Some representatives are able to produce their own food (autotrophic), while others need to consume their nutrients from

other living organisms (heterotrophs). All species of bacteria and cyanobacteria are included in this group.

The protist or protoctist kingdom, unlike the Monera kingdom, does not have individuals with prokaryotic cells, all of which are eukaryotic representatives. In this group, we find unicellular and multicellular beings and also organisms with autotrophic and heterotrophic nutrition. This kingdom has very different organisms, and many people even claim that there are beings grouped within it that simply do not adapt to other kingdoms. As representatives, we can mention protozoa and algae.

Paramecium is an example of a representative of the protoctist kingdom. The mushroom kingdom features unicellular or multicellular organisms with one eukaryotic cell. All representatives, unlike the kingdoms above, are heterotrophic, that is, unable to harm their food. This is the main characteristic that allows us to distinguish this group of plants. All mushrooms, molds and yeasts are included in this kingdom.

The kingdom of Plantae is composed exclusively of autotrophic organisms that have eukaryotic and multicellular cells. It is a very diverse group and includes all the plants on the planet. Despite the appearance of algae plants, this last group cannot be grouped in this kingdom. However, evidence shows that plants have green algae as ancestors.

Finally, we have the kingdom Animalia, the kingdom to which we belong. It has representatives of heterotrophic, multicellular and eukaryotic cells. This first characteristic (heterotrophic beings) is fundamental to differentiate this group of plants.

We still have viruses, but they are not classified in any of the domains studied. Many scholars do not consider these beings to be living, since they do not have cells or metabolism outside of the cells of their parasites. However, this is still a controversial point.

Faced with this problem, viruses are studied separately.

KINGDOMS OF THE LIVING WORLD BIOLOGY

The most accepted kingdoms of the living world today are Monera, Protocista, Fungi, Plantae and Animalia.

Since ancient times, different ways have been proposed to classify living beings in order to facilitate the study of these organisms and understand their evolutionary relationships. The criteria used to group them are varied, which means that these systems are constantly being changed and improved.

The first classification systems were quite simple and, as technological resources were scarce, they were based on the macroscopic characteristics of each being and their lifestyle habits.

For this reason, organisms were initially classified by Linnaeus into two kingdoms: animal and vegetable.

With the advancement of technology, the study of microscopic beings began and, with this, a new classification emerged. In 1866, the term protist was proposed to designate eukaryotic organisms that did not fit into the animal and plant kingdoms.

Years later, protists were promoted to the kingdom.

Copeland, in 1956, suggested the creation of a kingdom to group organisms that could be considered simpler in nature: bacteria. The four kingdom system emerged, as did the kingdom of Monera, where prokaryotic beings were inserted.

Mushrooms are part of the mushroom kingdom Later, in 1969, the five kingdom system proposed by Whittaker emerged. Without a doubt, this is the most used system, even if there are other classifications. According to the Whittaker system, we have the kingdoms: Black Morena, Protista, Fungi, Animalia and Plantae.

Kingdom Monera: groups unicellular prokaryotic organisms, that is, they have a single cell without a nucleus delimited by a membrane.

Examples: bacteria and cyanobacteria.

Kingdom Protista (currently called Protocista): brings together unicellular and multicellular beings, eukaryotes, autotrophs or

heterotrophs. Example: algae and protozoa.

The change of name from Kingdom Protista to Protoctista occurred in the 1980s and was proposed by Margulis and Schwartz. In addition to changing the names, the researchers included multicellular algae and some mushrooms in this group.

Kingdom fungi: groups eukaryotic beings, which in most cases are multicellular and heterotrophic. Examples: mushrooms, molds and yeasts.

Plants are part of the kingdom Plantae

Kingdom Plantae or Metaphyta: includes eukaryotic multicellular organisms with autotrophic nutrition. Example: mosses, ferns, araucaria and mango.

Kingdom Animalia or Metazoa: includes eukaryotic and heterotrophic organisms that have a heterotrophic diet. Example: man, dog, cow and birds.

Animals are part of the kingdom Animalia.

In addition to this classification, it is currently accepted that all organisms are included in three main domains: bacteria, archaea and eukaryotes.

This classification was proposed by Carl Woese in 1990 and created using data from nucleoside analysis of ribosomal RNA.

The bacteria domain groups all real bacteria or simply bacteria.

The domain Archaeae includes all archaea, which were previously mistakenly considered the basal group of bacteria. The Eukarya domain, in turn, is made up of all existing eukaryotic organisms, therefore included in this group, the kingdoms Protoctista, Fungi, Plantae and Animalia.

As textbooks and most teachers still adopt the classification proposed by Whittaker, here you will find texts that follow this system.

Happy studying!

Warning: viruses are a very particular group due to the absence of cells. Therefore, they are not classified in the kingdoms of living things.

It is worth mentioning that these organisms are unable to live without cells,

with intracellular parasites being considered as obligatory areas.

7 MEANINGS OF THE SMALL KNOWN HUMAN BODY

Taste, touch, smell, sight and hearing are not the only senses of the human body. We often hear the statement that we have five senses. But what scholars such as neurologist Alvaro Pascual-Leone and psychologists Daniel Simons and Christopher Chabris, from Harvard University in the United States, say is that our ability to perceive the world, internally and externally, goes far beyond the 5 senses of the Base Aristotelian. To get an idea of what this means, we can try to answer

questions like: Imagining having your eyes closed, what does it feel like to be at a high height?

Is touch responsible for temperature perception? Wouldn't we need to play, since we're just talking about tact?

If we enter a room blindfolded, what exact sense would indicate that the room is full or empty?

In a noisy place, we can choose which sound we want to focus our attention on. Is it really just hearing that can do this? What happens to the rest of the sounds we miss?

If you were confused trying to answer these questions, perhaps some of the other senses studied by scientists listed below can clarify your doubts.

proprioception:

This sense is responsible for knowing what we have and where our organs, limbs, muscles and our body as a whole are

located.

nociception is the sense of pain. Studies indicate that it may be associated with emotional factors and other types of perception.

The 7 main chakras of living beings

To start talking about chakra, you need to talk about energy.

Energy is everything that vibrates: light, sound, solar rays, water... Everything that exists in the universe is made up of energy. Everything we see is composed of condensed energy, that is, matter.

Our physical body is matter, that is, energy. Our planet is made up of condensed energy, just like nature and all the things that man has created. There is energy everywhere, inside and outside planet Earth.

All living beings need vital energy (or prana, bioenergy, which...) to stay alive. It can be obtained from sunlight, food, plants, land, water, air.

Everything is made of energy: the aura or the psychosome. As we are energy, every living being has a magnetic field that protects it and differentiates it from other beings. This field is better known as aura and has different names depending on the spiritual school that studies it.

In the aura, according to Professor Wagner Borges from IPPB, there are several openings through which we exchange energy with the environment, with other people, with other beings, with nature.

, _____

KEYS TO ACTIVATE THE HIDDEN POWER OF HERBS

Awaken the power of herbs for transformation and balance of the soul. chakra
These

openings in the aura are vortices of energy and are more popularly known as chakra or chakra. Chakras are circle-shaped energy centers (chakra = wheel, in Sanskrit) in our body that vibrate constantly. Billions are spread throughout the aura of living beings. How does this happen?

It's simple, all living beings are made up of cells. We humans
We are made up of billions and everyone must be alive and in constant activity for us to be alive.

Therefore, for this to happen, cells are powered by vital energy and must constantly receive and release energy. Thanks to this exchange, we were born, grew and developed, until one day the exchanges

of energy cease and the physical body dies along with its cells.

All of this happens thanks to the chakras, the main ones responsible for this exchange of energy. For every living cell, there is a chakra in constant movement.

There are chakras that play important roles in the body. Some are more important than others. There are main and secondary ones. The latter are considered this way because they are not associated with the endocrine glands. Two examples are the splenic chakra (connected to the spleen) and the liver chakra. In this article, we will look at the main chakras in general.

The main chakras

The seven main chakras of the body are, from bottom to top: basic, sexual, solar plexus, cardiac, laryngeal, frontal and coronary. They are all associated with the endocrine system of the human body and each is associated with a specific gland.

We will count here in the study of Hindus, who worked on subtle anatomy for at least 10,000 years, through Ayurvedic medicine and the sacred scriptures of Hinduism. They are pioneers in the study of chakras and each represents lotus flowers with different numbers of petals. The thinner the chakra, the more petals they have (except the frontal chakra).

Spiritually, each chakra carries with it a mission to be fulfilled by man.

The vibration of each chakra also indicates whether the person is doing well in all parts of the body and in all areas of their life. A chakra that vibrates excessively is hyperactive or that vibrates less than normal is hypoactive and is not balanced.

BASE CHAKRA or 1ST CHAKRA:

It is called Muladhara by the Hindus and in Sanskrit it means support. It is at the base of the spine (in the last bone, coccyx), more precisely in the perineum region. Its opening faces downwards, towards the earth. It is responsible for absorbing telluric energy and

direct stimulation of energy in the body and bloodstream.

It is connected to the adrenal glands, responsible for releasing the hormone adrenaline into the blood, which leads us to preserve our lives in situations of danger or decision.

The base chakra is red and, as we have already seen, is connected to the earth element and also governs the organs that give structure to the body (bones, muscles, spine, hips), legs and feet. In this way, this chakra offers us support, a structure for living on the earthly plane, because it is what connects us to the earth, to existence. It is common for people who are depressed or who have tried to live their lives to have this fragile chakra. People who are very attached to material things, who accumulate old things tend to have problems with the intestine and this reflects a malfunction of the base chakra.

Prosperous and healthy people generally have an equally healthy base chakra. The mission of this chakra is to make us walk with balance on planet Earth and express the health of the physical body as a whole.

SEXUAL CHAKRA or 2ND CHAKRA:

For Hindus, it is Swadhisthana (or city of pleasure, in Sanskrit) and is found in the lower abdomen. It is physically linked to the gonads - testicles (man) and ovaries (woman) - and to feminine energy, uterus, procreation (the creation of other things, such as personal and professional projects), pregnancy. It is responsible for reproduction and sexual exchange during sex and for controlling fluid throughout the human body.

The sexual chakra excites the entire genital and urinary tract, it also deals with the filtration and circulation of liquids in the kidneys and expelling all excretions from the body. It is governed by the Moon (which is why it is so linked to the feminine, sexuality, motherhood and creation) and the water element (connected to amniotic fluid, interpersonal relationships, self-esteem and self-love).

During pregnancy, nine months after our mother's womb,

we remain connected to it by the umbilical cord.

We were protected and surrounded by amniotic fluid, nourished by it; For all these reasons, the health of this chakra measures and influences the quality of our relationship with the Earth, with our family, with people in general and with ourselves. It represents our emotional body, stores the emotions experienced in relationships and gives us the mission to interact with the world, with what surrounds us in a harmonious way.

It can also be called the sacral chakra and is orange, purple or red (depending on the circumstances). It is the chakra of sexual exchange and joy. Many spiritual schools avoid talking about this chakra and place the splenic chakra (or spleen chakra) in its place.

If blocked, it causes sexual impotence or discouragement, relationship problems, low self-esteem. When hyperactive, it causes intense sexual desire and other compulsions. If the sexual chakra is healthy, it stimulates the better functioning of the other chakras and helps to awaken kundalini; the person has balanced self-esteem, is able to appreciate and enjoy the pleasures of life.

HUMBLE OR 3RD CHAKRA:

Called Mani Pura by the Hindus (in Sanskrit, city of jewels), it is one or two fingers above the navel and is connected to the pancreas. This chakra has a yellow, deep green and dark red color.

This influences our relationship with matter and personal power.

Dense emotions like anger, pain, fear, sadness, anguish, resentment, anxiety are held in this chakra. It is one of the chakras that needs to be treated and harmonized as much as possible. Represents the mental body.

The solar plexus controls the viscera region and it is no wonder that all dense, visceral emotions (such as passion and desire) accumulate in this region. It is responsible for absorbing energy from food and distributing it throughout the body. It is one of the most sensitive chakras in our routine. Most people suffer from a problem

physical condition in this region, such as gastritis, stomach problems, diabetes or other digestive problems.

When blocked, the umbilical chakra causes nausea, fear, or irritation.

When in harmony, it gives us great power of achievement, it is the chakra that leads us to act. This chakra has great vitality when it is healthy and works as a psychic radar, perceiving spiritual energies or presences in the environment.

HEART CHAKRA OR 4TH CHAKRA:

The Hindus named it Anahata (Secret Chamber of the Heart) and, translating from Sanskrit, is it easy to know where it is? in the heart region, in the center of the chest. The heart chakra is green and yellow gold in color and is connected to the thymus gland. It is responsible

for energizing the cardiorespiratory system and all the energy in the chest.

Considered the center of love and the channel for expressing feelings, it is also linked to balance, universal love, compassion, altruism and, physically, the immune system.

The heart chakra has the function of balancing the energies of all the other chakras, as it is in the center, having below it three lower chakras associated with existence on Earth and, above, three upper chakras, thinner and associated with the spiritual plane. It is the heart that connects Heaven to Earth, it is the connection of spirituality through matter.

Represents the astral body. It

is the most fragile chakra if there is an emotional imbalance. If well developed, it becomes a channel of love for spiritual assistance work. When there is a blockage, the person feels depression, anguish, irritation, stitches in the chest, is excessively materialistic and attached.

Physically, the blockage can generate heart attack, tachycardia. In women, breast cancer can occur.

LARYNGEAL CHAKRA OR 5TH CHAKRA:

Named Vishuddha (The Blood Purifier, in Sanskrit). That

The name already gives us some clues about the gland to which it is connected: the thyroid (and the parathyroid). The function of the thyroid is to filter the blood and regulate menstrual cycles in women.

It is located in the canyon and is responsible for communication, expression of ideas, verbalization and implementation of projects.

Physically, it takes care of the mouth, throat and respiratory tract: the hands and arms are physical extensions of the throat chakra, as it is with them that we bring ideas to the material plane, getting our hands dirty.

The larynx represents the standard etheric body and is blue, lilac, silvery white or pink. When in good health and development, it facilitates psychophony and clairaudience. It is also considered an energy filter that prevents emotional energies from reaching the head chakras.

When unbalanced, it can cause sore throat, herpes, tooth and/or gum pain, hyper- or hypothyroidism. A person with adjustment problems, or who can take everything in silence, "swallows frogs", may have a blocked throat chakra.

FRONT CHAKRA 6TH CHAKRA:

Ajna (Control Center, in Sanskrit) is better known than the third eye.

This means it is located on the forehead, between the eyebrows and connected to the pituitary gland or pituitary gland. It has an indigo, blue-white, yellow or greenish color.

Check all other chakras, all commands for the entire body come from it; it also deals with the frontal lobe, which represents our logical portion, our ideals, reasoning and thoughts, our ability to learn, observe and intuition. The frontal chakra also represents the celestial body and is responsible for the health of the eyes and nose.

When healthy, Anja acquires clairvoyance and expands intuition. We are easy to work with as we use it a lot on a daily basis.

Its activity can usually be felt by a vibration or sensation of heat on the forehead. This chakra also represents duality

and the two hemispheres of the brain, since it is designed with just two petals.

There are several dysfunctions in this chakra, such as excessive thoughts, ideas that accumulate and are not put into practice, disorganization, lack of concentration. Physically, the person may suffer from sinusitis, which is the sum of this mental congestion. There may also be a feeling of panic, headache and even mental problems. Meditation is a great way to clear your head and clear your front chakra.

CROWN CHAKRA OR 7TH CHAKRA:

The Sahashara (thousand-petalled lotus, in Sanskrit) has exactly 972 petals. It is at the top of the head, connected to the pineal or epiphysis, which is the gland located in the center of the head and located in all the other glands in the body. The chakra forms a crown of light, which is why it is also known as the crown chakra as it faces upwards. It has a fluorescent purple, white or gold color.

Through this chakra, we can achieve an understanding of everything and it is through it that we connect with the spiritual plane, with the Higher Self, with God and the divine in all things; it is related to the way we profess our faith and evolve spiritually.

When worked on and developed, it facilitates recall and awareness of consciousness projections. It is very important in telepathy, in the development of mediumship, in the expansion of consciousness and in receiving important questions. It is the chakra through which cosmic energy and the energy of the Sun also penetrate.

The crown is the most important chakra, as it is responsible for energizing the brain, influencing mental functions and the production of serotonin, the well-being hormone, as it regulates sleep, appetite, mood, among others. Other functions.

This chakra represents the causal body. Its vibration also indicates that we are alive. For this reason, people who claim not to believe

in God, not professing faith or practicing any religious practice are also active in the crown chakra.

If unbalanced, the person can develop phobias, neurological problems, lack of faith, depression, suicidal tendencies. When you are healthy, we activate all our sensitivity and live according to our goal, with health, happiness and great availability.

The crown chakra is the most important of all chakras and its mission is to understand all of existence and become enlightened, integrate with the whole. It is our last duty on planet Earth.

Chakras and energetic phyto

As we saw before, each person has their own energy field around the physical body, called aura. Each chakra deals with an area of our life and the challenges we have to overcome.

By knowing better how our energy behaves, it is possible to begin to reveal the causes of illnesses and perceive the level of toxicity of behavior and recurring thoughts in our daily lives.

We can begin to understand how feelings, thoughts and emotions affect our emotional, mental and physical health.

From the moment we discover the imbalances in our body, in the chakras, we can count on the energy of plants.

Remember that all living beings have vital energy? Therefore, plants and vegetables can help us, with their energy, to heal us from physical, mental, spiritual and emotional illnesses.

HOW TO HAVE THE POWER OF MIND IN YOUR FAVOR

Use the power of the mind to your advantage

The human mind is one of the most incredible places there is. This "box" hides infinite potential, in which we can look for ideas, concepts and plans to achieve them. To learn more about this topic, keep reading this article!

A light mind is much more powerful and aggregating! Since we talked about the power of the mind, I present to you my program of

detox from negative thoughts! Change your life now!

Between here! It's free!

Turn dreams into kings and personality The

first step for something to become real is mental creation. There is nothing we can practice or materialize physically without having it in mind first. Reality is directly connected to the images projected within us. When we are not in control of our thoughts or do not understand how to work with our mind, we go through complicated situations or are led into a world that is not ideal.

You may have heard a very common old saying: "will is power".

It seems simple, doesn't it? But if we look at coaching, our results begin the moment the mind works towards what we believe and want to achieve. When we think correctly, we have the power to achieve what we desire.

Tips on how to work your mind properly It doesn't

help to ask a restless mind for tons of innovative ideas.

So, take a look at some tips on how to take care of yourself: •

According to neuroscientist Cori Bargmann, from Rockefeller University in the United States, sleep is essential for keeping the brain active and healthy. During sleep, memories are fixed and some toxic proteins are eliminated, which does not happen when we are awake.

Physical exercise is also essential for the proper functioning of the mind.

- Gratitude for learning and results is important. This positive attitude reinforces self-confidence and makes the individual see life in a more uplifting and less pessimistic way.

Positive thinking eliminates stress and anxiety. Supported by him, the central point is never the problem itself, but how to find the best solutions to solve it and move forward. • According

to American psychologist Daniel Goleman, another important element in accessing the power of the mind is focus. For the specialist, it is necessary to maintain internal, external and empathetic

concentration to find a balance. To achieve this, Goleman argues that it is necessary

learn to completely disconnect from the environment, as well as see the world with new perspectives and, finally, choose the best ways to relate to people.

If you have other tips you want to share, just write them in the comments!

6 Tips to

Increase Your Mental Power As

mentioned earlier, it doesn't take a great technique or a breakthrough secret for the power of the mind to play on our side.

It's small attitudes, a change in behavior and changes in lifestyle that can make a difference. Follow the tips below and harness your

mental power: 1. Be positive:

always try to have a positive outlook. Attitudes and pen Positive feelings increase self-esteem and promote the maintenance of physical and mental health. It is useless to want to change the power of the mind in your favor, if the thoughts are bad, negative.

2. Exercise: Exercise is essential for quality health. Your heart and the rest of your body will thank you if you train frequently. The Roman philosopher Juvenal (died in the second century) said "a healthy mind in a healthy body." During physical activities, important areas of the mind are processed, responsible for stimulating memory and creating regenerating cells.

3. Being grateful: By being grateful, you promote positive feelings that promote a feeling of well-being, happiness and reward. Furthermore, being grateful strengthens your purpose and mission in life. Be grateful for your achievements, your family and your friends. And try to exercise this feeling of gratitude whenever possible in the small gestures of the people around you.

4. Sleep well: As mentioned above, research has shown that sleep is essential for proper brain function. Therefore, try to sleep preferably at least 8 hours a night and do your best to relax and rest your body and mind. Just like the physical part, there comes a time when the mind also needs to recharge its batteries.

5. Stay focused: By controlling your ability to concentrate, the power over your mind gradually increases. Knowing the right time to pay attention to a certain topic or just relax and distract yourself helps the brain to balance itself and not become overloaded.

Make a list of what is really important and try to follow it so you don't lose focus and work on this fundamental side of the mind.

6. Replace words: You know that words have power, right?

So work with them to exercise your mind gradually.

A valuable piece of advice is to replace "if" with "when". Whenever you are dealing with a problem or future plan in your life, don't say "if I get the job" but "when I get the job." The "if" provides options and the "when" is centered on an option.

You've seen how different everything can be with simplicity. do you attitudes in everyday life? Exercise your mind, have positive thoughts and actions, obtain greater mental power and extraordinary results in your life.

Neurolinguistic Programming

Have you ever heard of neurolinguistic programming? This science was developed by author Richard Bandler and psychologist John Grinder in the 1970s in the United States. His research showed that human beings have three pillars: neurological processes, language and behavior. Furthermore, scholars say that a person can link these points to achieve a goal.

At the Brazilian Coaching Institute (IBC), there is training that works exactly on this concept called Neurolinguistic Programming (NLP). In addition to deepening the concepts of neurolinguistic programming, the course will help you find your inner self and develop a better version of yourself, without losing your essence. Don't stop there! The training also teaches: •

What is the best way to turn dreams into real goals.

A topic very related to what this article is about. •

What it is and how to exercise self-knowledge, personal development, self-esteem and emotional intelligence.

- How to practice non-verbal language. •
- What is the alignment of neurological levels. • What is the structure of thought and how it works. • How to develop behavioral flexibility. • What are the representative channels; • Increase the ability to reflect on a given situation, observing it from more than one angle • How to negotiate and resolve problems effectively. • How to manage time and activities productively. • Best practices for good leadership. • Development of critical skills. • How to generate team effort. • How to expand the ability to communicate with different audiences.

Redefine various situations and facts in your life. •
Maturity of creativity and its application in processes and problem solving.

Did you enjoy the training? So don't wait another minute and browse the website to find out more or contact one of our assistants.

A light mind is much more powerful and aggregating! Since we talked about the power of the mind, I present to you my detoxification program from negative thoughts! Change your life now!

Between here! It's free!

If you liked these tips, comment and share the content with your friends.

Additionally, here are other ideas to make our mind an ally in the pursuit of success and goals.

WHAT IS YOGA?

If you think yoga is just twisting and moving your body in a weird way, it's time to rethink. Yoga is much more than postures. Derived from the Sanskrit word "yuj", which means "to unite or integrate", yoga is a collection of knowledge from over 5,000

years. Yoga consists of harmonizing the body with the mind and breathing, through breathing techniques (pranayama), yoga positions (asana) and meditation. Watch the video below to learn more about what yoga is: Yoga for everyone

Yoga is a way of

life and, if we stop thinking about it, we have been practicing it since we were children! For example, stretching the cat to stretch the spine.

Always see children doing some type of yoga during the day.

Yoga works for everyone: people who work in an office, athletes, people trying to lose weight, with an intense or peaceful routine in their daily lives who can have a better quality of life with practice.

Breathing Techniques (Pranayama) and Meditation

Pranayama is the art of effectively controlling breathing. Practicing proper breathing techniques can help bring more oxygen to the blood and brain, helping to control prana or vital energy. Pranayama also follows various yoga asanas.

The union between these two principles of yoga is considered the highest form of purification and self-discipline, which encompasses the mind and body. Prayanamas techniques also prepare us for a deeper meditation experience.

Sri Sri Yoga

At Art of Living, we have a yoga seminar that takes place over 5 days (2 hours per day), combining body, mind and breathing with a joyful experience. A combination of asanas performed delicately and vigorously is taught, as well as other techniques that ensure the well-being of the body and nourish the mind and spirit.

With Sri Sri Yoga's multidimensional routine, which combines yoga postures, breathing techniques, yoga knowledge and meditation, students end up with a complete practice to perform at home.

It is aimed at beginners and, at the same time, more advanced professionals. Through the practices taught in the seminar, participants can lose weight and cure chronic illnesses such as insomnia,

asthma, diabetes, hypertension and migraine.

Patanjali Yoga Sutra - The Present Yoga Class Sri Sri Ravi

Shankar's exclusive commentary on this ancient text, Patanjali's Yoga

Sutra, will illuminate your knowledge of yoga, its origin and purpose. Immerse yourself in this rich knowledge and learn more about the practice of yoga, described by Patanjali. You can buy the book in our stores.

FRUITS AND THEIR VITAMINS

Fruits are foods that should be included in our menu every day. They are rich in vitamins and provide energy for activities. Each type of fruit is a true health balm, with physical and aesthetic benefits. Some of them have important medicinal powers.

People in general are unable to eat the ideal number of servings of fruit every day, as there is a strong temptation to eat a dessert or chocolate instead of an apple, for example. However, it's important to talk about efforts to prioritize fruit whenever possible.

Check the vitamin profile of each fruit: Banana:
vitamins A, B1, B2 and C

Watermelon: Vitamins B, A and

C Orange: vitamin C.

Lemon: complex of vitamins C and B.

Apple: vitamins B1 and B2

Pineapple: Vitamins C, B1 and

A Passion fruit: vitamin complex A, C and B.

Melon: rich in vitamins A, C and B.

Strawberry: rich in vitamin C.

Pear: complex of vitamins A, C and B.

Papaya: complex of vitamins A, C and B.

Avocado: vitamin E.

Grapes: Vitamins B and

C Fruits with antioxidant powers: strawberries, plums, grapes, oranges, apples, bananas, pears and papayas.

Fruits to be included in the weight loss diet: pineapple (low calorie and diuretic); banana (rich in tryptophan, which helps fight anxiety); fig (source of magnesium and diuretic); lemon (fights free radicals and is also a diuretic); mango (high concentrations of potassium and magnesium) and watermelon (diuretic) and peach (very nutritious).

Citrus fruits (with citric acid): rich in vitamins and antioxidants, fight free radicals: orange, lemon, acerola, cashew nuts, pineapple, loquat. Non-acidic and not suitable for heartburn sufferers.

Fruits recommended to combat heartburn: apple, melon, watermelon and banana

VITAMIN CHART

What are they, functions of vitamins, types of vitamins, fruit vitamins, avitaminosis, water-soluble vitamins, fat-soluble vitamins, importance, vitamin C and others.

What are vitamins

Vitamins are important nutrients for our body. They are extremely important for the proper functioning of our body, mainly because they help prevent many diseases.

They are not produced by the body and, therefore, must be acquired by ingesting food (fruits, vegetables, meat, etc.). A lack of vitamins can lead to various diseases (avitaminosis).

Vitamins can be of two types: water-soluble (soluble in water and absorbed by the intestine) and fat-soluble (soluble in fat and absorbed by the intestine with the help of bile salts produced by the liver).

Vitamin A

Sources: poultry, animal liver and carrot

Diseases caused by deficiency (avitaminosis): vision problems, dry skin, reduction of red blood cells, formation of kidney stones

Functions in the body: combats free radicals, bone formation, skin;
functions of the
retina

Vitamin D Sources: fish oil, liver, egg yolk

Diseases caused by deficiency (avitaminosis): rickets and
osteoporosis

Functions in the body: regulation of calcium in the blood and
bones

Vitamin E Sources: vegetables,

olive oil and vegetables Diseases caused due to deficiency

(avitaminosis): visual

difficulties and neurological changes Functions in the body: acts as an antioxidant agent

Vitamin K

Sources: liver and green leafy vegetables, avocado.

Diseases caused by deficiency (avitaminosis): blood clotting
deficiency, bleeding.

Functions in the body: acts on blood clotting, prevents osteoporosis,
activates osteocalcin (an important bone protein).

Vitamin B1

Sources: cereals, cured meats, legumes, brewer's yeast

Diseases caused by deficiency (avitaminosis): beriberi

Functions in the body: acts on the energy metabolism of sugars

Vitamin B2

Sources: milk, meat,

vegetables Diseases caused by deficiency (avitaminosis) : inflammation
of the tongue,

anemia, seborrhea Functions in the body: acts on the metabolism
of enzymes, protecting the nervous system.

Vitamin B5

Sources: liver, mushrooms, corn, avocado, eggs, milk, legumes

Diseases caused by deficiency (avitaminosis): fatigue, muscle
cramps, insomnia

Functions in the body: metabolism of proteins, fats and sugars

Vitamin B6

Sources: meat, fruits, vegetables and

cereals Diseases caused by deficiency (avitaminosis): seborrhea, anemia, growth disorders

Functions in the body: growth, cellular protection, fat and protein metabolism, hormone production

Vitamin B12

Sources: liver, meat

Diseases caused by deficiency (avitaminosis): pernicious anemia

Functions in the body: formation of red blood cells and cell

multiplication Vitamin C Sources: orange, lemon, pineapple, kiwi,

acerola, strawberry, broccoli, melon, mango Diseases

caused by deficiency (avitaminosis): scurvy Functions in the body:

works to strengthen the immune system, fights free radicals and increases iron absorption Vitamin H.

Sources: walnut, almond, chestnut, brewer's yeast, milk, egg yolk, brown rice

Diseases caused by deficiency (avitaminosis): eczema, exhaustion, muscle pain,

dermatitis Functions in the body: fat metabolism

Vitamin M or B9 Sources:

mushrooms , green vegetables Deficiency diseases (avitaminosis): megaloblastic anemia,

neural tube diseases Functions in the body: amino acid metabolism, formation of red blood cells and nervous

tissues Vitamin PP or B3 Sources: peas, peanuts,

beans, fish, kidney beans, liver Diseases caused by deficiency

(avitaminosis): insomnia, headache, dermatitis, diarrhea, depression

Functions in the body: skin maintenance, liver protection, regulates blood cholesterol levels.

COCONUT WATER: ADVANTAGES FOR YOUR HEALTH

Not long ago, nutritionists, nutritionists and all types of professionals involved in the food sector - including me - recommended moderation in the consumption of coconut water, one of the most popular drinks at the time of year when it is hottest. We were worried that it contains fructose and saturated fat, substances that can make us fat and cause some problems for our health, and because we thought that its benefits did not outweigh its harms.

Coconut water is rich in vitamins, minerals, amino acids, carbohydrates, antioxidants, enzymes and other phytonutrients that help the body function more efficiently.

Coconut water has a combination of substances that make it special, even when compared to drinks. It is rich in vitamins, minerals, amino acids, carbohydrates, antioxidants, enzymes and other phytonutrients that help the body function more efficiently. Its electrolyte content (ionic mineral) similar to human plasma has ensured international recognition as the best oral rehydrate.

In other words: a super sports drink incomparable to any other synthetic product for this purpose. It is so compatible with the human body that it can also be injected into a vein, which was quite common during the first and second world wars, as well as the Vietnam war, where a lack of resources meant the military was aware of the situation. coconut water's unique qualities almost by accident. Although this drink's most famous hydrating feature is, the health benefits don't stop there. Coconut water promotes balanced body chemistry, all for the benefit of your health. Reduces blood pressure and the risk of heart disease, prevents atherosclerosis, facilitates kidney functions, protects against various types of cancer, facilitates digestion, controls blood glucose levels,

blood circulation, makes the immune system more active, has anti-aging properties and helps preserve healthy bacteria. For athletes, coconut water is essential in the summer. It acts as a deposit of electrolytes, a substance that protects against cramps and improves physical performance, being more efficient in replacing some nutrients lost in sweat than water itself. Drink coconut water: it's okay!

Super health!

Additional information: Flavored water makes 2 liters seem small!

PSYCHOLOGY

Psychology is the scientific study of the mind and behavior. The study of this area is multifaceted and includes subfields, such as areas of human development, sport, health, clinical, social behavior and cognitive processes.

The word "psychology" derives from the ancient Greek psyche, meaning "mind", and logos, meaning "knowledge or study". Being a science, it tries to investigate the causes of behavior.

Consequently, it uses systematic and objective observation, measurement and analysis procedures, supported by theoretical interpretations, generalizations, explanations and predictions.

It seems impossible to study the most complex machine on Earth, which is the human mind. Although we cannot observe the mind directly, everything we do, think, hear and say is determined by how it works.

Psychologists take human behavior as raw data to test their theories of how the mind works. For patients, this means understanding which mental processes are triggering negative reactions in their lives. Therefore, it is possible to work with them to modify these behaviors for a healthier mind. According to the Federal Council of Psychology, today there are just over 310,000 psychologists in Brazil, 90% of whom are women.

What is psychology?

In the beginning, there were two dominant theoretical perspectives in its study. The American William James (1842-1910) developed an approach that became known as functionalism. In it, he argued that the mind is constantly changing and it is futile to look for the building blocks of experience. Instead, the focus should be on how and why an organism does something. Finally, it was suggested that psychologists look for the underlying cause of the behavior and mental processes involved. This emphasis on the causes and consequences of behavior has been a major influence on contemporary psychology.

The second perspective was Wilhelm Wundt's structuralism. The term derives from Edward Titchener, an American psychologist trained by Wundt. Structuralism was based on trained introspection. As a result of this research method, subjects reported what was going on in their minds while performing a certain task. This turned out to be an unreliable method because there were many individual variations in the research subjects' experiences and relationships. Despite the failure of introspection, Wundt is an important figure in the story. It was he who opened the first laboratory dedicated to psychology in 1879. This opening is generally seen as the beginning of modern psychology.

Wundt was also important in separating this area from philosophy, analyzing the functioning of the mind using more objective and standardized procedures. With its broad scope, psychology investigates a wide variety of phenomena: learning and memory, sensation and perception, motivation and emotion, thought and language, personality and social behavior, intelligence, child development, mental illness, and more.

Where does psychology come from?

Psychology is an entirely new science, with most of the progress made in the last 150 years. However, its origins date back to ancient Greece, between 400 and 500 acc. The emphasis was

philosophical, with great thinkers like Socrates influencing Plato, who in turn influenced Aristotle.

During the 17th century, French philosopher René Descartes introduced the idea of dualism. He claimed that mind and body were two entities that interacted to form the human experience.

Many other issues still debated by psychologists today, such as the related contributions of nature versus nurture, are rooted in these ancient philosophical traditions.

In the mid-19th century, the philosopher Wundt was using scientific research methods to study reaction times. His book was published in 1874, *Principles of Physiological Psychology*. He described many of the major connections between the science of physiology and the study of human thought and behavior.

Furthermore, physiology contributed to the possible emergence of psychology as a scientific discipline. Early physiological research on the brain and behavior had a dramatic impact on the field.

Therefore, they contributed to the application of scientific methodologies in the study of thought and behavior. The Arms of Psychology Any attempt to explain why humans think and behave the way they do will be connected to a branch of psychology. The different disciplines are extremely broad. They include:

- Clinical Psychology

Cognitive

Psychology •

Developmental Psychology •

Evolutionary Psychology

- Forensic

Psychology • Health

Psychology •

Neuropsychology •

Work Psychology

- Social

Psychology Clinical Psychology This clinical area integrates science,

theory, and practice to understand, predict, and alleviate problems of adaptation, in

adaptation, adaptation and personal development. A clinical psychologist focuses on the intellectual, emotional, biological, psychological, social, and behavioral aspects of human performance throughout a person's life, across cultures and socioeconomic levels. Clinical psychology can help us understand, prevent and alleviate psychologically caused suffering or dysfunction and promote an individual's well-being and personal development.

Psychological assessment and psychotherapy are fundamental to the practice of clinical psychology. However, clinical psychologists are often involved in research, training, forensic testimony, and other areas.

Cognitive

psychology Cognitive psychology investigates internal mental processes such as problem solving, memory, learning, and language. Analyze how people think, perceive, communicate, remember and learn. It is closely related to neuroscience, philosophy and linguistics. Cognitive psychologists analyze how people acquire, process, and store information. Practical applications include how to improve memory, increase decision-making accuracy, or how to set up educational programs to increase learning.

Developmental psychology

This is the scientific study of the systematic psychological changes that a person experiences over a lifetime, often called human development. This focuses not only on babies and young children, but also on teenagers, adults and the elderly. Factors include motor skills, problem solving, moral understanding, language acquisition, emotions, personality, self-concept, and identity formation. Developmental psychology overlaps with fields such as linguistics.

Evolutionary Psychology

Evolutionary psychology examines how human behavior, such as language, has been influenced by psychological adaptations during evolution. An evolutionary psychologist believes that many traits

Human psychology is adaptable, as it has allowed us to survive for thousands of years.

Forensic

Psychology Forensic study involves the application of psychology to criminal investigations and the law. A forensic psychologist practices psychology as a science in the criminal justice system and civil courts. It involves evaluating the psychological factors that may influence a case or behavior and presenting the results to the court.

Health Psychology

Health psychology is also called behavioral medicine or medical psychology. See how behavior, biology, and social context affect disease and health.

A doctor usually looks first at the biological causes of a disease. A health psychologist will focus on the whole person and what affects their health. This may include your socioeconomic status, education and history, and behaviors that may affect the disease, such as following instructions and medications. Health psychologists often work alongside other medical professionals in clinical settings.

Neuropsychology

Neuropsychology examines the structure and function of the brain in relation to psychological behaviors and processes.

Neuropsychology may be involved if the condition involves brain damage and assessments that involve recording electrical activity in the brain.

A neuropsychological assessment is used to determine whether a person is likely to have behavioral problems after a suspected or diagnosed brain injury, such as a stroke. The results may allow a doctor to provide treatment that helps the individual achieve possible improvements in the cognitive impairment that has occurred.

Work psychology In

a business context, a psychologist can help increase productivity and employee retention. Occupational psychologists or

Organizations are involved in evaluating and recommending people's performance at work and in training. They help companies find more effective ways to function and understand how people and groups behave at work. This information can help improve effectiveness, efficiency, job satisfaction and employee retention.

Social

Psychology Social psychology uses scientific methods to understand the impact of social influences that influence human behavior.

Try to explain how feelings, behaviors and thoughts are influenced by the real, imagined or implied presence of other people.

A social psychologist examines group behavior, social perception, nonverbal behavior, obedience, aggression, prejudice, and leadership. Social perception and social interaction are considered fundamental to understanding social behavior. Other branches include military, consumer, educational, intercultural, and environmental psychology, and the number of weapons continues to increase.
to grow.

What all of these approaches have in common is the desire to explain the behavior of individuals based on the functioning of the mind. In all areas, psychologists apply scientific methodology. They formulate theories, test hypotheses through observations and experiments, and analyze the results with statistical techniques that help them identify important findings to help people.

Celebrities Who Studied Psychology

Some celebrities who studied psychology that you probably don't know are. International actress Natalie Portman, national actor Leonardo Miggiarin, presenter Eliana, Facebook creator Mark Zuckerberg, Brazilian presenter Tiago Leifert and the great Brazilian actress Marisa Orth.

What is psychology for?

The mind is extremely complex and the conditions related to it

can be difficult to manage. Physical signs of some mental health problems, such as plaques that develop with Alzheimer's disease, can be seen.

Therefore, many psychology theories are based on the observation of human behavior.

A clinical psychologist will meet with patients and carry out assessments to find out what their concerns are. So take note of what is causing some difficulties and recommend or provide treatment. For example, through counseling and psychotherapy.

Additionally, psychologists can also have other roles. •

Conduct studies to advise health authorities and other bodies on social strategies. • Assess children who have difficulty learning at school. • Organize seminars on how to prevent bullying. • Working with recruitment teams in companies and much more.

Among the main objectives of psychology are the description, explanation, prediction and improvement of human behavior.

The work of psychologists is varied, but they all share a main goal.

This goal is to help people have a better life. Our daily life is profoundly influenced by the way we interpret hundreds of stimuli (positive or negative) that we receive every day. In other words, quality of life occurs when these stimuli are adequately absorbed and intended not to harm our life.

In conclusion, psychologists are experts at understanding the role of these factors in influencing health, happiness, and overall well-being. Getting in touch with psychology helps you better understand the many ways the mind affects your life.

I would like to show you this fantastic text that I wrote a book created and developed by myself and that I did so with great honor and satisfaction, which served as support for me to get to know the body, spirit and soul that we were looking for here for an existence in life that I keep as security of my life against diseases and illnesses that the world

is not in touch with the reality of life itself and I want you to feel the nobility of my studies on life behind the happiness of living and being happy that are wrapped up in these countless pages theoretically by great masters of science and with great curiosity on my part wisdom that rises alongside my book that enters like an emanation of light on life and its contexts of life and being happy in full health.

I want to firmly highlight and indicate to readers that this compendium created and created by me is an extraordinary memory that I keep with love and affection so that everyone can read and understand with extraordinary firmness that the life within us is something very precious for human beings and children of God and know how to understand all the details narrated in these small sheets that were born from a feeling and thought that life is like an eternal box to never stop playing the same song or the same life that is a constant impulse throughout life .

I simply want to reach a conclusion that we can understand among all the relationships of life and constructions of both death and living that applies a theosophy of the presumed mysteries of life and nature, of divinity and the origin and purpose of the universe that makes us think gracefully under a more composed state in relation to the body as a set composed of artifacts more constructed under a formality of all existences of living that reminds me through clairvoyance of the continuous birth of the living being and that nature has always consecrated to it as a dilemma that man was born to die and born to live which makes me highlight a good reference well disguised and specified under a tale of theosophy that I leave under my achievements and main study that involves a more demonstrative and realistic frontier of the human being under the nature of living and everything that makes up life in its existence as a more expressive and inquiring context to my point of view that I decipher here in this last term and I want to thank all my dear and illustrious friends and may life tell us how long we will have

that prove our lives and existences.

I simply want to say that life is the sister of death as death is the sister of life and there is probably a term of construction in which we are simply walking down a path that we should look for real evidence of the existence of life in mortals than in most cases we consider building and evolving the human being who has undergone a metamorphosis that would actually be the opposite of death by a fatality from which we see life distracted in a context of witnessing its existence and affection to cross a more different side. What we casually seek certainty about the uncertainties that naturally must have a construction that puts everything in harmony and a deconstruction that puts everything in total dissatisfaction that we call the return time that it is written in the Bible that God created the sky and the sea and men have built an excellent source of your relationships with the life that has always arisen in you in the context of revelation and demonstration of realities day after day for a discrepancy of time and three days everything becomes the target of circumstances of love and hate in which man can understand their evolution and origin needs. It completed the beginning of the world in which God created Adam and Eve in paradise and, as the Holy Bible says, they committed destruction by eating from the tree of life and were expelled from paradise and the world materialized in a metamorphosis in which man is a god from the beginning that the gods built Mount Olympus and that made human beings understand their desires and thoughts, for life and death should be like a dream of entry and exit to where the world would be found in possession of pleasure and will and everyone would enjoy all the necessities that life and its relativity between human beings and animals would be established a domain that would actually stop everything, stop to their abilities, rations, complications, understandings and actions in which man could establish a conduct or doctrine between tribes and gangs who created the world and understood what life taught and understood about

remaining intact in its nature more than likely uncertainties, more than surmountable by being formalized into a primate man between a duel with dinosaurs until the contemporary era that established an identity more similar to the deconstructions and constructions of life leaving the earth as a creative emanation of a phenomenal existence of the living being that became man, woman and animals were preserved in all the ways that presumably even man could have come from the ape like primitive man and that the world originated from a great explosion caused by an asteroid in which it destroyed the face of the earth and everything started from nothing as it is also said that the world originated from a great explosion in which the universe was densely hot and that everything was formalized particles and atoms in which life on earth was formed establishing humans and animals in which the word of God originates as an emanation of events from a bond that we can simply say we were constructed and formalized in an alchemy more focused on absinthe, as the essence would have taken the form of a serpent while the world improved within a natural harmonization of nature between four building elements that emanate life in air, water, earth and fire, in which their genes can formalize an atom and a logic in which matter would be part of everything and in every smallest fraction of an element what atomic particles would be or would be in a small time interval in which they would form into an atomic body called an atom between time and space, the universe would become more and more between spaces leaving everything and creating everything related to an escape from life planetary and its exit and entry devices as creation and destruction in which god would be a homogeneous factor of the universe and omnipotent of all things in which they were created. Context of construction and destruction with god among the various questions of clairvoyance between life as light, as emanation of life and hate as destruction of death, also known as the devil representing the flames, the eternal fire of god emanated by the devil who is the God himself in the form of light in the

disappeared and always resurrected in all things of paradise that would be a starting point for all souls in which we formalize ourselves as heaven and hell and it would be the dark side of life that symbolizes the devil in which he will take souls to purgatory like a feather of death and the sin of life and in death and the world would not like another course of action to be established, but only heaven and hell as a representation of life and death, so one god as there was only one god and the devil who two ways would establish a how the world also originated as a great explosion that emits and escapes while everything was formed and formalized leaving the earth a place to live and die in which two spheres show us more that the greatest sin is not believing in God and salvation would be to believe in God the Almighty Creator of heaven and earth in whom life has always revealed its mysteries to us among the depths of heaven and Earth, of the earth that has always rebelled for various purposes of light and darkness and the life has become something superlative over a prodigal nature that has always formalized us by its existence and subsistence in which are known as good and bad becoming everything in light and dark, life becomes something like a circle in which we can live and die as the construction and destruction of life by the evil of death which is dark and cold as life would be more subtle for being light, being white and concerns the alchemy of a phenomenal existence in which we can symbolize its capacity, complicity and construction in an emanation of time and space in which the universe can always expand its vibrating flows and buds and expands itself by being dense and destroying itself, becoming increasingly denser than an atmosphere hotter than the earth it forms in all aspects a forgotten space where hours, minutes and seconds are added together into a smaller fraction of time formed in atoms and I mean that life is the sister of death since death is the sister of life that I probably existed and a constructive term that we are simply following a path that we must seek real evidence of the existence of life in mortals who in the most considered way of

build, destroy and evolve the human being has undergone a metamorphosis that would actually be the opposite of death, a fatality in which we see life distracted in a context of testimony of its existence and affection to cross a more different side that we casually seek certainty over uncertainties which naturally must have a construction that puts everything in harmony and deconstruction that puts everything in total behavior that we call the round trip time in which we can certainly live and certainly prevail in real life or to die.

And with a simple idea I want to testify to everything that God has made as perhaps a fabulous construction calendar and that everything can be contained in a magic circle that everyone has always followed as a source, circuit or energy, world and that we can find the paradise of failures and dreamers and everything is in a context in which everything that God created also made in relation to its relevance, pulsations and extensions in which we cannot doubt the hidden aspects and that everything and everything was always in his image as God always created it because It was God who created you.

We find a series of words above a term that in my philosophy everything that God creates with love is constructed with a feeling about the living nature of a being who would be more eager to understand it because in it everything is clearer. The sunlight that shows us the positive side of life and the beautiful things that we cling to and that we simply don't cling to because it is made of hate that is above all emptiness that breaks the human inability to be happy or love someone in life that is simply not enlightened before God because they have falls of divine nature that cannot be compared to the true being that God created and created in all things in paradise that we could not deceive him with the negative uncertainties that isolate the life of God. Soft light before God who is in all things deep and at altitudes that one day we will be able to understand his space and his time in our realities that are not so extensive as there is light in our way

of thinking that dominates any unexpected feeling in life, we may not have understood love and its existence in our lives because in everything that God did he created the paradise of the failed and ashamed that he turned away from evil for the truth that cannot remain silent, invisible over all that God has created in the land of stubborn and uncertain men of compassion and controversial over an unfaithful desire that perhaps a child will humanly bring this love to be more alive in the electricity that consoles our thoughts and makes us believe that the The world is perfect and that we can still be happy and that perhaps we can remain constructively intact under the pretexts of God that have made us enlightened by the fury of love of the teachings that love us and make us love what is beautiful to see and feel pleasure because life it would simply be a sounding board where its rhythm can melody us with all the positive forms and forces of life that never bend running through the shadows that open behind the light of day trying to forget the fear of darkness that afflicts the innocent people they still You need to know the world how beautiful and perfect it is because God made you in every aspect that has not been destroyed and that you are comfortable with the truth of loves that have not been absorbed by God or that any anonymity could have been prescribed by the word of God as they say angels are more cautious in staying alive and with the transformation of God's existence and mortals who are consumed by madness, farce, emotional delusion that have angered the minds of men who have not yet understood to simplify their love of life as love God for all the inevitable things and together we can always unite because it was God who created Heaven as perhaps an anger that one day we can be grateful and ask you to be faithful to it like a straight arrow, without deviation that cannot be our irrepressible nature in the world that can and does become an illusion for the weakest without love that can feel its flower of paradise effect that we will always find what we are looking for because we simply learn to love and hate ourselves and consolidate i

all aspects of being happy for many years in which life is pulsating and creative of some devices that remain and that one day we will understand its pleasures and everything that God has created because we are children of God and we experience the light of life in our eyes and faces that show us how beautiful we are and strengthen ourselves in our memories that testify to our love for life as we pacify on the material planes the seeds that we simply keep in the soul of our thoughts that are completed in the forms and achievements that we achieve in life as a state of time on the occasion of gratitude that we learn to appreciate the life that afflicts the absurdity of youth and we see that everything that God created would be perfect because we are similar to God and in my philosophy I just want to say that if it was God who made us we are innate or homogeneous that through the anonymity of hidden affections we could complete ourselves with the love he made us because we would not be alive to be happy with some inferior indifference of his nature that remains for how long without any unfavorable expression to the only affection that made us greater than we are like the love that we may not be able to say of the no or nothing inferior in another that is simplified in the divine theory that everything that God created was with love and we learn from life less or more with its artifacts to evaluate what God did because we would not be so small and big in the hand of God who completed us in his image and love that we can never be small in all the hidden affections that trigger the pure realistic compassion of living, loving and being happy because in a few years or perhaps millennia from the depths of our souls, someday we will find ourselves free from hell in paradise.

Life and death would certainly be brothers of a contradiction in which we simplify everything that life formalizes for us, perhaps in which everything can have deaths as if there were life in which there is also life and there is also death that we do not want and simply say that the world was created by construction in representation of the good with light, love and life, just as the world was destroyed by deconstruction in the representation of

evil with darkness hatred and death left life and death as a setback for a return emanation in which God can be contained and indivisible between the two terms classified as life and death and so an explanation of life and death would also be logical life is love and death is hate and love and hate are more than a term that is part of life.

Everything is in perfect union and throughout existence it does not stop its rhythm that makes us say that we are alive today and maybe tomorrow we would die because of something generated by the destiny traced by death that in life continues to tirelessly destroy different people from different places in the world. A sum of points that life will not connect with the same sum that life must create, all being in a natural equality in which we assume our commitments to the realities of life and we will not be afraid of the negative death that walks and undoes everything in life in which God creates in a sovereign equality of one day each thing gathers to the same dust for a while longer to begin with any other life.

Whether you are poor or rich you will not distinguish between this problem that we must be aware of and if we deal with a mission of peace, health and love towards our neighbors who accompany every second of our lives and every day as we accompany and learn to preserve the environment. Our lives and yes, we will always be alive with our families, relatives and friends who love us as much as we do and we will feel their passing forever when their time comes and we will pay our charities with gratitude and love for their journey to paradise, whatever this heaven or hell is and may God protect you from all evil.

Life with its vital white color shows us a paradise full of love and health in which we laugh and cry with joy and learn to love and hate everything for a sentimental notion of our life and death with its lifeless black color shows us a dark place where you go to the other side of life and we might even meet and it's all about the border measurements where is heaven and hell and maybe one day we can meet

meeting and being happy together somewhere and talking about the past and those memories remains in our mind and we will want to fulfill some fantasy even if they have passed and we can find it and make it a matter of love and friendship.

I know that it is very difficult to understand life and death because they are sisters and they have an inequality in an outline of life to persist with their rhythms among human beings and they always leave us curious and surprised with their changes in our paths that are short by long time so that one day we can wash our souls and forgive our mistakes until the angels reach God in the heavenly paradise and everyone is prepared.

I just don't believe in death because I think nothing in this world dies because it's just the beginning of another life where we can say that we are free and have no imperfections in our lives and that life will better show us how we are outside of our world and could be even better in the way we identify with our souls and everything will be in perfect harmony and the fear of death will no longer exist and we will not feel any imperfection as opposed to death which will simply be life in the same way, the pulsating universe always gives life and to the at the same time destroys them all into a smaller fraction of the best atom and Together we can think that one day our lives will not be lost and we will be masters of an immortal time and that we will always remain alive for a long time. This is on a supernatural level and we can clearly say that we can make life a combination of things that we may not be able to do here and that we are totally free.

I love life as much as life loves me and are always in perfect harmony with me and heaven could one day be our home, we will live an eternal life and we can complete our understandings that can take us to the heavens or the universe!

It's like you say that in life there are two factors that destroy us with the benign and malignant force that nature offers us and establish in us a similarity with the impulses created by a certain existence as a

retreat of light and darkness. Those who need and make us suffer throughout their lives an inequality of life that afflicts man in his conscious and unconscious state that in simple circumstances his will, desire, love and hate do not have affective normality of moral character and personal conduct that is socialized on its emotional effects that make you live according to your life or delicate human nature that always seeks an answer in the time when everything remains for a fraction of a second due to the difficult occasion of destinies that compromise us by factors incomparable to the hard and real reality of our lives.

In a broad perspective it is said that love is the key to the well-being of relationships which by nature is more friendly and makes us understand how we are friends and everyone is perfect for the equality of good that is present in a benevolent circle that gives us will show how much we will always have and will always prosper with an evolutionary and future discipline at a stage in which we will never forget our values and compassion for our lives, always strengthened by false human bonds created by a precarious society and suffering with the bankrupt, attributes and related to life that make us die and suffer misery, failure and madness because of the useless fact of good and evil that are two questionable factors that fold into a vast occasion and personal relationships that make us react in a mind that is already born empowered and exhausted by the darkness negative light of life against the positive light of life which is the good of love transferred from the fantasies and illusions of material experience into the full life of a being who feels and holds in mind all the personal and moral brotherhood of a world characterized by good and evil which we call love and hate which brings happiness and emotional hell realized by relationships and projections of life which is the existence of light which means love for others and death which is the existence of darkness which means hatred for others which goes through all through a formality of life on earth and in the universe in an impulse of construction and destruction that ultimately created a moral purpose that served our s

while a processor excites the vibration of all circumstances generated and created by all occasions of life in a positive and negative process that in everything and with everything represented love transformed into hate and they always try to love as much as hate if they represent hate transformed and in love with evil who also tried to hate love so much representing love transformed into hatred for good that they never stopped understanding and never understand the true case and the possibility of nature itself, of existence and non-existence that complete the life between two comparable and incomparable desires that you call spaced from a basis and from a relationship of nature on earth and in heaven and in science there are no limits and the sciences are for everything that has always shown us the most complex true identity of an infinite parallel of a great understanding of the combat reaction built and destroyed by a complete evolutionary reality of life as a daily way of being the lower to the higher plexus that has always united with one to give the best suggestion and lifestyle to In the male name, love means strong affection for another person, born from blood ties or social relationships. Attraction based on sexual desire. In the male name, hatred means intense aversion, motivated by fear, anger or injury; heinous. The hated person or thing.

There is also heaven and hell which in religiosity are two representations of two paths and spiritual planes that represent the light side of life that is good according to divine love or personal good intention that comes from within oneself, as there is the dark side of life that is evil according to demonic hatred or personal evil intent rather than comes from a negative repulsion of life that would lead nowhere. The mere circumstance of life would be weakened to the sudden failure in life clearly differentiated from the clear good intention of life which is the good that distorts the dark side of life and when that issue is not itself the dark path of evil it is hatred that causes the death itself in a simplified way, its purpose

as mental law and logical questions of life.

There are paths that reveal an infinity of moral concepts that in the recovery of life we benefit from the body and soul through a constructive infinity that reminds us that we are spiritual beings who suffer these discharges of subtle energy from our souls due to uncontrolled factors that affect us. lead to the ends most inclined to react against the harsh and severe realities of life that oppress our nerves and break our fundamental consciences in a logical contraction and poorly reconstructed by various emotional declinations that make us compromise the social well-being that this offers us to see , live and understand the struggle for survival of this well informed or poorly constructed between an emotional mental plane in a biased world in which we live and learn to live and understand the best demand for love and hate that are in two perfect combinations that make it impossible for us to see the positive side which is the good of life and the dark side which is the old man adopted the evil of life in a fraternity uncontaminated by a feeling oppressed by the circumstances generated by life itself remaining in everything subject to love and hate.

Life is a very broad concept and allows for several definitions. It can refer to the continuous process of which living beings are part; the time between conception and death of an organism under the condition of an entity that was born and has not yet died and what makes a living being metaphysically, life is a continuous process of relationships. As simple as it may seem, it is still very difficult for scientists to clearly define life. Many philosophers try to call it a "phenomenon that animates matter." In general, an entity is traditionally considered a living being if it shows all of the following characteristics:

The name at least once during its existence, Development: passing through several distinct and

sequential stages, from conception to death.

1. Growth: absorption and cumulative reorganization of matter from the environment

environment; with the excretion of excess and "unwanted" products.

2. Movement: indoors (cellular dynamics), accompanied or not by movement in the environment.

3. Reproduction: ability to generate an entity similar to itself same.

4. Response to stimuli: ability to "feel" and evaluate the properties of the environment and to act selectively in response to possible changes in these conditions.

5. Evolution: the ability of successive generations to gradually transform and adapt to the environment.

These criteria have their uses, but their different nature makes them unsatisfactory from more than one perspective; in fact, it is not difficult to find an example, as well as examples that require additional processing. For example, according to the above criteria, it can be said that fire has life.

Such a situation could be easily resolved by adding the requirement of spatial limitation, which is the presence of a mechanism that delimits the spatial extent of the living being, for example, the cell membrane in typical living beings. This approach solves the fire case, but it also leads to new problems, such as defining an individual in organisms such as most fungi and some herbaceous plants, and does not definitively solve the problem, as it can still be said that: • stars they are alive, for reasons still similar to those of fire. • geodes can also be considered living beings. • Viruses and similar things are not living beings because they do not grow and cannot reproduce outside the host cell; housing extendable to many external parasites.

If we limit ourselves to "conventional" organisms, some additional criteria can be considered in search of a more precise definition: 1.

Presence of molecular components such as carbohydrates, lipids, proteins and nucleic acids.

2. Composition of one or more cells.

3. Maintenance of homeostasis.

4. Speciation ability.

However, even in these cases, some deadlocks would still be detected. For example, all life on Earth is based on the chemistry of carbon compounds, called organic chemistry. Some argue that this should be the case for all possible life forms in the universe; others describe this position as carbon chauvinism, considering, for example, the possibility of silicon-based life.

Multiple configurations

Francisco Varela and Humberto Maturana's definition of "life" (widely used by Lynn Margulis) is that of a water-based (self-generating) autopoietic system, limits of lipoproteins, carbon metabolism, nucleic acid replication and regulation of proteins, a system of lower negative returns subordinated to a higher positive return. Stuart Kauffman defines it as an agent or a system of autonomous agents capable of reproducing and completing at least one thermodynamic work cycle.

Robert Pirsig's definition can be found in his book *Lila: An Inquiry into Morals*, as anything that maximizes its range of future possibilities, that is, anything that makes decisions that translate into the most possible futures or that keeps as many options in open.

Biochemists have defined life as a set of molecules that, in their mutual interactions, develop a self-regulatory program whose end result is the perpetuation of the same collection of molecules.

A dynamic balance that, in the exchange of matter and energy with the environment, allows the reduction of entropy. There are probably more possibilities to define life, as it can be conceptualized based on the meaning attributed to "life".

Modified Descent: A Useful Feature

A useful feature on which to base a definition of life is that of modified offspring: the capacity for a particular form of life

generate offspring similar to their parents, but with the possibility of some variations due to chance.

Modified offspring are sufficient by themselves to allow evolution, as long as variation between offspring gives different probabilities of survival. The study of this form of inheritance seen in nature is called genetics. In all known life forms and excluded prisons, which are not considered living beings, although viruses and viroids are included, the classification is still uncertain: the genetic material consists mainly of DNA or another common nucleic acid, RNA. A criticism of this criterion arises when considering the code of some forms of viruses and computer programs structured through genetic programming: whether computer programs can be considered a living being, given this definition, is certainly a controversial topic.

Exceptions to the Common

Definition Many organisms are unable to reproduce and are still living things, such as mules and worker ants. However, these exceptions can be taken into account by applying the definition of life at the species or single-gene level. However, new questions about this approach are inevitable when considering specific topics such as kin selection, which provides more information about the possibility that non-reproductive individuals can nevertheless increase the dispersal of their genes and the survival of their strain.

As for the two cases where fire and stars fit the definition of life, both can be easily resolved by defining metabolism in a more biochemically precise way. In their book *Fundamentals of Biochemistry*, Donald and Judith Voet define metabolism as follows: "Metabolism is the general process by which living systems acquire and use the free energy necessary to perform their various functions. They do this by combining exoergic reactions of nutrient oxidation with the endergic processes necessary to maintain this state of life, such as performing mechanical work, transporting

activity of molecules against concentration gradients and the biosynthesis of complex molecules."

This definition, used by most biochemists, makes it clear that fire is not alive, as it releases all the oxidative energy of its fuel in an "explosive" reaction, in the form of heat.

Viruses reproduce, flames grow, machines move, some computer programs change, evolve, and in the future will likely exhibit highly complex behaviors; however, they are not living beings by that definition. On the other hand, at the origin of life, cells with more metabolism could exist without a reproductive system. Most, however, do not consider these entities to be living beings, and generally, all five characteristics must be present for a being to be considered living.

Modern biological definition

In light of this dead end, in light of the most current definition and apart, the proposals that are not corroborated in fact know that, biologically, life is a natural phenomenon that can be described as a continuous process of chemical reactions metabolic processes that occur in an evolutionarily structured environment. to facilitate the occurrence and maintenance of such reactions; always produced under the direct or indirect control of a group of special molecules, deoxyribonucleic acids or simply DNA.

The presence of DNA or, in an "equivalent" way, RNA, is currently a necessary condition for the definition of a living being, however, it has still been debated whether the presence of a potentially functional form of this molecule is a sufficient condition to define -there. The classification of viruses as alive or not is still uncertain.

Life in the religious context

The concept of life is well known enough not to go unnoticed by religious people. It is based on the principle of life or existence of the soul (in Christian belief, being exclusive to man); in animated existence (from the Latin word anima) in chance; or the duration of the animate existence of an individual or entity.

From a Christian point of view, in the biblical case, regarding terrestrial and physical life, things that have life, in general, have the capacity for growth, metabolism, reaction to external stimuli and reproduction. The Hebrew word used in the Bible and the Greek word, the Hebrew word and the Greek term meaning "soul" are also used to refer to life, not in an abstract sense, but to life as a person or animal. Compare the words "soul" and "life" as used in the Book of Job, chapter 10, verse 1; Psalms, chapter 66, verse 9; Book of Proverbs, chapter 3, verse 22. According to the Bible, vegetation has life, operating in it the principle of life, but not life as a soul. Life, in the broadest sense, applied to intelligent beings, is the perfect existence that bears the name of the soul. The concept within religious faith, however, transcends modern science and biology, without any support from any modern scientific nature corroborating the existence of the soul. Animism has long been rejected by science

in this case.

Origin of life

The origin of life raises scientific, religious and philosophical questions. There is still no consensus model for the origin of life, but most currently accepted models are based in one way or another on the following results:

1. Plausible probiotic conditions lead to the creation of the simplest organic molecules demonstrated by the Urey-Miller.
2. Phospholipids spontaneously form double layers, the basic structure of the cell membrane.
3. Processes for random production of RNA molecules can produce ribozymes capable of replicating under certain conditions.
4. The tree of life converges all known living beings into a single point of common origin.

There are many different hypotheses on the path taken by simple organic molecules to protocells and metabolism. Most possibilities tend towards the primacy of genes or the primacy of metabolism; a recent trend is to look for hybrid models that

combine aspects of both approaches.

According to astronomer and astrophysicist Thomas Gold, the hot, deep biosphere theory indicates that there is clear evidence that microbial life is extremely widespread deep within the Earth's crust. According to this theory, life has been identified in several locations on the ocean floor, linked to primordial gas emanations. Such life does not depend on solar energy and photosynthesis as its main source of energy supply and is essentially independent of the circumstances on the Earth's surface. Its energy supply comes from chemical sources, due to ascending fluids from deeper levels in the Earth. The single-celled beings that live in such environments are now classified in their Superkingdom, the Arcaea, and may well protect the mechanisms that gave rise to the first living things.

According to theory, in mass and volume this deep biosphere could be comparable to all surface life. Such microbial life could, in principle, explain the presence of biological molecules in all the carbonaceous materials of the crust, and, considering that these materials come entirely from biological deposits accumulated on the surface, it would therefore not necessarily be valid.

Known life in general can also be found within the planetary bodies of our Solar System or even in isolated objects that roam interstellar space; as many of them have suitable conditions for this to happen like those found in certain situations here on earth, while still constituting totally inhospitable environments on their surface for almost all living beings.

It can also be speculated that the only alternative is for life to be widely distributed in the universe, inhabiting everything from planetary bodies in our solar system to other stellar systems. Today, it is known that our periodic table is responsible for describing all the chemistry of the universe.

Life as we know it is based on carbon and water and energy is normally obtained by the presence of oxygen, either free in the air or

released by the reduction of compounds such as oxides, sulfates and others. Carbon sources are related to primordial hydrocarbons, in particular methane. These primordial substances are widely distributed in the universe and, considering that the processes that originated them occurred only here on Earth, for many, in these terms, they are at least a lot of pretension. An extension of this topic leads us to the panspermia hypothesis.

However, beyond speculation, in fact, however, life as it was almost certainly born and certainly evolves on Earth.

According to physicist Marcelo Gleiser in his book "Imperfect Creation", life appeared on Earth around 4 billion years ago. The oldest fossil record of life dates back to stromatolites formed in the Paleoarchean era of the Archean Aeon, about 3.430 billion years ago.

Nature, in its broadest sense, is equivalent to the "natural world" or "physical universe". The term "nature" refers to the phenomena of the physical world and also to life in general. It generally does not include man-made objects.

The word "nature" derives from the Latin word *natura*, which means, "essential quality, innate disposition, course of things, and the universe itself." Nature is the Latin translation of the Greek word *physis*, which in its original meaning refers to the innate way in which plants and animals grow spontaneously. The concept of nature as a whole - the physical universe - is a newer concept that has become increasingly widely used with the development of the modern scientific method in recent centuries. Within the various current uses of this word, "nature" can refer to the general domain of different types of living things, such as plants and animals, and in some cases to the processes associated with inanimate objects - the way in which different particular types of things and their spontaneous changes, as well as the climate, the geology of the earth and the matter and energy that these beings possess is often considered a "natural environment, wild animals, rocks, forests, beaches and, in general, all th

have been substantially modified by man or that persist despite human intervention. This more traditional concept of natural things implies a distinction between natural and artificial, the latter understood as something created by a mind or consciousness.

Etymology

Latin, nature, comp. from the natus theme, p.pass. de Nascere = Nascere and Urus = Suffix of the future participle of Oritur = Raise, generate, the force that generates.

What emerges, what occurs from birth. What is and does by birth, according to universal laws applied to a specific context. Order or system of laws that precede the existence of things and the succession of beings. The set of all beings that make up the universe. Essence and intrinsic quality of a being. Also understood as "quality, nature, genius, type, character" of a being.

Life

A duck with its young Although

there is no universal consensus on the definition of life, scientists generally accept that the biological manifestation of life is characterized by the following factors or functions: organization, metabolism, growth, adaptation, response to stimuli and reproduction, beings living organisms (plant kingdoms) (animals, fungi, protists, archaea and bacteria) have these properties in common: they are made up of cells that have a complex organization based on water and carbon metabolism and have the capacity to grow, respond to stimuli and reproduce. Therefore, an entity that satisfies these properties is considered alive.

The biosphere is the part of the outermost layer of planet Earth, including air, land, surface rocks and water, and it is in this part that life evolved and where biotic processes are made and transformed.

From a very broad view of geophysics, the biosphere is the global ecological system that integrates all living beings and their relationships, including their interaction with the elements of the lithosphere (rocks), hydrosphere (water) and atmosphere (air). Currently, it is estimated that the

Earth contains around 75 billion tons ($7.5 \text{ kg} \times 10^{13}$) of biomass, present in various biosphere environments. About nine-tenths of Earth's total biomass is plant life, on which animal life depends for survival. To date, more than 2 million species of plants and animals have been identified, and estimates of the actual number of extant species range from a few million to a maximum of 50 million species. The number of existing species varies constantly, as new ones appear and others cease to exist in a continuous dynamic. Currently, the total number of species is experiencing a rapid decline.

I simply want to say that life is the sister of death since death is the sister of life; there is probably a construction term in which we are simply walking along a path that we must look for real evidence of the existence of life in mortals than in most cases we consider to build, destroy and evolve the human being who has undergone a metamorphosis that would actually be the opposite of death by a fatality from which we see life distracted in a context of testimony of its existence and affection to cross a more different side which we casually seek certainty about the uncertainties that naturally must have a construction that puts everything in harmony and a deconstruction that put everything in total discontent which we call the return time which is written in the Bible that God created the sky and the sea and men built an excellent source of their relationships with life that has always arisen in you in the context of revelation and demonstration of realities day after day that for a discrepancy of time and three days everything becomes the target of circumstances of love and hate in which man can understand his needs for evolution and origin. It completed the beginning of the world in which God created Adam and Eve in paradise and as the Holy Bible says they committed a perdition by eating from the tree of life and were expelled from paradise and the world materialized in a metamorphosis in which man is a god from the beginning that the gods built Mount Olympus and made humans understand

thoughts, for life and death should be like a dream of entry and exit to where the world would be found in possession of pleasure and will and everyone would enjoy all the necessities that life and its relativity, if between human beings and animals, a dominion were established that would actually stop and in everything, stop to his abilities, rations, complications, understandings and actions in which man could establish a conduct or doctrine among tribes and gangs that formed the world and understood what life is. He taught and understood about death and life that simply should establish a logic of remaining intact in its more than likely nature, uncertainties more than overcome by being formalized in a primate man between a duel with dinosaurs until the contemporary era that established a identity more similar to the deconstructions and constructions of life leaving the earth as a creative emanation of a phenomenal existence of the living being that became man, woman and animals were preserved in all modalities that presumably also man could have come from the ape as primitive man and that the world originated from a great explosion caused by an asteroid in which it destroyed the face of the earth and everything started from nothing, as it is also said that the world originated from a great explosion in which the universe was densely hot and that everything it was formalized atoms in atoms in which life was formed on earth, establishing human beings animals and animals in which the word of god was born as an emanation of events from a bond that we can simply say we were constructed and formalized in an alchemy more focused on the absinthe, as the essence would be in the form of a snake while the world improved within a natural harmonization of nature between four constructive elements that emanate life in air, water, earth and fire, in which their genes can formalize us into a atom and a logic in which matter would be part of everything and in a smaller fraction of an element in which atomic particles would be or would be in a small interval of time in which they would for

atomic called an atom between time and space, the universe would always become more between spaces, leaving everything and creating everything in an escape from planetary life and its exit and entry devices such as creation and destruction, in which god would be a homogeneous factor of the universe and/or omnipotent of all things in which they were created in a context of construction and destruction, being god among the various questions of clairvoyance between life as light, as emanation of life and hate as destruction of death, also known as the devil representing the flame, the eternal fire of God emanated by the devil who is god himself in the form of light, who represents the life that presumably never disappeared and always the things of paradise that would be a starting point for all the souls in which we formalized how heaven and hell would be the dark side of life, symbolizing the devil who would take the lamas to purgatory as a death penalty and sin over life and death and the world would not have established another conduct, but heaven and I hell as a representation of life and death between a single god, for there was only one god and the devil who, in two forms, would have established one as the world was also born as a god An explosion that spreads and enters the escapes while everything was formed and formalized, leaving the Earth a place to live and die where the two spheres show us yet another greater sin and not believe in God and salvation would be to believe in God, the Almighty Creator of the heavens and the earth in that life has always revealed its mysteries to us among the depths of heaven and earth that has always rebelled against various purposes of light and darkness with life being something superlative a prodigious nature that has always formalized us by its existence and subsistence, in which are known as good and bad, becoming all in light and dark with life becoming something like a circle in which we can live and die as the construction and destruction of life because of death which is dark and cold when life would be more subtle because it is clear and white and everything is related to an alchemy of a phenomenal existence in which we can symbolize your

an emanation of time and space, as the universe can always expand its vibratory and pulsating flows and expands being subtle and destroying itself always being dense in an atmosphere hotter than Earth that is formed in every aspect, a forgotten space in the which hours, minutes and seconds are added together in a smaller fraction of time, forming atoms and giving more and more space to their dimensions. I mean life is mother's sister or like death is life's sister, there is probably a term of construction that we are simply walking down a path where we must look for real evidence of the existence of life in mortals than in the most considered way of construction, construction and evolution that the human being has undergone a metamorphosis that would actually be the opposite of dying from a fatality from which we see life distracted in a context of onianza testimony of its existence and affection to cross a more different side, which casually we seek certainty about the uncertainties that naturally must have a construction that puts everything in harmony and a deconstruction that puts everything in total displeasure that we call a return time where we can certainly live and certainly prevail over real life. Perhaps we are living or going through a story that today we can fully understand its most complete value that distinguishes us from perceiving perhaps between the love that makes us hate and the love for a feeling that we can try and that our feelings go unnoticed to the love that actually makes us hate a woman with who still predominate our wills in certain things that we dream about and we think that there is little or more performance between our wills that we are learning today to conquer life and perhaps we are still precarious in our will to achieve something that gives us pleasure in certain circumstances in that we say well that we can dominate something that favors us between perhaps our will and that there can be indifference between the love of a woman who simply makes us love her existence better than we do and that we go unnoticed an undue desire to prevail over a duel that, in the po

of himself, says that the ancients called and cost between certain forms of I love and die for love between struggle and despair to find a real explanation between the achievement of facing a woman and between their prejudices and organization eyes that perhaps we can say that everyone was attracted by the fury of overwhelming desire that makes us support that everyone fell together in that moment when we are attracted by the will and beauty of a real woman even if we are different in relation to our love that we sigh with hate because we suspect the truth that we want contain just between them in the middle of a catastrophic world and prevent us from suffering a little social and coexistence damage, which perhaps is teaching us to find a more desirable response to our courage so that one day we can understand the sentimental strength of a woman that shows us and makes us enjoy our shortcomings without feeling pain because we are among the desires that the love of a woman who makes us love with body and soul and who would simply take us to the soft and incomparable paradise that would hold our hearts by force, that it would change biologically in relation to our organic functions that would only enter those between the two things that would seem like a paradise it would fill our voids more than sentimentally like a cure that makes man groan without feeling pain as an expression of healing for love in the midst of desire that one day we can understand about love, it is enough that nothing in this world covers us between certain fantasies that make us fulfill our desires that we always evaluate a woman and her predominant aspects as reflections of an adventurous life that makes us know certain paths that take us away of our consciences that society will always end, is discriminated among poor women dismissed by uncertain men who can still improve a real woman more than ever never say goodbye to their fun, because they are among many undesirable people, even if they are all the same and show us your value that only makes us groan. without feeling pain and that we can see , and see what their faces mean to us, inside the soul like a fluid

emotional that we lack, makes us darken and we fall between her feminine eyes while we feel attracted by her nature and her physical beauty that we will never forget and leave behind a margin in which one day we will be able to understand her greatness.

Motif between a desire for love that makes us moan with this desire in a feminist aspect in which it makes us moan without feeling pain.

I want to talk about a past that dominates us in a context that simplifies love for the magnificent pleasure of a woman in which we tell several stories even in songs in which the exuberant and mischievous man is not limited to the pleasure of a woman in which his hatred becomes frightening , as it shows that your emotions are under the spell of preserving your love that perhaps we can say that we are learning to live and love again with an effect that makes us feel torn between emotional environments in which almost all of this makes us die over the domains of life in which we take as the key to existence the pure beauty and delicacy of a beautiful woman who may not have pleasure and who has transformed herself into a resistance of love and pleasure in which pleasure would be justified by a classification in which we assume free inability to a charm that we can fantasize about certain people who can only make us gain what we are looking for and that this thing can match us and what it does for us was understand and truly its value from the depths of the soul in which it has transcended us to a process in which we can remove the true feeling of pain, no matter how much we are not combined in the same existence and that everything will lead us to the pleasure in which we enjoy this honest fraction of our desires without feeling pain as an expression of that song that the woman has on her face two bright ones, because we reflects like a soul and calls out our desires and that we can enjoy this paradise that we dispense with everything in life now when we can say that we make love and leave behind the setbacks that rub us in life and enjoy the pleasure of the flesh without feeling pain and we will remain together in two faces that can come together forever in life.

It all begins with a confrontation between the Greeks and Trojans by Elena, Menelaus' wife, who tells the story of a hobby horse that ended a ten-year war. New woman. Beautiful and capricious, it makes a man moan without feeling pain.

Alexander, inhumane figure, founder of the famous Alexandria, conquered Greece and destroyed almost the entire Theban population, Roxana's attractive beauty dominated the greatest conqueror and after winning he was the winner and gave himself up to pay more than the beautiful young, young woman, beautiful and affectionate makes the man moan without feeling pain, the woman has two faces when two years of her destinies who does not like the female smile does not know the poetry of

Cervantes, the courage of the great navigators in front of her to the sky under her care, If it weren't for the flower of Maus, the story would be a lie, a beautiful and affectionate young woman makes a man moan without feeling pain, Virgulino Ferreira the Lampião, a brigand from the jungles of the northeast without fear of danger or ruin, he was the king of the cangaço of the backlands but the other day he felt attractive love in his heart, the mulatto from the land of the condor dominated a dangerous beast, a beautiful and affectionate young woman makes a man moan without feeling pain. Being an exuberant and mischievous man is not restricted to the pleasure of a woman in which her hatred becomes frightening, as it shows that her emotions are under the spell of preserving her love that perhaps we can say that we are learning to live and live. Loving again in an effect that makes us feel divided between emotional environments in which almost everything makes us die in the realms of life in which we take as the key to existence the pure beauty and delicacy of a beautiful woman who can have no pleasure and that everything has changed with regard to the endurance of love and pleasure, in which enjoyment would be justified by a classification in which we suppose to be free from disability in a charm that we can fantasize about certain people who can simply make us gain what we seek and that this thing can equal us and this makes us truly understand its value from the depths of the soul in which it has transcended us in a process in which we can remov

It doesn't matter how united we are in the same existence and that

everything will lead us to the pleasure in which this honest fraction we enjoy our wills without feeling pain as an expression of this song that the woman has on her face two brilliants to reflect as a soul and call our will and that we can enjoy this paradise that we give up everything in life at that moment when we can say that we make love and let go of the setbacks that rub us in life and enjoy the pleasure of the flesh without trying pain and we will remain together in two faces that can meet eternally in life . I simply want to say that life is the sister of death since death is the sister of life; There is probably a construction term in which we are simply walking down a path in which we must look for real evidence of the existence of life in mortals than in most cases.

Considered to build, destroy and evolve, the human being has undergone a metamorphosis that would be the opposite of dying from a fatality that sees life distracted in a context of

witnessing its existence and affection to cross a more different side that we seek casually. Surplus of certainties, uncertainties that naturally must have a construction that puts everything in harmony as well as a deconstruction that puts everything in

total dissatisfaction, which we call the time of return, which is written in the Bible that God created the sky and the sea and men built a source very well with regard to its relationships with life that are always emanated by us in a context of revelation and showing us the

realities of the day in which due to lack of time and three days everything becomes the target of circumstances of love and hatred in which man can understand and understand his needs for evolution and origin that have completed him since the beginning of the world in which God created Adam and Eve in paradise and, as the Holy Bible says and committed a perdition to eat from the tree of life and were expelled from paradise and the world materialized in a metamorphosis

in which man is a god from the beginning that the gods built Mount Olympus and th

a human being, understanding his desires and thoughts, such as life and death, should be like a dream of entry and exit in which we would find in the world a set of religious doctrines of a syncretic, mystical and initiative nature, possibly added to philosophical reflections that seek knowledge of divinity to achieve the spiritual elevation of man certainly well in his life.

We really need to disseminate a simple idea in which man can reveal to us what we are and where we are going and that space would be a place to make us think and understand about various atomic aspects which in turn made us more physical among various ideas that can remake ourselves on a great variety supposedly equivalent to the elements that make us up and their particularities that they reserve for us in a nucleus called the human body so that we can simply understand their dynamics and organic functions that are exposed on the body, spirit and soul and we will decipher this question that by a contradictory effect we can accept its dynamics that can vary on the dense material body and the subtle spiritual body that we are going to prescribe as a lesson that there is a science that makes us understand called anthropology which is simply the science that is dedicated to the study of human species in its entirety, taking into account its origin, development (physical, social, cultural), For certain circumstances I want to speak seriously about a setback in which we can understand the development of the organism's relativity as diverse functions that theoretically I describe and put in physics as an observational work in which we can distinguish a great classification in which in metaphysics we extract great scientific proofs under any assumptions in which we will show a list of artifacts well explained under the human body and its artifacts and certain attributes related to the great development of biotechnics in reactions of all transformations between organic and functional functions of the organism as synthesis of various compositions and For a long abbreviation I want to talk first about the part

psychological that messes with the mental psyche in a relativity with different parameters that weaken to a chemical process due to certain attributions of the mind by a chained impulse that a person can show a wide variety of weakened behavior that can be precariously depressed due to an impulse and nervous exhaustion that makes it difficult for you and leaves you sensitive to the normal behavior of your emotions due to any plots such as depression due to a simple suffering that created you in front of a situation of distress that struggles with your emotions and turns into anguish that perhaps makes you due to a mismatch, he enters into a state of deflowering act and in which he consoles himself under a self-control of reacting to various submissions that he conceives of singing, speaking meaningless things so that we can know that our senses can vary both positive and negative in which we favor behavior as a dispersion of energies composed under a discipline that cannot be well related to normal conduct due to the habit of exercising certain doctrines and functions specific to the organism when it itself finds itself depressed, dissatisfied with the unnecessary maturation of the will that can give us good tastes as well as the enjoyment of normality that we justify by the practice that can be possessed of great loads and the exercise of euphoria due to a wide variety of proteins that favor good mental calcifications to a certain extent. Calcium is important for several vital functions such as proper muscle contraction, regulated heartbeat and low cholesterol levels and it is important to also ingest calcium in adulthood, as we need this mineral to prevent osteoporosis, a disease that manifests itself in old age. I believe that we have to trigger several appropriations under our nervous systems because I believe that we need a very large source of proteins under all organic defenses so that we do not solidify the mental compound that we present here as a wide variety of chemical formulations that complete us our s

essential and composed of several chemical formulations that have an effect on the organism and the body because the mind is what controls the body and the cerebrum is the physical part, that is, it is an organ that is found in the cranial cavity that represents a large number of neurons (cells of the nervous system) The mind represents the immaterial and functional part of this organ. And we can clearly understand its great and variable functions in the mental and physical behavior of the human being, who becomes weak when there is no formality well exercised and composed of his emotions due to the baggage that makes him move through all the measures and reactions with the life that can be distracted by the uncertainties of maturing that in the sum of the tonality we can preserve ourselves in front of a firmament well attributed to society and realistic life that we suppose destined us for various radical purposes as we venture under a great trajectory and measures of gains or losses that we can necessarily obstruct and weaken ourselves with the nonsense of everyday life and all reactions can favor us failure and victory due to certain occasions and social attributes that in others privilege and enthusiasm for life and thus relate to celebratory functions as a vehicle of entry and exit in which we can propel ourselves more effectively to our reasoning and we will be aware of any normality and that abnormalities can be and have come from any nervous imbalances and so it is the mental system and the law of gravity that align under great aspects of the living being and I believe in all circumstances of the human being that relativities are under a formality and construction of chemical functions that always exert great behavior under great organic weaknesses in which we can tell you that the human body is made up of thousands of cells, which they are united to form tissues, organs and systems. The various systems of the human body work together to ensure the functioning of the organism as a whole and consequently our survival. I simply want with my words here to show a constitutional formality of a

great relativity of our body with the great universe that I tell you that they look almost the same and that their functions can transfer us and transmit something relative to the central system of the body as here right now we are faced with the great universe that is in great expansion as in law of relativity clearly relate to all of nature and man would be a small universe under a great formality of cells and organs that makes us think of each organic function as the great universe that may have originated from a great cosmic explosion and became formalized the life that is conceived in an atom in various relationships with life among the most fearless planes of human and universal nature that we also suppose these artifacts as a machine that we certainly could not have thought of as much about its relationships and functions as the computer that classifies itself among one or more objects very similar to the human being that we will let this part take for a great clairvoyance of life under their subsistence the monitor as an emanator reflected in light that in physics served to give an image that would serve as a soul, simple vision relativities electronics sent by the large electronics of the PC that are completed with the motherboard that is electronically designated with four elements called processor, source, HD and memory that we cannot really have an idea of, but I believe that we are fully involved with this machine that looks like We tell you that the source would slightly pass on a charge of energy that physically we could call it spirit and RAM memory is represented by the storage of information necessary for the execution, applications in use and for the functioning of the operating system itself, this part even facilitates the processor that can access essential data more quickly. It looks like the cells of the human body that transmit information and it is from it that we remove the DNA and we can see that everything is a relationship between an electronic function that looks human and we can get to know it better up close and we conceive it under a occupational information center regarding human co

called the processor which is the central processing unit of a computer (CPU), it works as a computer's core, as it interacts and makes the necessary connections between all installed programs. And it represents the system's core in a very functional variety that is classifies with all installed programs as an organic vehicle passing daily information to the human body system when it is a human being and this electronic element is very similar to the human machine and among another element we know the HD which is a hard drive or hard drive , also popularly called HD, mass memory or secondary memory, is the part of the computer where data is stored and when a file is stored it is not lost when the machine is turned off, as happens with RAM memory. It really belongs to the famous thought and feeling that we call the subconscious, which keeps everything we see, read and remember, which is the most faithful side of the soul and of the human being, which we use the subconscious consciousness to archive all the things that we see and keep in our minds and it would be the physics, the soul and the processor, which would be the body that functions as a computer brain that interacts and makes necessary connections between all installed programs And it represents the brain of the system in a Well functional variety that ranks with all installed programs as an organic vehicle passing daily information.

And let's talk about another very important element called random access memory or random access memory which is a type of memory that allows reading and writing used as primary memory in digital electronic systems that is really part of the soul for reading as the feeling that assimilates from the senses the soul's vision of seeing and seeing to put into practice any procedure of prescribing and affirming the understanding of information that is a function that allows reading and passing information to the machine system as the human body appears physically in theory to prescribe all your dilemmas and thus this machine would be a great s

extraordinary as a human being who thinks, feels and sees and so we can understand all the relationships of the living being between its functions and dynamics that show themselves under a fuller nature that completes us as the universe of the subtle became denser and thus If life was created on earth in an imaginary construction that offers us life and varieties of relationship and function with all the existences of nature.

I believe in all circumstances of the human being that relativities are under a formality and construction of chemical functions that always exert a great behavior under great organic weaknesses in which we can tell you that the human body is formed by thousands of cells, which they are united to form tissues, organs and systems. The various systems of the human body work together to ensure the functioning of the organism as a whole and consequently our survival.

I simply want with my words here to show a constitutional formality of a great relativity of our body with the great universe that I tell you that they look almost the same and that their functions can transfer us and transmit something relative to the central system of the body as here right now we are faced with the great universe that is in great expansion, how many in the law of relativity clearly relate to all of nature and man would be a small universe under a great formality of cells and organs that makes us think of each organic function as the great universe that it may have originated from a great cosmic explosion and the life that is conceived in an atom was formalized in various relationships with life among the most fearless planes of human and universal nature.

I simply want to make it very clear here to everyone that in my logic or other people there is a human relativity as a set of ideas that are formalized under a great development of various organic functions that we can dedicate ourselves to in body, spirit and soul at a given moment. in which the matter would be

something too morbid to perhaps constantly feed on different proteins, vitamins and mineral salts due to certain setbacks and various illnesses and lack of chemical and organic substances that makes us transcend under such variation and function procedures against various diseases that develop in the organic system how much metabolism makes major transformations as it is a set of transformations that chemical substances undergo inside living organisms. The expression cellular metabolism is used in reference to the set of all chemical reactions and functions that occur in cells and I really believe that this controversial reaction could perhaps have another transformation of cellular functions when we use stem cells that have the potential to rebuild tissues damaged and thus assist in the treatment of diseases such as cancer, Parkinson's disease, Alzheimer's disease and degenerative and heart diseases, I believe that we must pass on DNA information to analyze a cell of atoms. I believe that the human body is made up of trillions of cells composed of octillions of atoms that are structured in a highly organized way, into tissues and organs. To maintain the balance and vitality of the organism they need to talk to each other and this happens through chemical messengers called hormones such as the somatotropin hormone or somatotropin which is a protein and a peptide hormone synthesized and secreted by the anterior pituitary gland and this hormone stimulates the cell growth and reproduction in humans, other vertebrate animals and we can understand here that the stimulation in relation to the bi-organic function and see here in the genes all the particularities formed by the cells in which we can better delve deeper into the functions and their developments that would be in transformation by means of transmutation is logical in which we synthesize a more static chemistry that can develop through an acceleration in the smallest fraction of an element like an atom in a short space developing with the nuclear chemistry of the spirit that vivifies each

cells and thus we can better understand and study the laws of relativity and functions of each element contained in the cells in which the cells of the human body are formalized and perhaps we have to study more deeply about the cells and their functions that we should certainly see the body more scientifically using its atomic and natural elements under transmutations and transformations between particles and molecules that form into atoms and all of this could begin with the three kingdoms of spirit, soul and matter where we can unravel nuclear chemistry between various conceptions and transformations between certain elements chemicals in function of matter as an atomic nucleus, completing its magnitudes and more subtle creations on the planes of the soul in which we transform chemistry into physics in the case of a more preliminary study in which they will be transmuted from the subtle to the dense, forming and projecting themselves into a dense substance passing into the liquid state as the quintessence and being formed in matter that we naturally call the atomic nucleus in which all relativities can enter into combination to functionally exercise their functions in the cellular study of each existence and substance that will pass into the centripetal and outputs of electron centrifuges forming each atom relatively combined in a state of functions of the organism that metabolism is conceived as an organic and vital function for the h

I simply want with my words here to show a constitutional formality of a great relativity of our body with the great universe that I tell you that they look almost the same and that their functions can transfer us and transmit something relative to the central system of the body as here right now we are faced with the great universe that is in great expansion, how many in the law of relativity clearly relate to all of nature and man would be a small universe under a great formality of cells and organs that makes us think of each organic function as the great universe which may have originated from a great cosmic explosion and the life that is conceived in an atom in various relationships was formalized

with life among the most fearless planes of human and universal nature, let us also suppose these artifacts as a machine that we certainly could not have thought of as much about its relationships and functions as the computer, which is classified among one or more objects very similar to the human being that we will let this part be taken as a great clairvoyance of life under its subsistence, the monitor as an emanator reflected in light that in physics served to give an image that would serve as a soul, a simple vision of the electronic relativities sent by the great electronics of the PC that are completed with the motherboard which is electronically designed with four elements called processor, source, HD and memory that we cannot really have an idea of but I believe that we are fully involved with this machine that looks like us I tell you that the source would slightly pass you by a charge of energy that physically we could call it spirit and RAM memory is represented by the storage of information necessary for the execution, applications in use and for the functioning of the operating system itself, this part even facilitates the processor that can access the essential data faster. It looks like the cells of the human body that transmit information and it is from it that we remove the DNA and we can see that everything is a relationship between two electronic functions that look human and we can get to know it better up close and we conceive it under a occupational center of information as human cells, another very similar relationship called the processor which is the central processing unit of a computer (CPU), it works like a computer star, as it interacts and makes the necessary connections between all installed programs and it represents the star of the system in a very functional variety that is classified with all installed programs as an organic vehicle passing daily information to the human body system when it is a human being and this electronic element is very similar to the human machine and among Another element we know is

Also HD, mass memory or secondary memory, this is the part of the computer where the data is stored and when a file is stored it is not lost when the machine is turned off, as happens with RAM memory.

It really belongs to the famous thought and feeling that we call the subconscious, which keeps everything we see, read and remember, which is the most faithful side of the soul and of the human being, which we use the subconscious consciousness to archive all the things that we see and keep in our minds and it would be the physics, the soul and the processor, which would be the body that functions as a computer brain that interacts and makes necessary connections between all installed programs And it represents the brain of the system in a Well functional variety that ranks with all installed programs as an organic vehicle passing daily information.

And let's talk about another very important element called random access memory or random access memory which is a type of memory that allows reading and writing used as primary memory in digital electronic systems that is really part of the soul for reading as the feeling that assimilates from the senses the soul's vision of seeing and seeing to put into practice any procedure of prescribing and affirming the understanding of information that is a function that allows reading and passing information to the machine system as the human body appears physically in theory to prescribe all its dilemmas and thus this machine would be a great extraordinary structure like a human being who thinks, feels and sees and thus we can understand all the relationships of the living being between its functions and dynamics that are shown under a fuller nature than It completes us as the subtle universe became denser and thus life was created on earth in an imaginary construction that offers us life and varieties of relationship and function with all the existences of nature.

I believe in all circumstances of the human being that relativities

they are under a formality and construction of chemical functions that always exert great behavior under great organic weaknesses in which we can tell you that the human body is made up of thousands of cells, which are united forming tissues, organs and systems. The various systems of the human body work together to ensure the functioning of the organism as a whole and consequently our survival.

I believe that all nature and existence can be relatively combining and at the same time entering into a state of disintegration due to the universal formation of the universe which was when everything was transformed into an act of destruction to enter into a construction and metamorphosis between the laws of existence and that the universe would never stop its rhythm as its resonance would be to always play the same song and I mean that we can be chemically carried away by this song unless it contains us under such circumstances of life in everything it has and will remain marked with time and space and thus we will be half between beginning and end because the universe would always be growing with time and we only resonate with this nature that makes us grow and die by a unique and natural law that exerts totality over everyone and our relations with nature can be held in matters of seconds under various functions that we have to change for long and short intervals of time and thus we classify ourselves under the natural planes of nature and can grasp its multiplications, knowing it better so that from the subtle we become neutral and highlight the chemical mismatches of our existences and this is how the world was created and we will learn from its relativity and pulsation so that we can really walk towards life and find the true path and the most abysmal future of all existences and I want to thank everyone from the bottom of my heart for this I introduce my conceptions and studies that I observed before everyone who explained a good part of biology and Hugs from writer Roberto Barros!

I want to show here, with a lot of love and work, valuable research

that I did as evidence of many studies that I show here a well-defined relationship about a great role of man in biology that transcends the world of physical phenomena about the great relativity of alchemy that is called in chemistry called nuclear chemistry over all forms of life , resistance and existence of the human being and natural life that we call the biological study of cells on organisms both in human beings and in natural life in which we can study cells throughout the cosmos, both spatial and mental in their variable conditions, existences, transformations and life that we can discover in its chemical functions and I want to talk about chemistry, chemical functions and relativities of life that I simply believe that I have created here a great scientific relationship for everyone about all my work and research in the field of chemical functions that I explain that it should be used on all the works and sciences that I describe here with great love in which I show a great relationship of science over an infinity that we can use them on the true function in which here I unfold everything about biology, physics and chemistry as a great efficiency of functions about the great development of the organic system and I want to thank everyone here and send you my best regards and thank you very much!

I want to thank everyone for this formidable work and may everyone find in this anthropology of mine the most sincere answer to any attributes that are not in perfect class and I wish you all the best and thank you all very much!

A PRELIMINARY STUDY ON THE DEVELOPMENT OF THE PLANET EARTH ON VARIOUS FACTORS ABOUT FUNCTIONS BIOCHEMISTRY OF LIFE AMONG THEIR RELATIONS WITH NATURE

I have been studying in my conceptions a more extinct way to decipher life about a great and esteemed development of my research about perhaps a great and very favorable work that I put

as a starting point every relationship and origin with life and on the great development of the universe until planet earth in which we can almost distinguish its origin and atomic passage between its great transformations with nature in which I explain in my dynamics that exists above from us an immense space in which all the transformations of the universe on earth were taken and as for terrestrial beings we can also have a synthesis of their relationship with nature that we could classify as a great dynamic that rests on an atomic alchemy that in everything and from everything life could have been born and we are going to talk about a more or less static Chemistry that we rarely fail to understand atomically its probabilities that in my opinion everything is about a large concentration of electrons, neutrons, ions, protons and others elements that are all about the propagation of radio waves to places far from the earth as they contain ions and electrons and the radio waves are reflected from the ionosphere which is the upper part of the earth's atmosphere where ionization takes place located above the stratosphere which is the layer of the Earth's atmosphere located approximately 11 kilometers and 50 kilometers in altitude between the troposphere and the ionosphere that makes me think about the layers of the atmosphere in rotation and translation movements that through nuclear chemistry we can see the transformation into the troposphere, stratosphere, mesosphere, thermosphere and exosphere and they are not distributed equally and their distances vary according to the densities of the chemical elements and it is where all chemistry is transformed causing a contradictory effect on the planet on the crust, soil and rocks that formalize the construction of our planet and thus we can research the dynamics of alchemy that compress on a great development of the world causing a more atomic effect on life and thus seriously our universe that pulsates and repulses on movements of rotation and translation formed by nuclear chemistry every alchemical manifestation of the atoms that come from water to rock

nature wants to take space over life and the dynamics of the universe is based on its functions and reactions that a nucleus can create by creating an element and giving life to space and thus the earth was formed and the planets were aligned on a relationship with nature atomic of life and we can prescribe this story more or less about a great creation of life and in this way all particles combine into molecules and become an atom in the smallest fraction of an element and we can understand life and I say that Chemistry goes into cyclonium with the matter planes coming from the electrical side of the spirit and combining on a dense or subtle body that through physics we can unveil where everything may have started between chemical and atomic functions on the movements of translation and rotation that the planet rotates and thus we will be on the great development of an atom on large loads of electrons and exhaust outlets that created the planets and that is why we can atomically prescribe in life its resonances.

I want to talk about the natural elements that are present in the stratosphere, which contain the air for plants and animals, and we can classify geophysics as the layer of the Earth's atmosphere and assimilate the most subtle chemistry in it, as well as the soul, which is subtle and is formalized between a nuclear procedure passing from the state of oxygen which, among organic functions, is exerted on the relativities of the spirit as the creator of existence to who gives life and everything, and transforms into an oxygen atom between carbon chains and it is an element chemical with atomic number 8 and symbol O and we can also see the stratosphere is the second layer closest to the earth and it contains the ozone gas responsible for the protective barriers against ultraviolet rays better known as the ozone layer and also the mesosphere and characterized because it is very cold and once in contact with the stratosphere it is a little hotter. Heat exchange point both and the thermosphere is the most extensive atmospheric layer and the air is sparse, so it easily absorbs solar radiation and the exosphere is

and is composed of Helium gas and hydrogen in all relativities we can verify on a triceps aspect that we are showing that the planet itself and its elements consist of an extraordinary mass of atomic weight in nuclear relationship with all terrestrial nature and when its chemical functions are favored by the great nuclear elements that make up the entire existence of life and I want to make it very clear that it is from the natural elements that all atomic weights are obtained and that everything comes from a great chemical and nuclear transformation to establish a consistent nucleus in an atom called of earth which is simply our planet and here we can understand all the causes and consistencies of a great electromagnetic and magnetic formation that develop giving priority and lives to the world through the consistency of creation and relationship of nature and I want to talk about the beginning of the world and It was then how it all started from nothing to a great pulsation and explosion that created life chemically on the continuous force of the universe that heated up and exploded it giving rise to all the relativity of life on great chemical functions that we prescribed its history in physics and thus life was created on earth and the world was born towards everyone according to the teachings of the Bible, focusing on the scientific part of the existence of the universe.

Big Bang: understand the theory of the origin of the
Universe September

21, 2020 By

PRAVALER One of the most popular topics in the National High School Exam (Enem) and in entrance exams across the country is about the origin of the Universe, essential content in teaching subjects elementary and secondary. Because of this, and always thinking about helping you during the test, we decided to develop this article with one of the most valid theories on the subject: Big Bang. Firstly, it is important to remember that there are only two valid theories regarding the origin of the Universe: the evolutionary one, also called scientific, and the creationist one, considered religious.

As religion is based on different beliefs, the second is not part of the school textbook and, therefore, is excluded from the tests. With this, we are left with an understanding of the evolutionary theory, required in college selection processes.

For science, the Universe began in a process called the “Big Bang” and, from there, it expanded. This Big Bang theory, however, says much more about the idea of evolution than the explosion itself, as the circumstances of the event are unknown. For scientists, this explosion came from a single particle with infinite density (which even surpasses the laws of space and time).

Are you interested and want to know more about the subject to do well on the Enem test? Continue reading and stay up to date with us!

In this article you will find: What is the Big Bang theory?

Who created the Big Bang theory?

Fundamentals of the Big Bang model

General relativity

The cosmological

principle Main aspects of the Big Bang theory The

beginning of everything

Inflationary

period Opaque universe

Transparent universe

Gravitational collapse

Formation of galaxies Can the Big Bang theory be extinct?

Big Bang summary for the entrance

exam What is the Big Bang theory?

What we can say is that the Big Bang theory is – if not the only one – the most accepted theory in scientific circles, even today, for explaining the origin of the Universe. It supports the idea that, as we saw above, the Universe emerged through the explosion of a

single particle, called the primordial atom, and caused the cosmic cataclysm. This occurred around 13.8 billion years ago and even states that the Universe continues to expand.

Therefore, although the term "Big Bang" refers us to the idea of an explosion, that is not what the theory is about, but rather an expansion originating from a tiny state into what, today, we call the Universe. In other words, the Big Bang theory is not intended to explain the origin of everything, but to make us understand how this explosion transformed and remains in constant expansion.

Who created the Big Bang theory?

The Big Bang theory was proposed in 1920 by the Jesuit priest and astronomer Georges-Henri Lemaître (1894-1966) and was originally called the primordial atom hypothesis. Some time later, the hypothesis took shape and was developed by the Russian physicist George Gamov (1904- 1968). For the scientist, one of the main ideas was that the formation of atomic nuclei in the Universe left traces of detectable radiation, in the microwave range.

Lemaître, when proposing the theory, took into account studies regarding the theory of general relativity, by Albert Einstein (1879-1955), which had already been explored by the Russian mathematician Alexander Friedmann (1888-1925), however, in an interpretation much more mathematics than physics for the expansion of the Universe. Lemaître went beyond the mathematician's studies and sought to explain the explosion of the atom in a much more robust way.

Later, studies by Edwin Hubble (1889-1953) reinforced the idea that galaxies remain apart in all directions, further completing the Big Bang theory. This study identified that the further away a galaxy is, the greater the speed at which it moves away from us, a definition called Hubble's Law.

Fundamentals of the Big Bang model

To understand the basic principles of the Big Bang theory a little better, it is important to keep in mind that the model is based on two pillars

fundamental. We explain a little about each of them below: General relativity The theory of general relativity is essential for studies of the evolution of the Universe. In 1905, Albert Einstein proposed such a theory postulating that light, in a vacuum, has a constant speed (regardless of the source), that mass is dependent on speed, that time dilates throughout a high-speed movement, that energy and mass are equivalent and that no matter moves faster than light in a vacuum.

Going further, the theory of general relativity presents gravitation as the action of masses over time and space, resulting in changes to bodies and other physical properties. We can then say that, in short, in the theory of general relativity, Einstein states that the relationship between space and time changes depending on matter.

The cosmological principle The cosmological principle assumes that the Universe is homogeneous and isotropic, in which the first means that, on a large scale, the average density of the Universe is equal throughout the Universe and, the second, refers to the appearance of the Universe, claiming to be the same in any direction. Taken together, homogeneity and isotropy imply uniformity. In other words, in the Universe, there is no direction or special place.

Big Bang Theory Cosmological Principle

Main aspects of the Big Bang theory After

Lemaître's theory, other astronomical observations began to appear. An example is the observation published by Edwin Hubble (1889-1953) about the movement of galaxies. According to the scientist, galaxies move away from each other in all directions of space and at high speed. Going further, this theory was evidenced by a discovery by physicists Arno Penzias and Robert Wilson regarding cosmic radiation, which further reinforced the hypothesis of the primordial atom.

With so many discoveries, it was possible to conclude that the separation of galaxies is a consequence of an expanding Universe, as proposed in

previous hypotheses, and that the background radiation references a starting point, a unified dense particle, confirming all previous theories. Therefore, all atomic nuclei were created through the process called nucleosynthesis. All these steps finally culminate in the Big Bang theory!

Phew, did you follow this far? So check out our review and take good note of the stages of the formation of the Universe to do well in the entrance exams! The beginning of

everything As we have seen, despite the name suggesting an explosion, Big Bang concerns the expansion process (since the reasons for the particle exploding are still unknown, despite much research into it) of a single point in space, singular, with extremely high density and temperature.

Inflationary period

Yes, the Universe is old! And, when it was about 10-35 seconds long, a period called inflationary, its size increased exponentially – about 90 times! As a result, the Universe became colder and less dense, which gave rise to the fundamental forces of space and time, among others known in science.

Big Bang Theory Inflationary Period Opaque Universe And

since we are talking about the age of the Universe, it is worth highlighting that some light elements on the periodic table, including helium and hydrogen, appeared in the first minutes of life. This happened through the combination of protons, creating atomic nuclei.

As a result, a trail of energy coming from all directions in the Universe was left, which is called cosmic background radiation in scientific circles. Another important point is in relation to the density of the Universe: between 300-400 thousand years old, it was so dense that no light could propagate.

Transparent Universe

As the expansion occurred, there was also a decrease in temperature, allowing the union of free electrons with nuclei

atomics, giving rise to the first neutral atoms – a phase known as recombination. Thus, light began to propagate more easily through space, making the Universe increasingly transparent.

Gravitational collapse

Another remarkable stage occurred when the Universe reached approximately 200 million years of age, when gravitational forces began to come together in large quantities of gas. At this stage, the Universe was composed of 75% hydrogen and 25% helium gas. With the agglutination of these atoms in small volumes and in the face of high temperatures and pressures, another process began: that of nuclear fusion of hydrogen particles, giving rise to stars. Incredible, right?

Formation of galaxies

When the Universe reached its 500 million years old, the gravitational force came together, so that the stars began to cluster together, giving rise to galaxies.

As we can see so far, the Big Bang theory is not important for science just because it gives us an explanation about the origin of the Universe, it goes beyond that. The astronomical observations arising from this theory are equally important for understanding space, especially in relation to the discovery of the four forces of nature: electromagnetism, gravitational force, weak nuclear force and strong nuclear force.

Can the Big Bang Theory be extinct?

Although scientific research is always going deeper into the subject, the Big Bang theory is very unlikely to be extinguished, as it concerns the transformation of the Universe and not its beginning itself.

As this expansion still reflects what we have in space today, astronomical observations can add to the theory, but without the intention of nullifying what has been proven.

What we have, however, are some variations of the Big Bang theory, among them the one that proposes that the Universe is cyclical, that is, that it is composed of endless cycles of explosions and implosions, called bangs and big crunches consequently – what is already named

scientifically based on the theory of cosmological cycles.

Big Bang summary for the entrance exam

So, did you follow the reasoning? As we know that it is not always easy to keep all the points in a subject, we are going to list the main phases of the Big Bang theory so that you can take note and do well on the entrance exam! Let's go?

The beginning of it all: despite the name suggesting explosion, Big Bang concerns the expansion process;

Inflationary phase: origin of the fundamental forces of space and time (when the Universe increased its size by 90 times, it became colder and less dense); Opaque universe:

phase of the first minutes of life, when helium and hydrogen gas originated (at this stage, everything was so dense that light did not propagate); Transparent universe: phase

of decreasing temperature and union of free electrons with atomic nuclei (here, light began to propagate more easily); Gravitational collapse: phase in which atoms coalesce

into small volumes, creating stars; Formation of galaxies: 500 million years ago, the union of gravitational force caused stars to cluster together and give rise to galaxies.

Now it's easier, right? Our tip is to always make a summary like the one above so that the topics are more easily memorized.

Planet Earth

To study planet Earth, it is necessary to make references to the galaxy in which we are located: the Milky Way. This reference is necessary to understand the arrangement of the planets, their orbits, similarities, differences and other matters that help us understand what happens inside and outside the Earth.

Our planet is one of eight that are in the Solar System orbiting around a central star: the Sun. This orbit allows the

development of life due to the temperature that reaches us, what we call solar radiation.

Read also: Cartographic projections – representations of the Earth on a flat surface
Formation and characteristics of planet Earth
It is estimated that our planet was formed, more or less, 4.6 billion years ago. Since then, the Earth has undergone constant changes, some clear, others very long and that human beings do not notice. Such changes can occur from internal factors, such as core energy, or external factors, such as rain, erosion processes, and human action.

The formation of the Solar System was the result of a collapse between large stars, which generated a large junction of energy. This energy later formed the components of the system, such as the sun and other planets.

The Earth, 4.6 billion years ago, was a mass of magmatic matter that, over millions of years, cooled. This cooling gave rise to a rocky layer, the lithospheric layer. This period is called the Precambrian Era.

Over these billions of years, several mutations have occurred on the planet, many violent, such as earthquakes and tidal waves, also known as seismic shocks. These tremors occur from the inside out, in the Earth's inner layers, significantly altering the Earth's surface.

Other less violent changes were gradual, such as the formation of the layer of gases that surround the planet, the atmosphere. This layer protects us from the strong solar radiation that reaches the Earth, allowing life to exist. However, at the beginning of time, billions of years ago, the Earth was an uninhabitable place, with constant volcanic eruptions, high temperatures and quite dangerous.

The planet's movements, such as rotation (around itself) and translation (around the Sun), enabled the Earth to have a spherical shape, which is flattened at the poles. This shape is called a geoid. Its interior is somewhat inhospitable and, until recently, unknown.

Model of the Earth's geoid shape.

With the development of technology, the measurement of seismic shocks has made it possible to understand the interior of the planet. The seismic waves caused by these tremors cross large regions and can be tracked and provide valuable information about the Earth's internal structure. Its interior still has the magmatic layer from billions of years ago. For every 33 m depth, it is estimated that the temperature rises by 1 °C.

On the Earth's surface, the layer in which we live, we can find various minerals used in everyday life. The crust, as the surface is known, covers the entire planet, whether on the continents (continental crust) or on the oceans (oceanic crust). At the bottom of the seas and oceans there is the ocean floor, where silicon and magnesium compounds (sima) can frequently be found. On continents, silicon and aluminum (sial) give consistency to almost the entire surface.

Internal layers of planet Earth Inside, our planet has a structure made of layers, each with several specific characteristics. Based on studies carried out to date, we can generally classify them into three main ones: crust (oceanic and continental), mantle (upper and lower) and core (internal and external). We can compare this structure to that of an avocado: the skin of the fruit being the crust, the skin being the mantle, and the pit being the core.

The crust, the outer shell of the planet, is the surface layer and can be called the lithosphere. It is in this layer that we are, where reliefs, oceans, seas, rivers, biosphere, and others are located. For human beings, it is the layer in which life develops. To give you an idea, the thickness of the crust can vary from 5 km to 70 km. Even with this size, it is just the “shell” of the planet, which reveals its immensity.

The oceanic crust, as the name suggests, is the part below the sea, measuring 5 km to 15 km thick. It is less thick than the crust

continental. It can have a thickness of 30 km to 70 km, being the part of the planet that forms the continents.

The mantle is located at a depth that can vary from 70 km to 2900 km. In this large area, magma is located, a viscous layer that surrounds the core and is responsible for the movement of tectonic plates, located in the lithosphere.

The upper mantle is below the lithosphere, at a depth of approximately 670 km. In it we find the asthenosphere, an area with a viscous characteristic that allows the crust to move over thousands of years, modifying the Earth's relief.

In the lower mantle, located at a depth of 670 km to 2900 km, we find the mesosphere, a solid part of this structure that comes close to the core. It is solid due to the pressure exerted by the weight of the Earth.

Scheme representing the Earth's internal layers: crust, upper and lower mantle, and core.

The core is the deepest layer of the planet, reaching 6700 km. The inner core is solid, with several mineral compounds, including nickel and iron. This layer is responsible for the magnetic field that exists around the planet. The outer core is liquid, having a thickness of approximately 1600 km. The temperature in this region can reach 6500 °C. See also: Why do volcanoes erupt?

External structure of planet Earth

The Earth's surface is the outer layer of the planet. There are three layers that meet: the hydrosphere (the set of waters), the biosphere (life, biomes) and the lithosphere (rocks and minerals).

Furthermore, there is the atmosphere on the Earth's surface, the set of gases that allow breathing and protect the planet from the sun's rays, so that they do not arrive with such intensity. It is basically made up of oxygen, nitrogen and water, but contains other chemical elements.

The hydrosphere is where humans obtain resources for their

survival, such as water, food (fish and crustaceans), marine mineral resources (oil), in addition to using the oceans, seas and rivers to transport people and/or cargo. The biosphere and the Earth's surface are concepts that are similar at times, as they refer to the existence of life on Earth. However, the Earth's surface encompasses more elements, such as the hydrosphere. In the biosphere, we have organic and inorganic elements and living beings, which help to prosper life on the planet.

In the lithosphere, we have the formation of continents and islands, the emerged lands. It is one of the few areas in the world known directly by human beings.

Terrestrial movements

In Earth's orbit, our planet carries out two movements that are crucial for the development of life: translation and rotation.

Rotation is the movement carried out by the planet around its own axis, being a turn around itself. This movement, carried out in a counterclockwise direction, that is, from west to east, has the direct consequence of the existence of days and nights. Furthermore, the Sun is seen first in the eastern part of the world, which is why Japan is known as "the land of the rising Sun". This movement lasts, on average, 23 hours 56 minutes or 24 hours (the solar day).

Translation is the movement carried out around the Sun. A complete translation means one year for society, as this movement lasts 365 days and 6 hours. Because of this, every four years, an extra day is added to the month of February, creating a leap year, with 366 days.

The two movements are made simultaneously, at the same time. Due to the force of gravity and the immense weight of the planet, they are not noticed. However, the days and nights (rotation) and the existence of the seasons (translation) show us how alive the Earth is. If you want to know more about these movements, visit: [Earth Movements](#).

Curiosities about planet Earth When we compare Earth with

other planets, countless curiosities may arise. Let's look at some.

Of the eight planets, seven are named after Roman gods.

Earth is the only planet in the Solar System that is not named after a god.

The other planets—Mercury, Venus, Mars, Jupiter, Saturn, Uranus, and Neptune—were named after Roman gods.

Earth is the only planet in the Solar System where water can be found in three states: solid, liquid and gas.

Earthquakes occur every two minutes on the planet.

140 million years from now, there will be 25 hours in a day. This is because the Earth's rotation will be slower, which will increase the number of hours in a day.

Our planet is called Earth, but 70% of its surface is covered in water: the oceans.

After the Industrial Revolution, studies show that the Earth's temperature increased by 0.8 °C.

There is a strong magnetic field around the Earth, which made it possible to make compasses, which help with terrestrial location.

During some moments in history, such as the Middle Ages, it was believed that the Earth was the center of the Universe.

Galileo Galilei proved, in 1613, that the Earth was not the center of the Universe, but was forced by the Catholic Church to deny his theory. In 1992, Pope John Paul II apologized to Galileo for the religious misunderstanding and formally recognized his theory.

The deepest hole on Earth is in Russia, measuring 12.2 km deep.

Published by Átila Matias

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Planet Earth is surrounded by a gaseous layer known as the Earth's atmosphere.

Earth's atmosphere

Understand a little more about the atmosphere, the gaseous layer that surrounds the Earth. It is made up of different gases, such as oxygen and nitrogen, which are maintained by gravity. The content of the following text will talk about the main functions of the atmosphere, the characteristics of its layers and its composition.

Illustration of a black hole Black

hole Find out

what the main characteristics of black holes are. See details of the formation and properties of these large space structures.

Center of the Earth

Get to know the center of the Earth and understand its composition, characteristics and other dynamics.

Earth's crust

Information about the characteristics, dynamics and compositions of the Earth's crust.

Soil cultivation and conservation

Learn about agricultural cultivation techniques and find out which of them best contributes to soil conservation.

Sahara Desert The

characteristics of the largest hot desert on the planet.

Geological time scale Did you

know that geological time is different from historical time? Click here and understand how the temporality of planet Earth is structured!

Seasons of the year represent four subdivisions of the periods of the year: summer, autumn, winter and spring. Each one presents a climate pattern and characteristics specific to each region, occurring heterogeneously in the Southern and Northern Hemispheres. Read this text and learn about the particularities of each season of the year.

Phases of the

Moon See what the four main phases of the Moon are. Understand how they are formed and the lunar cycle. Read more about the occurrence of lunar eclipses.

Moon Find out what the Moon's physical characteristics are. See what the most accepted theory regarding its formation is. Understand the influence of this natural satellite on planet Earth.

Rotational movement

Understand how the Earth's rotation works and understand the importance and causes of this movement.

Translational Motion Learn

more about Earth's translational motion. Discover the main characteristics of this movement and its relationship with the seasons.

Planet Neptune

Click here and find out what the main physical characteristics of the planet Neptune are. Read about their moons and their rings. Discover how its exploration is carried out.

Planet Saturn

Discover the planet Saturn and see some of the main characteristics of one of the most curious planets in the solar system!

Planet Uranus

Discover the main characteristics of Uranus. See some interesting facts about this gaseous planet and learn more about its rings and natural satellites.

Gas planets in the Solar System Click

here and learn more about the gas planets in the Solar System,

that is, the main characteristics of Jupiter, Saturn, Uranus and Neptune.

Rocky Planets of the Solar System

Click here and learn more about the rocky planets of the Solar System, that is, Mercury, Venus, Earth and Mars.

Submarine Relief

Click here and learn how the underwater relief is divided!

Solar System

Click here, find out what the main constituent characteristics of the Solar System are, and learn about each of the eight planets that make it up.

Monsoon winds

Monsoon winds, What are monsoon winds, Where do monsoon winds arise, When do monsoon winds arise, What are the characteristics of monsoon winds, What are the consequences of monsoon winds.

Milky Way

Click and learn more about the Milky Way, the galaxy that houses our Solar System.

PHILOSOPHY

Jean Bodin

Philosopher, political theorist and jurist, Jean Bodin was a defender of the absolutist monarchy and founded a political theory that summarizes his position: the theory of the divine right of kings. Watch our class to learn about Jean Bodin's thoughts.

Let's talk a little about Geophysics here.

Geophysics is the study of the Earth's structure, composition, physical properties and dynamic processes. Unlike Geology, whose study of the Earth is done through direct observations of rocks, Geophysics investigates the underground through indirect measurements. It is subdivided into global (pure) and prospecting (exploration or applied).

In global or pure Geophysics we can study the physical phenomena that occur on the planet such as earthquakes, tsunamis, volcanoes, among others.

As for prospecting or exploration geophysics, we use

surveys/methods such as seismic, electrical, electromagnetic, potential (magnetic and gravimetric), radiometric, geothermal, etc.

Geophysical investigation of the Earth's interior consists of taking measurements at or near the surface. These measurements are influenced by the internal distribution of physical properties (parameters). Analyzing the measurements can reveal how the physical properties of the Earth's interior vary vertically and laterally. Much of terrestrial knowledge, below the depths that can be reached through boreholes, comes from geophysical observations.

Surveys can be terrestrial, aerial and marine.

It has applications in underground water, fossil fuels, geothermal, geotechnics, environmental contamination and investigation of other ores in general such as gold, iron, etc.

Methods

Rocks differ in one or more of their properties, causing variations in the physical fields and in the propagation of waves that act on them. Consequently, these variations, when detected, can provide information about the materials that caused them.

This is the basis of Prospecting Geophysics, the investigation of subsurface features of relatively small dimensions, based on the observation of their effects on physical fields and wave propagation.

Gravimetric

All masses are under the effect of mutual attraction, governed by the law of universal gravitation. Lateral changes in the Earth's density produce local variations in the value of the Earth's gravitational field which, although very small, can often be detected, allowing deductions about the subsurface.

Gravimetry is focused on the study of these small local disturbances of the Earth's gravitational field, generated by the distribution of masses underground, that is, by the presence of rocks of different densities. Denser materials contribute more

strongly towards the gravitational field than the less dense ones, when considering the same volume and the same depth for both; If the materials have the same density, the greatest contribution comes from those closest to the surface, if they occupy the same volume, or, if the materials occur at the same depth, from those that make up the largest volume.

Magnetic

Each rock magnetizes according to its magnetic susceptibility, which depends on the quantity and distribution mode of the magnetic minerals present. The concentration of magnetic minerals produces local distortions in the Earth's magnetic field, which can be detected and provide information about the subsurface.

Magnetometry is based on the study of local variations in the Earth's magnetic field, derived from the existence, in the subsurface, of rocks containing minerals with strong magnetic susceptibility, such as magnetite, ilmenite and pyrrhotite.

In both Gravimetry and Magnetometry, physical fields are present; Therefore, it is not necessary for the subsurface rocks to be excited to obtain a measurement of the physical field.

These methods follow the Potential Theory and have several similarities between them. They are referred to as Potential Methods.

Electrical They deal with purely galvanic phenomena and, therefore, use direct or even alternating current, but at a very low frequency (< 10 Hz), such that the induction phenomenon can be neglected. The current can be introduced into the ground through electrodes while the potential difference is measured through other electrodes, providing information about the subsurface.

Among these electrical methods, the following stand out: Spontaneous Potential Method (SP – uses natural currents that may appear, for example, in the vicinity of concentrations of conductive minerals);

Electroresistivity Method (currents are generated artificially);

Induced Polarization Method (IP – currents also generated artificially, but the potential difference is measured after cessation

the current or by varying its frequency, which makes it possible to evaluate the ability of rocks to store electrical energy)

Electromagnetics

The investigation is based on the phenomenon of induction. A current, always of low frequency ($< \text{a few tens of thousands of Hz}$), which can circulate in a coil, starts the subsurface excitation process through the induction phenomenon; Electrical conductors, perhaps present underground, cause distortions in the electromagnetic field, detectable through another coil, which provides information about the conductors that caused them.

Radiometric

Some isotopes of various elements disintegrate spontaneously, emitting particles and electromagnetic radiation that can be detected and allow the location of the material that produced them. This phenomenon, whose occurrence is probabilistic, is known as radioactivity and originates in the nucleus of unstable atoms. For this reason, radioactivity is not considered a physical property, but a property of the atomic nucleus.

The study of the distribution of radioactive material in terrestrial materials is carried out in Radiometry, taking into account, in particular, the electromagnetic radiation emitted during its disintegration.

Seismic

Rocks with different elasticities allow waves to propagate at different speeds. These waves, when encountering media with different elastic properties, have their energy partly reflected and partly refracted. Knowing the travel time of the waves at different points as well as the distance between these points, it is possible to deduce the wave propagation speeds and the position of the interfaces that separate the media with different elasticity values. By associating different types of rocks with these media, it is possible to know the distribution of rocks in the subsurface.

Seismic is based on measuring, at various points, the travel time of artificially induced elastic waves, generally close to the ground surface. There are two distinct techniques: one that uses reflected waves, Seismic Reflection, and the other uses refracted waves, Seismic Refraction.

Geothermal

The propagation of heat on Earth, whether of internal origin, due to radioactive disintegration or lesser chemical and physical processes, or of external origin, due to the radiant energy of the Sun, depends on the thermal conductivity of rocks.

The Thermal Method investigates, through temperature measurement, differences in the propagation of heat, whose origin dates back to the existence, in the subsurface, of rocks with different values of thermal conductivity or sources of anomalous heat, which allows the identification and delimitation of both .

Geophysical well profiling Drilling is the last stage of prospecting a tubular well, whether for oil, water or any other use. Although current advanced geophysical and geological methods may suggest the most promising locations, it is only the drilling of the well that will reveal whether or not the predictions will be confirmed.

Rocks can be identified based on their electrical properties (electrical conductivity, induced polarization, dielectric constant or natural electrochemical potential), acoustic (propagation speed or transit time of compressional or shear elastic waves), radioactive (natural or induced radioactivity) , mechanical, thermal, etc.. Such properties can be obtained with the continuous displacement of one or more logging sensors (probe) within a well and were generically called, in the past, electrical profiles, regardless of the physical measurement process used. . The ideal is to include electrical, acoustic, radioactive, mechanical, thermal geophysical profiles, etc., depending on the property used for recording.

A

graphical representation between depths and petrophysical properties, is called Geophysical Profile. To this end, the cable of the logging units, through which the most varied types of sensors are lowered into the wells.

Layers of the Atmosphere

The existence of the atmosphere is extremely important for life on Earth. For teaching purposes, it was divided into a few layers. The layers of the atmosphere, together, make up an extension of approximately 1000 km. They are: troposphere, stratosphere, mesosphere, thermosphere and exosphere. They are not distributed equally and their distance varies according to the density of the chemical elements that compose them, so that, as they move away from the Earth's surface, they become more rarefied.

The Earth's atmosphere has a total of five layers, whose compositions vary depending on the height of each one.

Troposphere: is the layer closest to the Earth's crust. It contains the air used in the respiration of plants and animals. It is basically composed of the same elements found throughout the atmosphere, Nitrogen, Oxygen and Carbon dioxide. Almost all of the vapor found in the atmosphere is located in the troposphere, which occupies 75% of the atmospheric mass. It reaches around 17 km in the tropics and little more than 7 km in the polar regions.

Stratosphere: is the second layer closest to Earth. It contains ozone gas, responsible for the protective barrier against ultraviolet rays, better known as the Ozone Layer. Reaching up to 50 km in height, the stratosphere is characterized by having little air flow and being very stable. As it has a small amount of oxygen, the stratosphere is not suitable for the presence of man. However, on October 14, 2012, Austrian Felix Baumgartner jumped from a height of 39 km, impressing the whole world (however, to do so, he needed a special suit that ensured he could breathe).

Mesosphere: with heights of up to 80km, the mesosphere is characterized by

be very cold, with temperatures hovering around -100°C . Its temperature, however, is not uniform throughout its entire length, since the part in contact with the stratosphere is a little hotter, the point of heat exchange between the two.

Thermosphere: it is the most extensive atmospheric layer, reaching a height of 500 km. Air is scarce and, therefore, easily absorbs solar radiation, reaching temperatures close to 1000°C and thus becoming the hottest layer in the atmosphere.

Exosphere: it is the furthest layer from Earth, reaching a height of 800 km. It is basically composed of helium and hydrogen gas. It houses data satellites and space telescopes.

Published by Rodolfo F. Alves Pena

I want to thank everyone for this extraordinary work of mine that I researched in the field of sciences that chemistry originated all creation of life and that the universe is still expanding and I simply talk about its functions and constructions that I show how life has been preserved and man depends in the same way on an atom in electrical construction that in everything and with everything formalizes the existence of each element on each atom giving rise to transformations of life and thank you very much for all of you!

I want here, with a lot of love and work, to show valuable research that I did as evidence of many studies that show here a well-defined relationship about a great role of man in biology that transcends the world of physical phenomena about the great relativity of alchemy that designates in chemistry called nuclear chemistry over all forms of life, resistance and existence of the human being and natural life that we designate the biological study of cells over organisms both in human beings and in natural life in which we can study cells throughout the cosmos both spatial and mental in their variable conditions, existences, transformations and life that we can discover in their chemical functions and I want to talk about chemistry, chemical functions and relativities of life that I simply believe that I have totalized here a great scientific relationship for everyone about the entire

my work and research in the field of chemical functions that I explain should be used on all the works and sciences that I describe here with great love in which I show a great relationship of science over an infinity that we can use them on the true function in which I unfold everything here about biology, physics and chemistry as a great efficiency of functions about the great development of the organic system and I want to thank everyone here and leave my best regards and thank you very much!

By: Roberto Barros