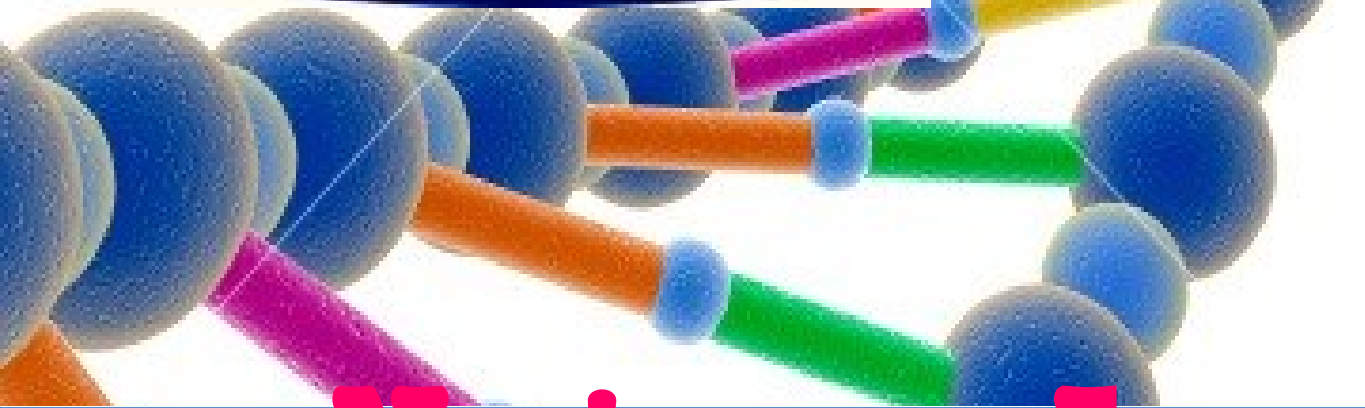
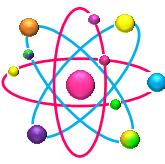




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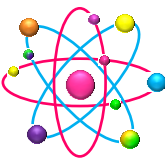
Natural Sciences



Content

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Know the contents

The Gimnasio Virtual San Francisco Javier, presented through textbooks for primary education program and sequence of science content, enriched with several videos and additional topics.

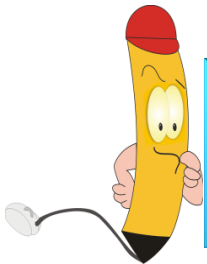
With this text handling you acquire attitudes, skills, abilities and ideas that allow you to expand your worldview.

Your content are grouped into four sessions containing topics and subtopics of several pages. Each topic begins with a title, a series of questions, whose purpose is to arouse your interest in the contents, you can use the questions at the end of a topic to find your learning.

Find images related to the concepts and themes, videos, diagrams, concept maps with didactic sense.

The virtualitos will help you travel through this adventure of knowledge.

Let us search...



When you find this you will know that there are many unanswered questions, which you can use at the end of a topic to find what you have learned.



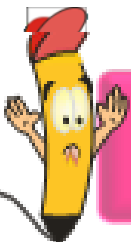
When you find this you will have to perform the activities for each topic or subtopic.



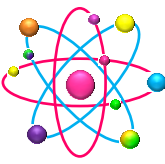
Art is part of your activities, giving a personal touch when you go to color.
Now you are the artist!



Virtualito invites you to learn more about the topic, research new things. It is interesting to know!



You know?
Find fun facts that invites you to learn about other related topics.



Nature

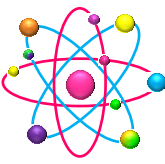


Organization and Classification of living things

Living things can be organized or classified in many ways. The features that we consider to organize living things into different groups is called classification criteria. A classification criterion may be the size, another may be the environment they live and kingdom it belongs to.

En esta unidad
aprenderemos que es...





Population

When looking at the landscape from somewhere, we note that there are several agencies: sheep on one side, trees on the other, past a herd of sheep. If the organisms we see are of the same species, we say that constitute a population.

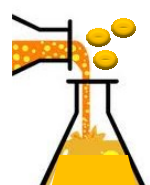
Community

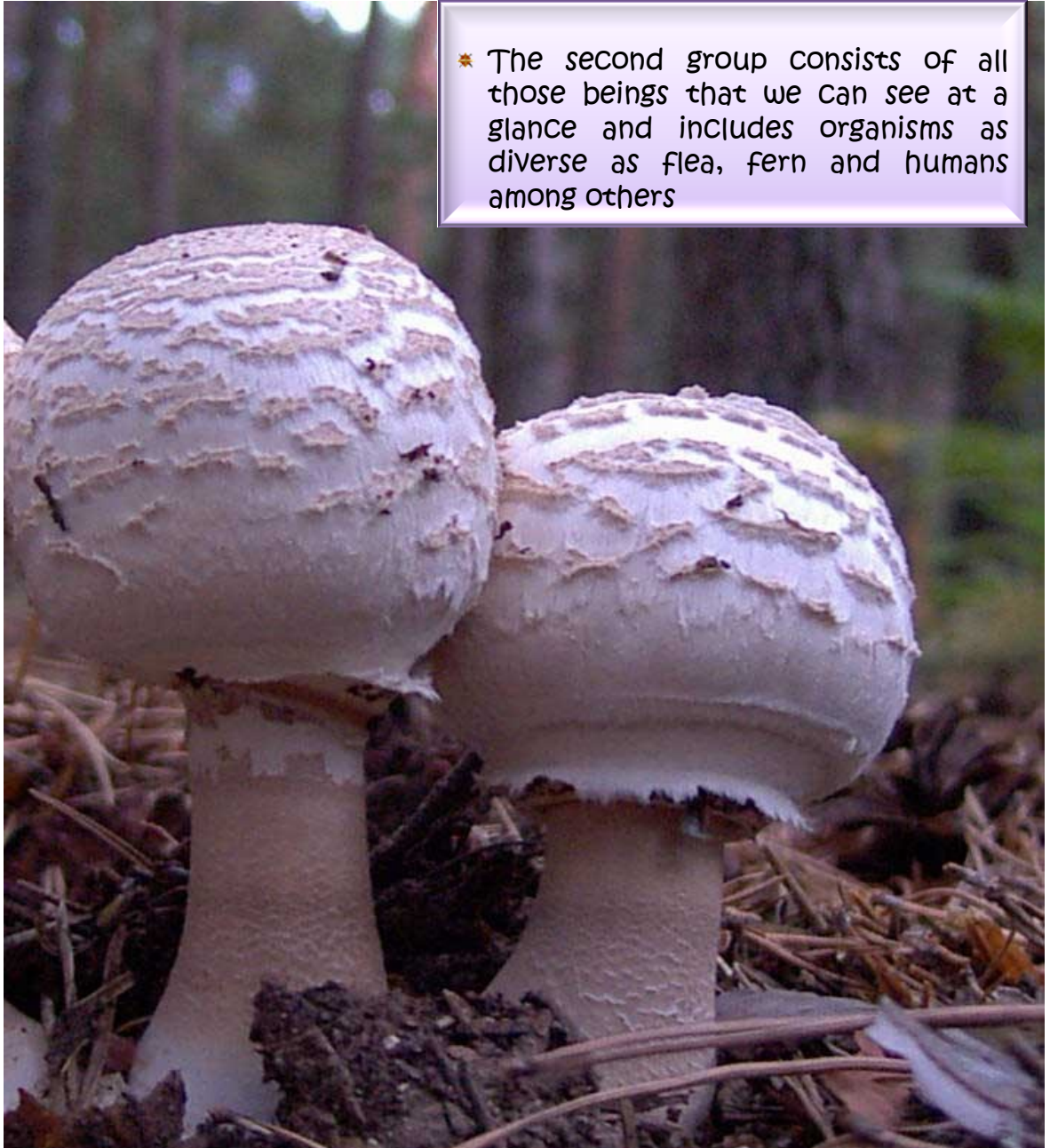
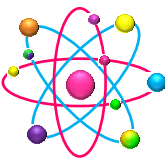
Populations living in an environment that provides food, housing, and allows them to interact with other organism. In a way anyone can live various plants and animals. This set is what is called community.

Living things can be organized or classified in many ways. The features that we consider to organize living things into different groups is called classification criteria. A classification criterion may be the size, another may be the environment they live and kingdom it belongs to.

Considering the size of the living, we can form two large groups.

- The first group consists of microorganisms, which are those that can not be seen with the naked eye to observe them because the microscope is needed. Such is the case of bacteria and amoebae.

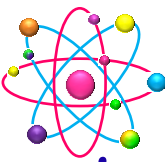




* The second group consists of all those beings that we can see at a glance and includes organisms as diverse as flea, fern and humans among others

Due to the great variety of life and in order to facilitate their study, organisms are classified into five kingdoms. These are: monera, protists, fungi, plants and animals.





Monera kingdom, Protista kingdom and Fungi kingdom

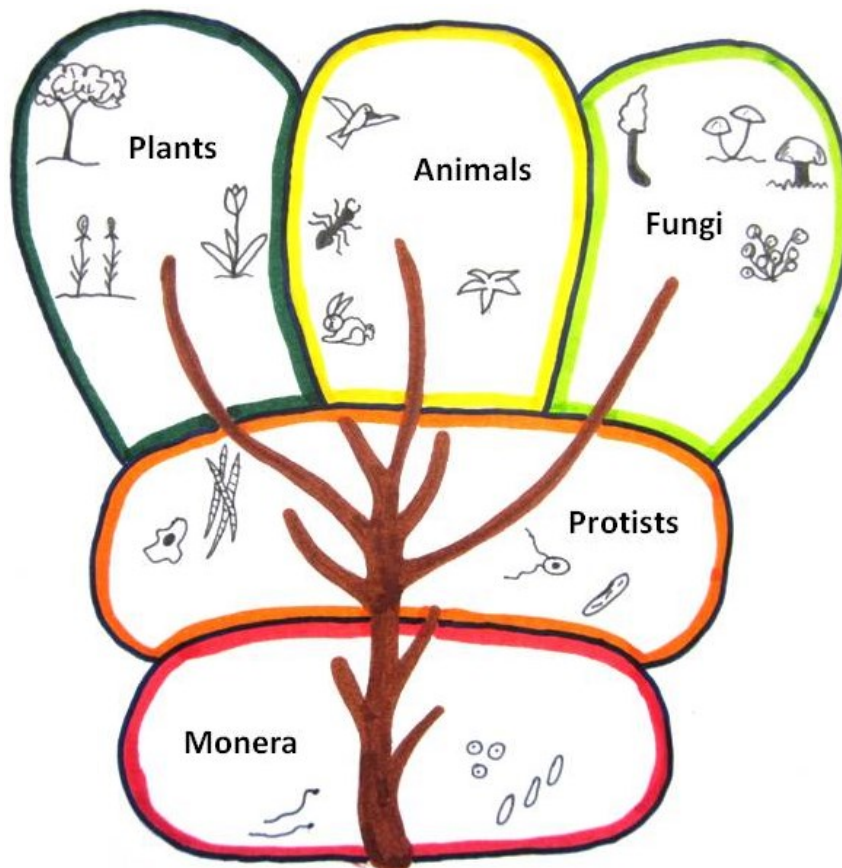
The Monera kingdom is made up of very simple organisms. In this kingdom includes bacteria. Some bacteria are beneficial, such as those that produce the buttermilk, others are harmful and cause diseases such as pneumonia produced.
<http://www.youtube.com/watch?v=5iOM6F8E5NI>

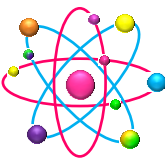
The protist kingdom is formed by the protozoa and algae.

Protozoa are organisms that are unable to produce their own food and must travel to get it. The vast majority live in the water. The amoeba and paramecium are examples of protozoa.

Algae also live in the water, but they can make their own food from some substances found in water.

The kingdom or kingdom of fungi is made up of living creatures that feed on the remains of plants and animals. There are also fungi that feed on living things to which they produce disease. There are different kinds of fungi, such as molds and mushrooms.

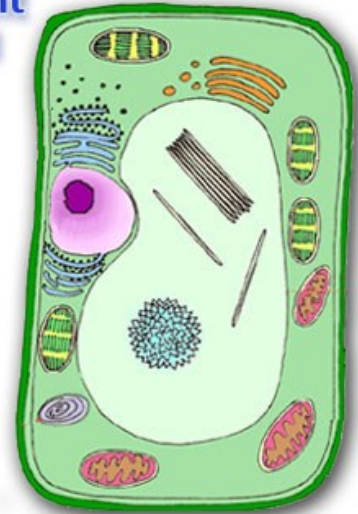




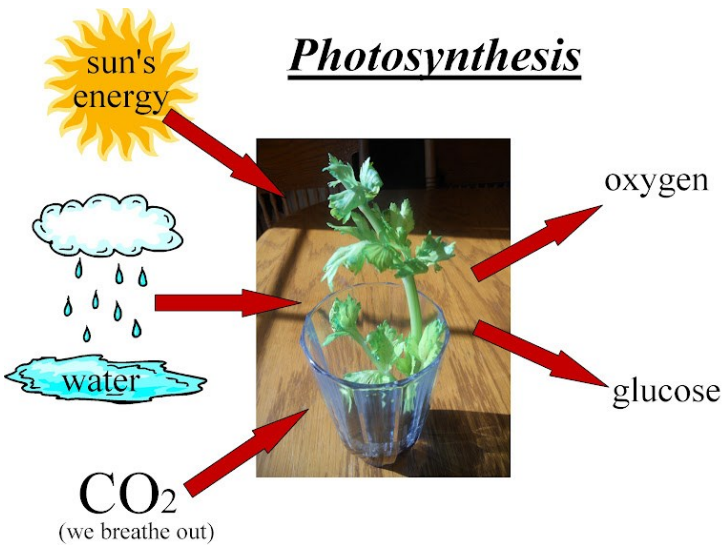
Plant kingdom

The plant kingdom is made by plants. The plants are characterized by the ability to produce their own food through a process called photosynthesis.

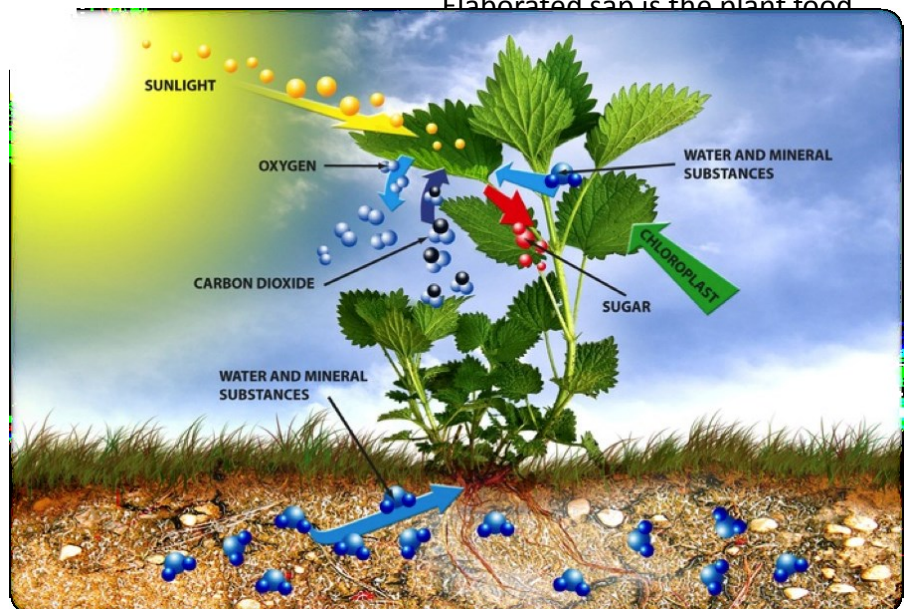
Typical Plant Cell

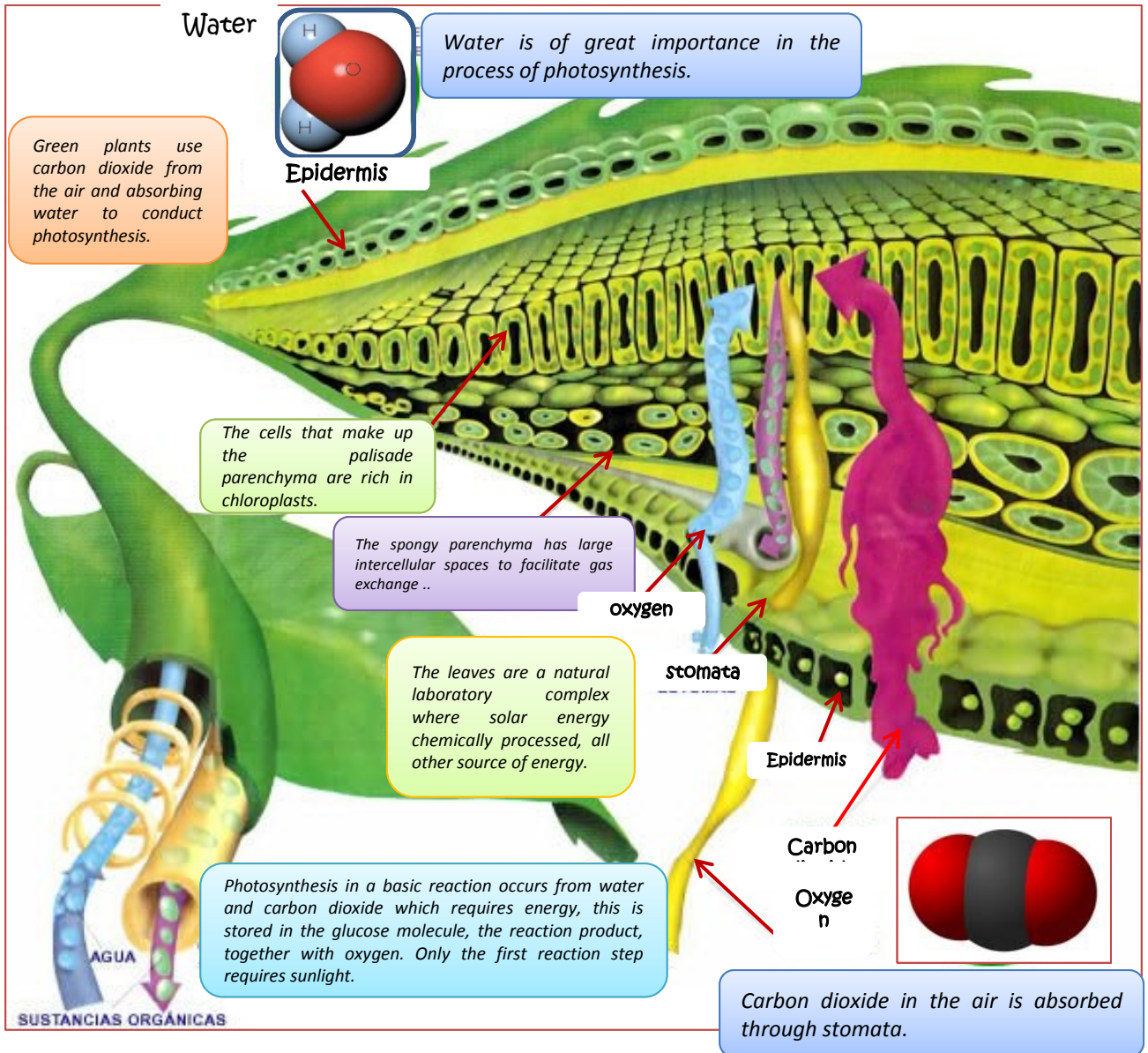
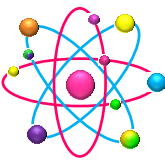


Photosynthesis process



1. The roots absorb water and minerals from the soil, this mixture is known as crude sap.
2. The crude sap ascends the stem up to the leaves
3. Leaves capture solar energy by chlorophyll. Air plus a gas take-called carbon dioxide
4. In the leaves, the sun's energy and carbon dioxide, the raw sap into elaborated sap is transformed. Elaborated sap is the plant food

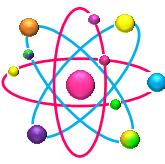




Is the most important chemical and biological process of earth and green plants. Since this is practically all organic matter on our planet and ensuring all power of living things.

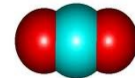
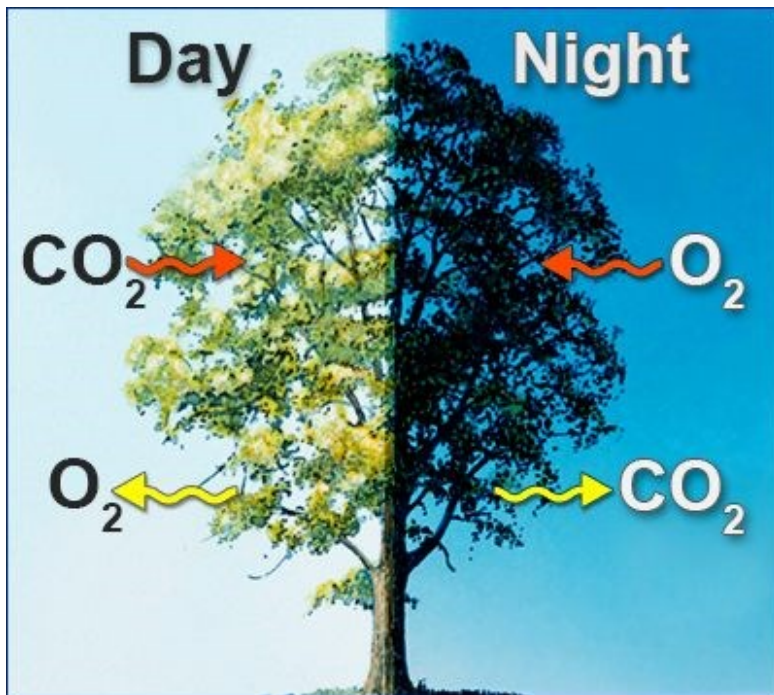
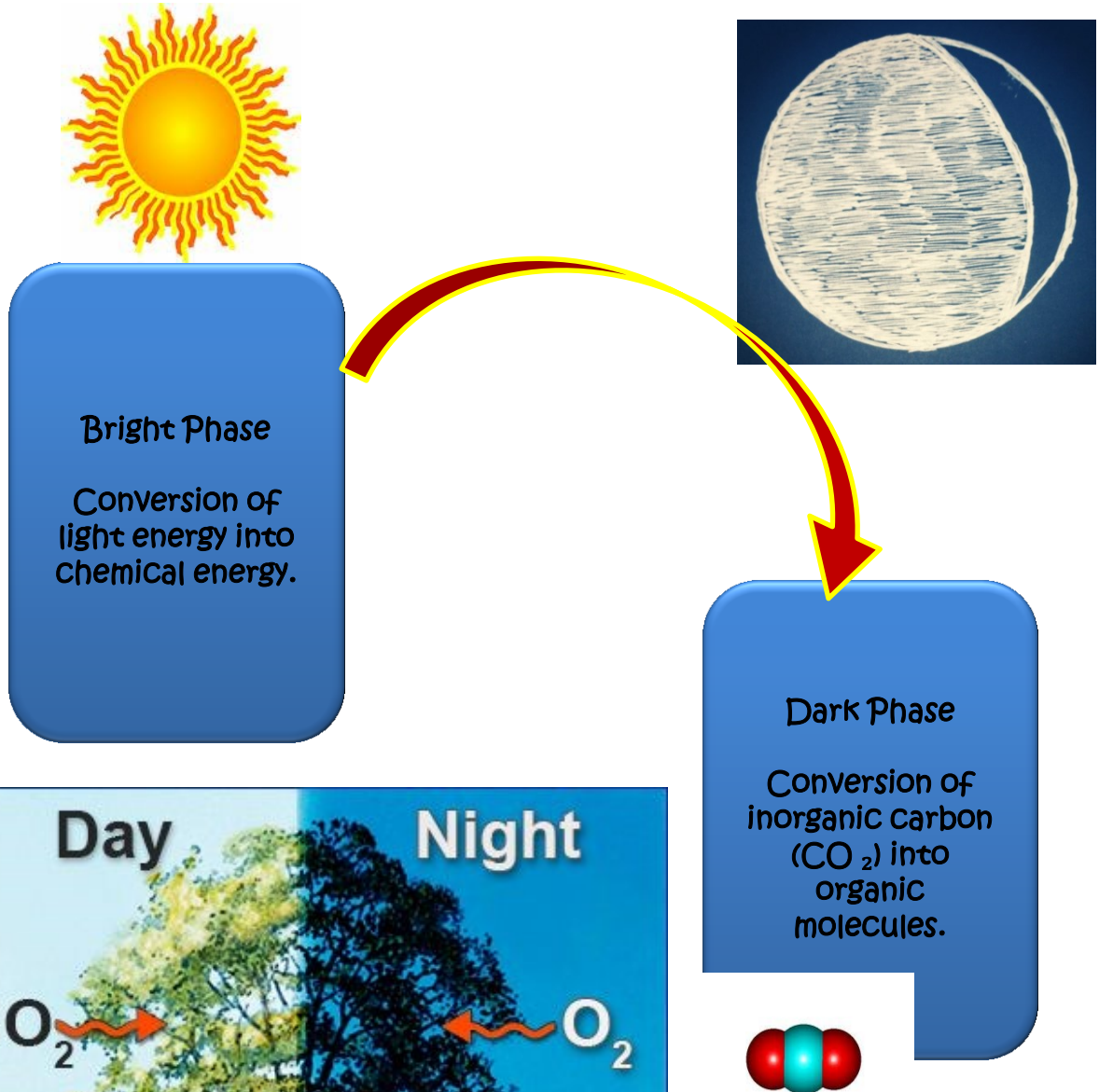
By photosynthesis green plants and organic food for themselves and to feed herbivores, and these, in turn, to carnivores.

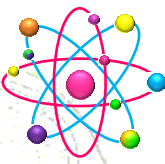




Look the following videos:

- <http://www.youtube.com/watch?v=SBqkeTrwwLY>
- http://www.youtube.com/watch?v=UDKiT_hMjzs





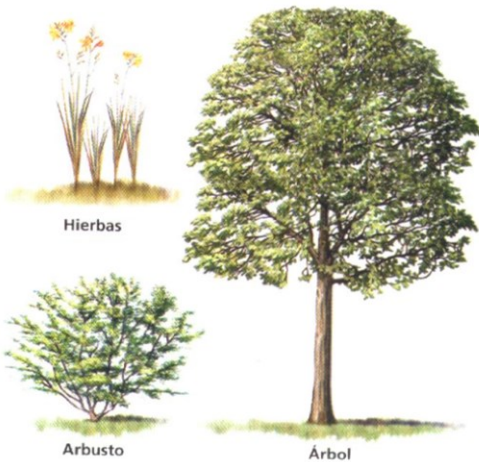
Classification of plants

The plants can be classified in various ways. According to the stem, the plants are classified as herbs, shrubs and trees.

- In grasses, the stem is thin, flexible and usually green. Most herbs are small like strawberries, wheat and grass.

- In the brush stem is slightly thicker and stiffer. Some shrubs are small, such as thyme, some are medium, such as rose and some are great, like mango.

<http://www.youtube.com/watch?v=whwZcAx0muY>



- In trees, the trunk is woody, ie which is thicker and longer than the rigid stem bushes. Its branches leaving the trunk off the ground. They are the largest plants that exist, for example, oak and pine.

- Plants are also classified by the presence or absence of seeds.

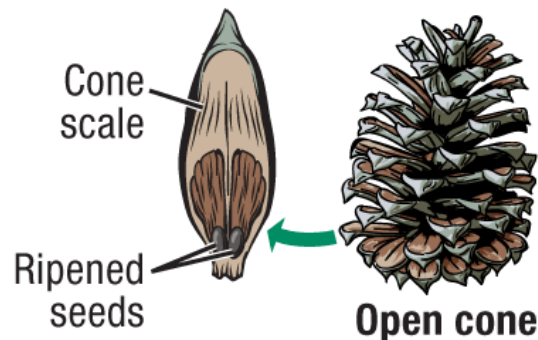
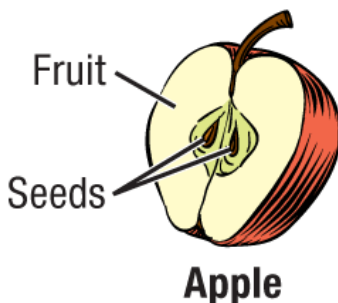
The plants that have no flowers produce seeds, for that reason, do not produce fruit. Mosses and ferns belong to this group.

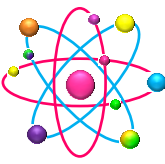
Plants producing seeds are classified in gymnosperms and angiosperms.

**ANGIOSPERM
SEEDS
AND FRUIT**

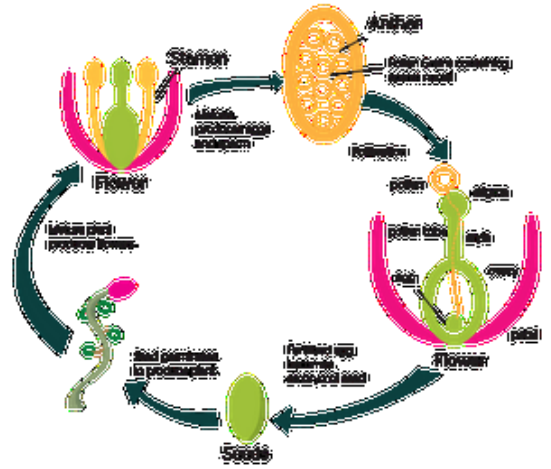
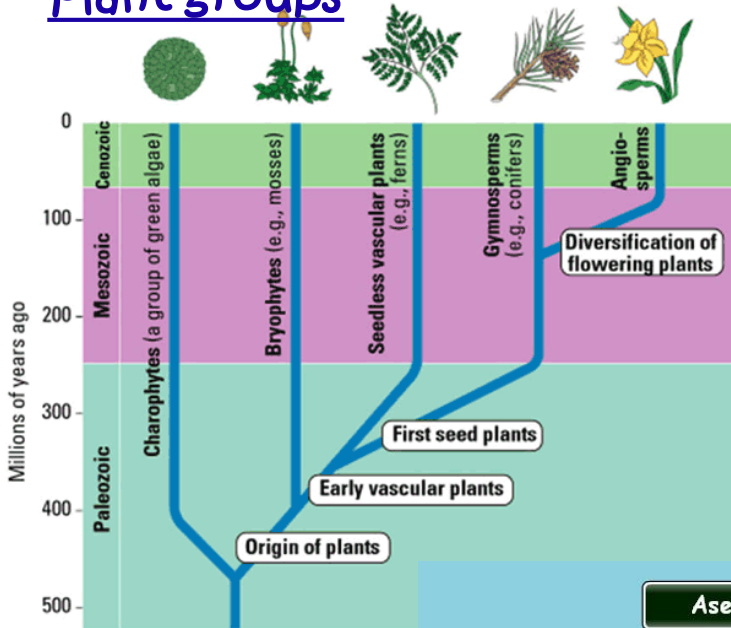
VS.

**GYMNOSPERM
SEEDS**





Plant groups



Asexual Reproduction in Plants

Vegetative Reproduction

Asexual Reproduction in Plants

Vegetative Reproduction

Cell division

Budding

Sporogenesis

Segmentation

When plants reproduce naturally from parts like the stem, root or leaf, it is known as **vegetative reproduction**.

Modes of nutrition in plants

Autotrophic

Heterotrophic

Photo autotrophic

All green plants
Purple, red and green bacteria

Chemo autotrophic

Nitrifying bacteria
Iron bacteria
Sulphur bacteria

Parasitic

Saprophytic

Symbiotic

Insectivorous

Monotropa
Neottia
Agaricus
Rhizopus

Lichen
Root nodules
Mycorrhiza

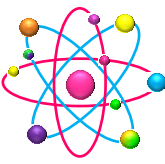
Drosera
Utricularia
Nepenthes
Dionea

Total

Partial

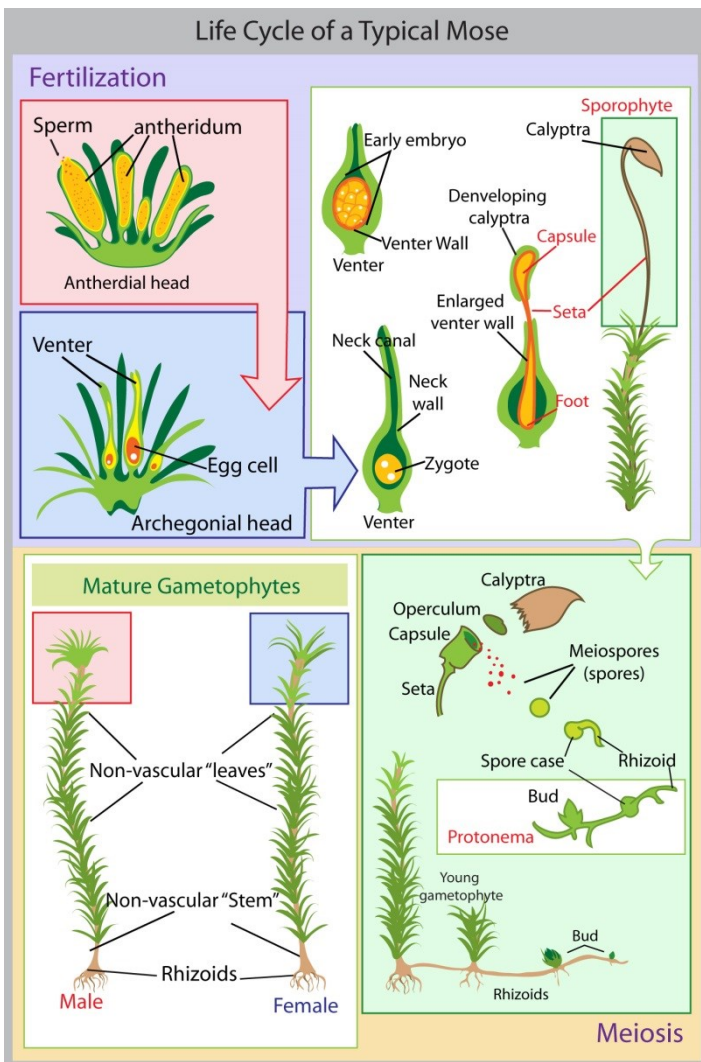
Stem: Cuscuta
Root: Orobanche

Stem: Visium, Loranthus
Root: Santalum

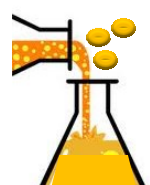


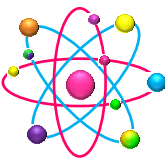
Mosses

Are more representative vegetables of the Bryophytes. These plants do not possess its simplicity conducting vessels, no flowers, no fruit. They live in very humid and shady, well resisting drought times. Forman wet green pads on rocks or walls at the edges of streams or sources. They need to live and breed an atmosphere loaded with moisture. They, along with lichens, the first colonizers of terrestrial environment. Help form soil where installed later other plants therefore have great ecological importance.



Mosses are autotrophic organisms, with their rootlets take the soil nutrients (substances and water). As have no flowers, reproduce by spores in capsules, covered by a cap and supported by a long filament or thread close to the stem-Moss. In the leaves there are also areas where sexual gametes are produced. Thus the cycle of mosses is asexual reproduction (for spores) and sexual (per gamete). The male gamete swims through the water to find the female gamete still.





The structure of the corm

Cormofitas plants are those that have colonized a perfect soil and its structure is more sophisticated than the models mosses. This organization is the corm, there are different root, stem and leaves. With these organs perform the functions of nutrition and relationship.



The root



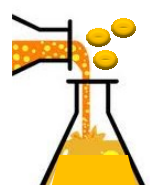
It is an organ that grows toward the ground. We present the main root and others coming out of it.

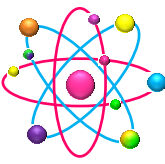
Stem

This body is holding air and the leaves, flowers and fruits. Thickening has called nodes from where the leaves and internodes are leafless spaces between them.

They also have terminal buds at the ends for growth and axillary buds located at the sides to form the branches. On the inside of the stem are conducting vessels, responsible for carrying the sap.

Stems can be herbaceous (soft green), woody (tough and not green). They can be trees (with main trunk and branches) and shrubs (branched from the base). The stipe is a type of woody stem without branches and leaves at the tip of the stem. There are also underground stems such as bulbs and tubers.



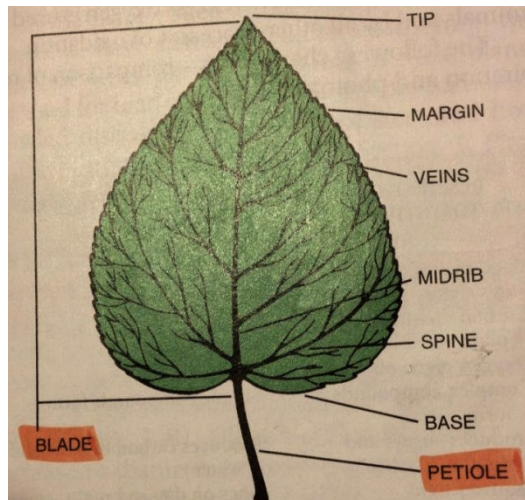


Leaves

Green bodies are generally laminar leaving the stem and branches and with the mission of feeding the plant autotrophic nutrition through photosynthesis. Consist of planar sheet (limbus) the corner that joins the stem (stalk) conducting vessels (veins) and the pores through which gases are exchanged (stomata). Limbo has beam (upper side) and back (underside).



The leaves may be highly variable and present aspects, classified according to the number of limbs (simple or compound), shape of blade (acicular, heart-shaped, oval, round, linear), on the edge of the blade (entire, serrated, toothed, wavy, split or broken), by the shape and arrangement of the ribs (uninervias, palmately (shaped like a palm of a hand), penninervias (with a major nerve and then depart side), for insertion into the stem (alternate if each node is a leaf and opposite if each node in pairs out one on each side).



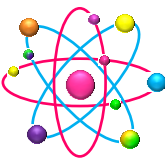
The ferns

They are cormofitas plants, without flowers or fruits that are abundant in shady and damp places in forests or waterways margins.

In the primary was once formed coal mineralized fossilized.

They have large leaves, deeply divided. Appear on the underside sori, loaded bag set spores, indicating the structure of asexual reproduction.





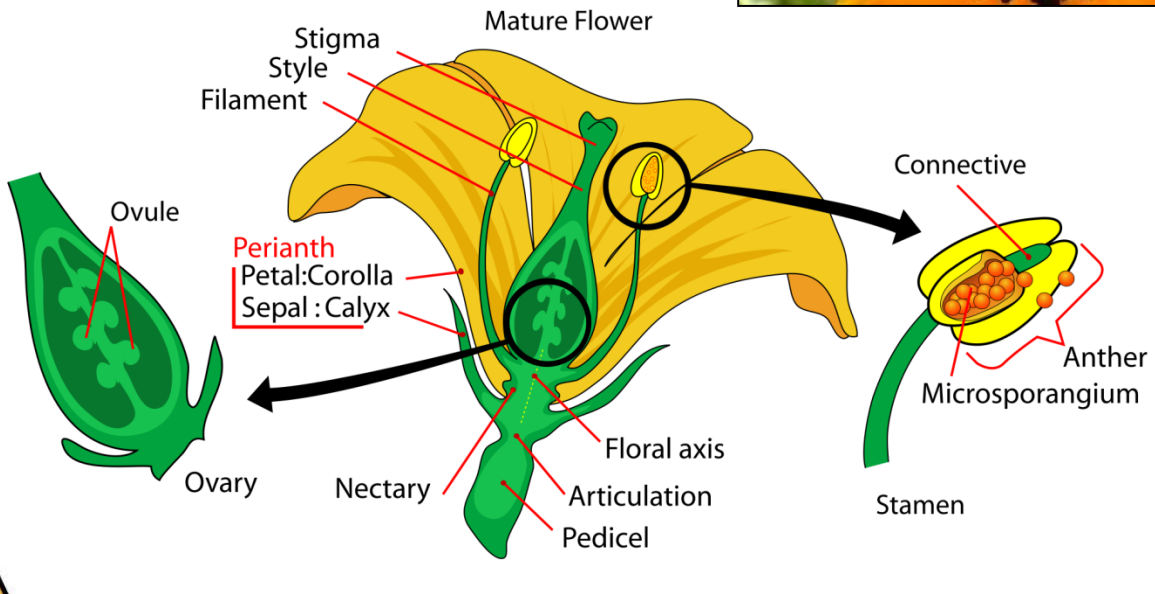
The stem is underground and leave him little hairs or roots with sap-conducting tissues. For reproduction, as mosses, depend on water.

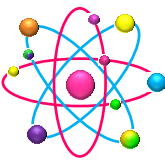


Flower

For sexual reproduction, cormofitas have some special organs: flowers. Flowering plants are called seagrasses and espermafitas. Plants without flowers are called cryptogams (mosses and ferns).

The parts of an angiosperm flower are the stamens (male part) formed by filaments and anthers (pollen-laden bags), the carpels (female part) formed by stigma, style and ovary calyx (green roofs for protection, composed by sepals) corolla (colored sheets attractive to insects formed of petals). A flower can be male (if you only have stamens) female (if you only have carpels) or hermaphrodite (if you have stamens and carpels in the same flower).





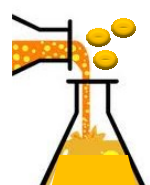
The flower of the gymnosperms or conifers is unisexual. You have no petals or sepals. Female flowers are greenish cones then turn brown woody cones calls (false fruit) that when opened release pine nuts, pine seeds. The male flowers are smaller and contain pollen sacs filled with floats that help to disperse by wind.

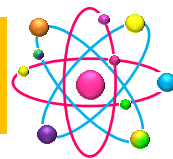
The fruit and the seed

The cormofitas present flowers and seeds. Present law enforcement bodies that prevent desiccation in environments with little water. The flowers and seeds also protect the embryo from drought. They are independent of the water plants for reproduction. The oldest are the gymnosperms, angiosperms the most evolved which in turn are classified as monocots (with a single sheet to germinate the seed) and dicots (with two leaves to germinate the seed).



The fundamental difference between angiosperms and gymnosperms is the morphology of the flower and in some of the basic structures of the female part of the flower of angiosperms: the presence of an ovary wall to contain eggs that are fertilized by the arrival of pollen grain facilitates the formation of a seed enclosed within the ovary begins to transform into a fruit. Gymnosperms, however, have on their timber bracts, helically arranged around an axis, two eggs naked without ovarian therefore only after fertilization produces the seed and fruit appears never.

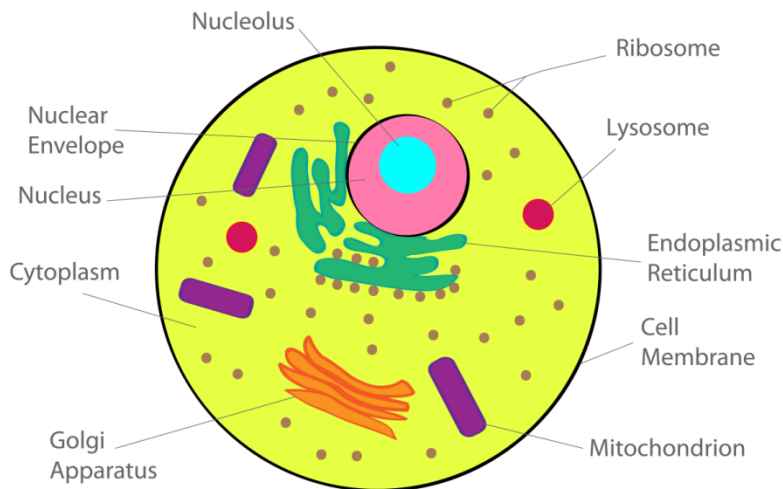




The animal kingdom

Look into this video:

<http://www.youtube.com/watch?v=kQG-5PSdM3g>



Animal Cell

According to reproduce the form that can be: oviparous, ovoviviparous, viviparous. The animals are invertebrates such as arthropods, worms, molluscs and echinoderms.

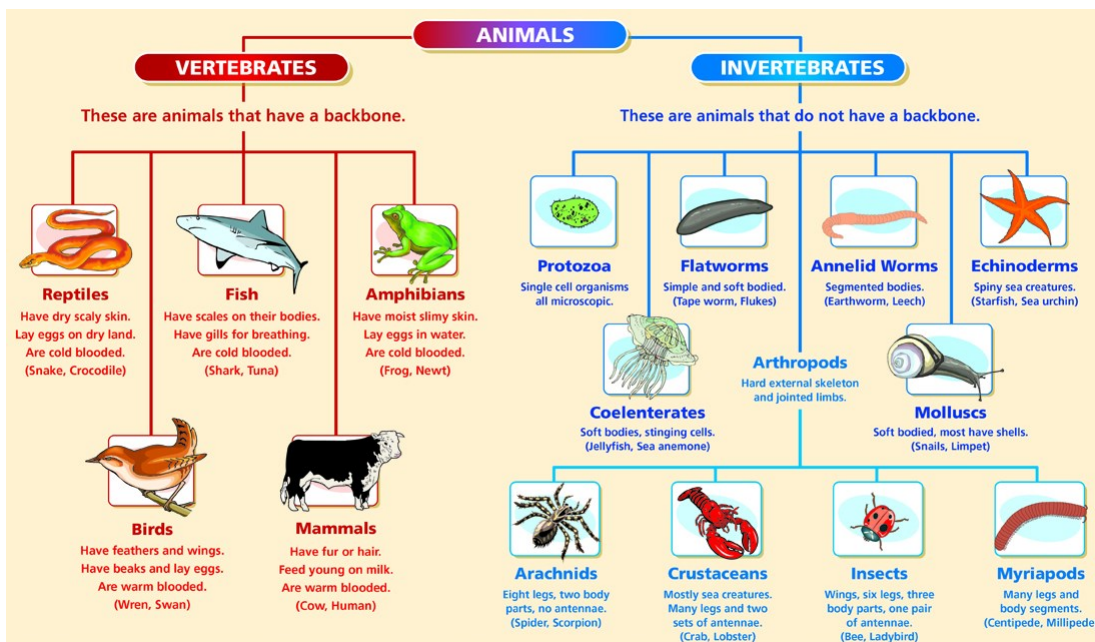
This kingdom is made up beings of various shapes and sizes that do not have capacity to make their own food, so you must move to get it.

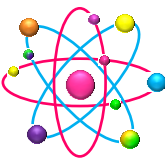
Animals can be classified in different ways:

According food supply type can be: herbivores, carnivores and omnivores.

According to the medium in which they live, animals can be: Water, Land, Air.

The animals are vertebrates and in 5 groups: fish, amphibians, reptiles, birds and mammals.





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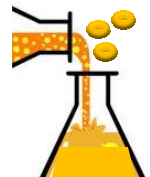
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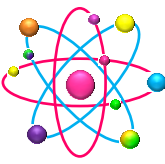
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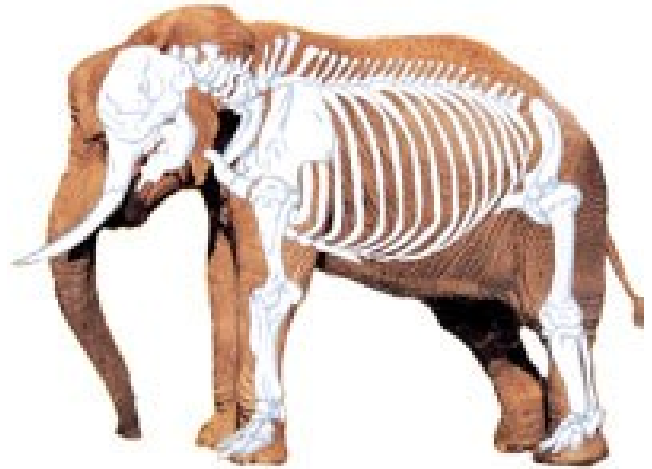


Vertebrates

Have spine and skull, which form part of an internal skeleton or endoskeleton.

Vertebrates are the largest animals and evolved. Thanks to its internal skeleton can maintain the shape of the body, protect certain organs and move.

? Some vertebrates also have an external skeleton or exoskeleton. This is the case of the turtle.



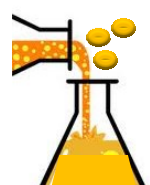
Consult video:

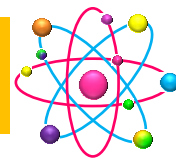
<http://www.youtube.com/watch?v=9O800BlqxpC>

Invertebrates

Invertebrates have no backbone and internal skeleton articulated.

Most invertebrates have external protection like armor, like beetles, but there are invertebrates that do not have any protection, such as octopuses.





Food

Food is everything that we eat or drink product that provides nutrients to our cells. Examples of foods are fruits, meat and milk. Consist of food nutrients and other substances, such as vegetable fiber, stabilizers, dyes, etc..

2. Food quality. The quality of a food depends on its nutritional value, equal to the proportion of nutrients it contains, its health or hygienic quality, appearance and price.

3. Classification of foods. Can be classified in many different ways. One of the most widely used classification is as follows:

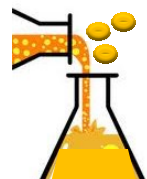


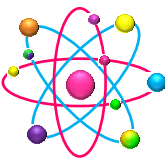
Variety of foods

Energy foods: are responsible for providing us energy to perform our activities. The bread, fruits, honey, spaghetti, potatoes, oil, cheese and butter are energetic elements.

Foods builders or trainers: are responsible for "building" repair or form bone, muscle, blood, skin, etc.. Milk, meat, eggs and beans are examples of food manufacturers.

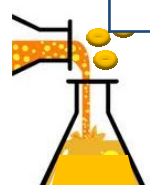
Regulatory or protective foods: are responsible for the functioning of our body and helps prevent diseases. Fruits, vegetables and vegetables are examples of foods regulators.

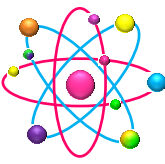




Food groups

Food groups	Examples	Nutrient content	
		Type structural nutrients and micronutrients	Exchange energy nutrients
1 . Milk and dairy	Milk, yogurt and cheese	Protein, calcium and Vitamins A, B and D	Lipids
2 . Meat, fish and eggs	Lamb, beef, haddock and eggs	Protein, iron and Vitamin B2 (Vitamin A in liver and eggs)	Lipids
3 . Starches	Potatoes, beans, rice, bread and pasta	Vegetable protein, vitamin B1 and iron in legumes	Carbohydrates
4 . Fruits and vegetables	Swiss chard, lettuce, spinach, pear, grape, ...	Iron, calcium and cellulose. In addition unboiled Vitamins A and C. In addition there are nuts lipids.	Carbohydrates
5 . Oils	Olive oil, butter	Vitamins A and D. In olive oil are also Vitamin E.	Lipids
6 . Sugars	Sucre and candy	None	Carbohydrates
7 . Drinks	Water, wine and juices	In fruit juices are Vitamin C	Carbohydrates

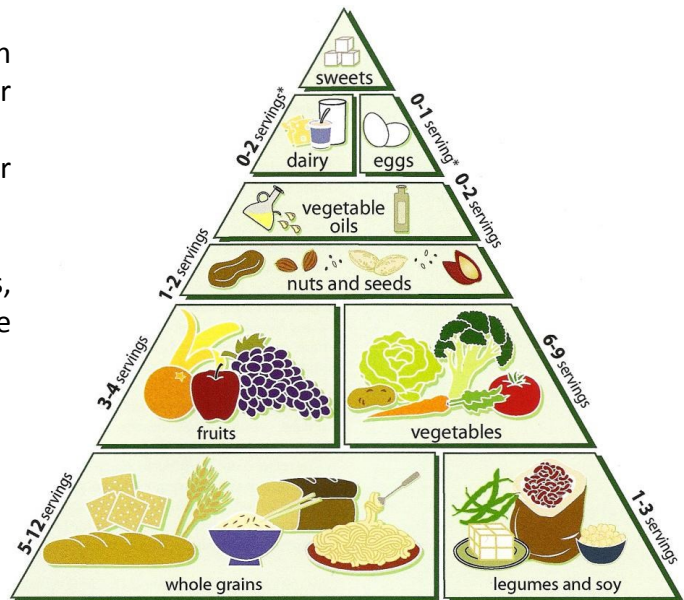




Food and health

Food pyramid. Is the pyramid formed by the management of food types according to the amount of each of them need to achieve a good diet.

- ⊙ In the first step are foods rich in starch (starch). Are we to take in greater proportion.
- ⊙ In the second step are foods rich in fiber (cellulose), starch and vitamins.
- ⊙ In the third step are protein-rich foods.
- ⊙ In the fourth step are oils and sugars, which are the foods that have to take lesser extent.



* A reliable source of vitamin B12 should be included if no dairy or eggs are consumed.

Other Lifestyle Recommendations



Daily Exercise



Water—eight, 8 oz. glasses per day



Sunlight—10 minutes a day to activate vitamin D

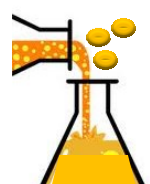


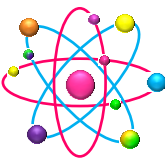
The food marketing.

To be properly informed that food should be labeled and not misleading advertising.

The correct labels are those which indicate the product name, the state of the food, the preservation process, the list of ingredients in descending order and of additives or their respective codes, weight or volume content, the expiration date or best before date, the name of the company responsible and batch number.

In advertising of food is also observed if the nutritional quality displays information about the price and the shelf life it presents.





Complete and incomplete Foods

Whole foods are those with all types of nutrients and in a similar proportion to our body needs. An example of complete food is milk. This is logical since it is the only food for newborns. For the same reason the eggs in the animal and vegetable seeds in the world are relatively complete food.

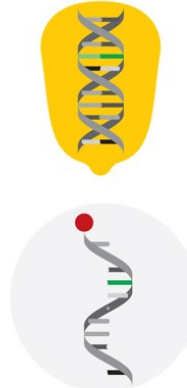
Instead, they are incomplete foods sugar, oil and butter, since virtually nothing contain a type of nutrient.

GM Foods.

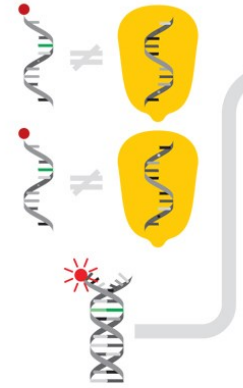
Are foods made from genetically modified organisms, ie organisms developed from cells in which it has entered one or more genes from other species in order to improve characteristics.



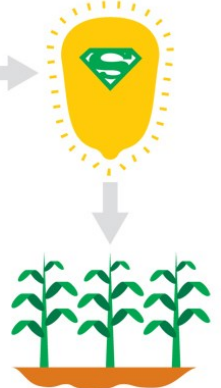
DNA is a ladderlike structure with rungs made up of four types of chemicals. Adenine binds only to thymine, and guanine binds only to cytosine.



1 Scientists discover that corn with a particular mutation—a change in a single spot—is better able to tolerate drought. They build a genetic probe containing the mutant DNA sequence and a chemical that lights up when the DNA sequence binds to its complement.



2 Scientists crossbreed the drought-tolerant plants with a high-yield variety. But which of the thousands of resulting seeds has both genetic traits? To find out, robots extract DNA from the seeds and add the probe. The probe binds only to a complementary DNA sequence.



3 A breeder can then grow—and sell—only those seeds that are both high yield and drought tolerant. Or the process can be repeated to add other traits, such as disease resistance.

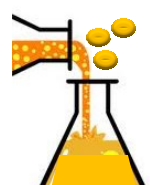
Thus, for example, has been obtained transgenic corn variety that is more resistant to pests by possessing a gene from wheat, a variety of tomato that matures slowly, which allows the farmer to have more time for transport , and a transgenic variety of salmon that supports cold temperatures better grace to a gene of a fish species Arctic sea itself. All GM foods before obtaining marketing approval must overcome a severe controls to ensure that produce no harm to human and transgenic organisms which come not constitute any danger to the maintenance of natural biodiversity.

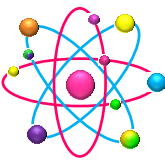


North 1999.com



North 1999.com





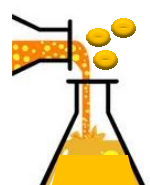
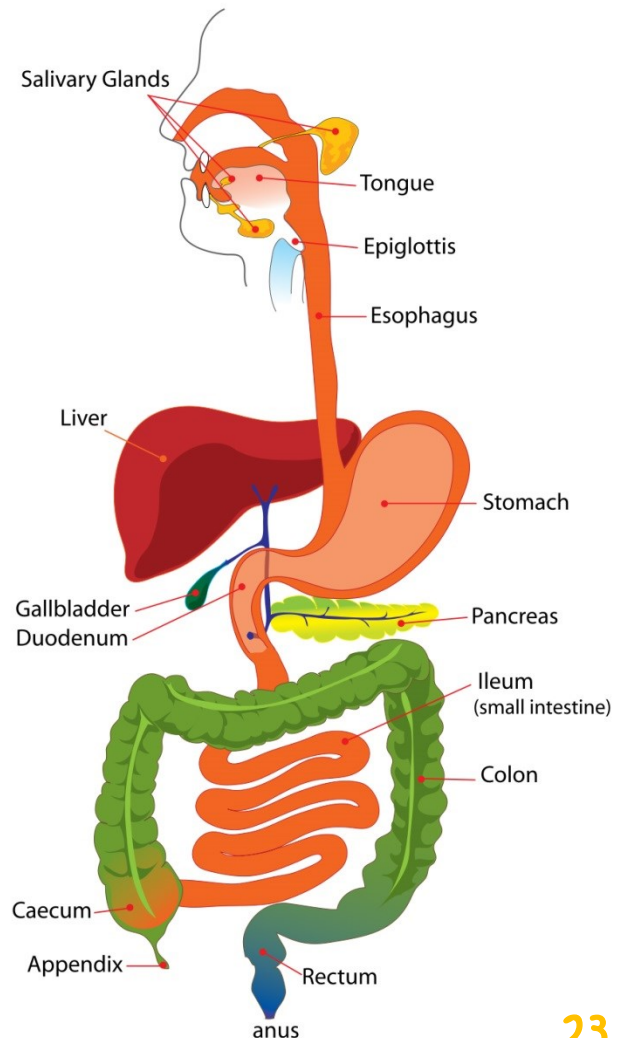
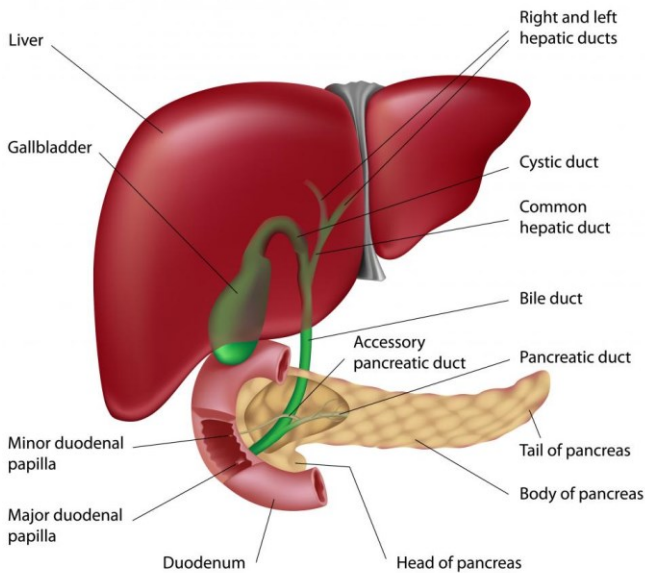
Feed conversion

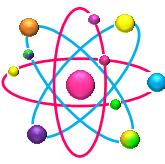
Foods are made up of nutrients or food units. People need to bequeath all the nutrients to all parts of the body so it can function properly. This is accomplished by three processes: digestion, circulation and respiration.

Digestion is the process by which the food we eat is turned into very small units called nutrients. The digestive system is responsible for carrying out this process.

The digestive system

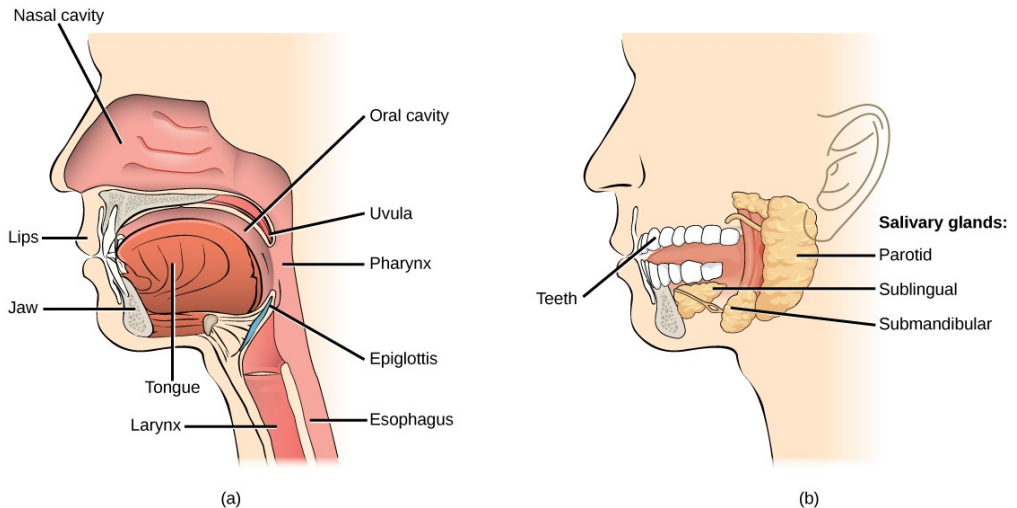
<http://www.youtube.com/watch?v=eKaBQrFdNtw>





The organs that make up the digestive system are the mouth, esophagus, stomach and intestines.

Oral cavity: Organ where digestion begins. They are the teeth, tongue and salivary Glands. In adults distinguished 32 teeth. There are four on each jaw incisors, 2 canines, premolars and 6 4 molars (chewing). Between the oral cavity and pharynx are tonsils immune defensive barrier function. At the end of this section is a description of the internal structure of the teeth.

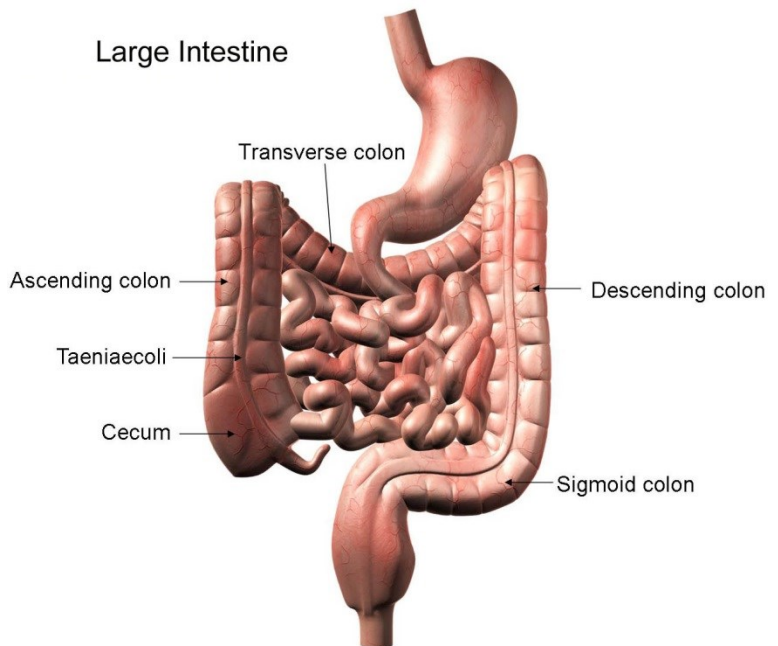


Esophagus Is the tube through which food travels ground and mixed with saliva from the mouth to the stomach.

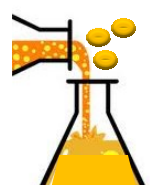
Stomach: Is a bag-shaped organ that produces digestive juices inside that are transforming the food into smaller units, called cinchona.

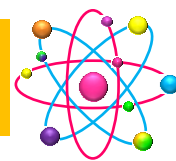
Small intestine: A long tube where cinchona mixture with other gastric juices that help to separate nutrients and waste. These nutrients enter the blood, through the process of absorption.

Large intestine: Receive substances were not absorbed and is responsible for absorbing water and form the stool.



Anus: is the place where waste is expelled or stool.





The human digestive system diseases. The main ones are:

Peptic ulcers are not caused by bacteria. Erosions of the inner wall of the stomach or duodenum due to excessive acid secretion. Can lead to perforations.

Hemorrhoids. Dilated veins surrounding the anus. Difficult to be able to sit.

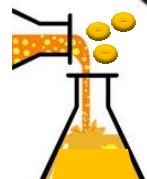
Gallstones. Cholesterol deposits in the gallbladder precipitate.

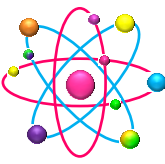
Obesity. Excessive increase adipose tissue layer found in the skin in certain areas. It may be due to an excess of food or a metabolism disorder.

Anorexia nervosa. Mental impairment consistent in not wanting to be seen eating obese despite actually being very thin. May cause death from malnutrition.

Bulimia. Psychic disturbance consisting of an intense hunger that involves high intakes of food followed by vomiting due to guilt.

Infectious Diseases: **Viral:** mumps (salivary gland infection) and hepatitis (viral infection of the liver). **Bacterial:** dental caries, appendicitis (infection of the appendix), peptic ulcers caused by infection (stomach and intestine), salmonellosis (diarrhea), cholera (severe diarrhea and vomiting). **Due to protozoa:** amoebic dysentery (diarrhea intermittently).





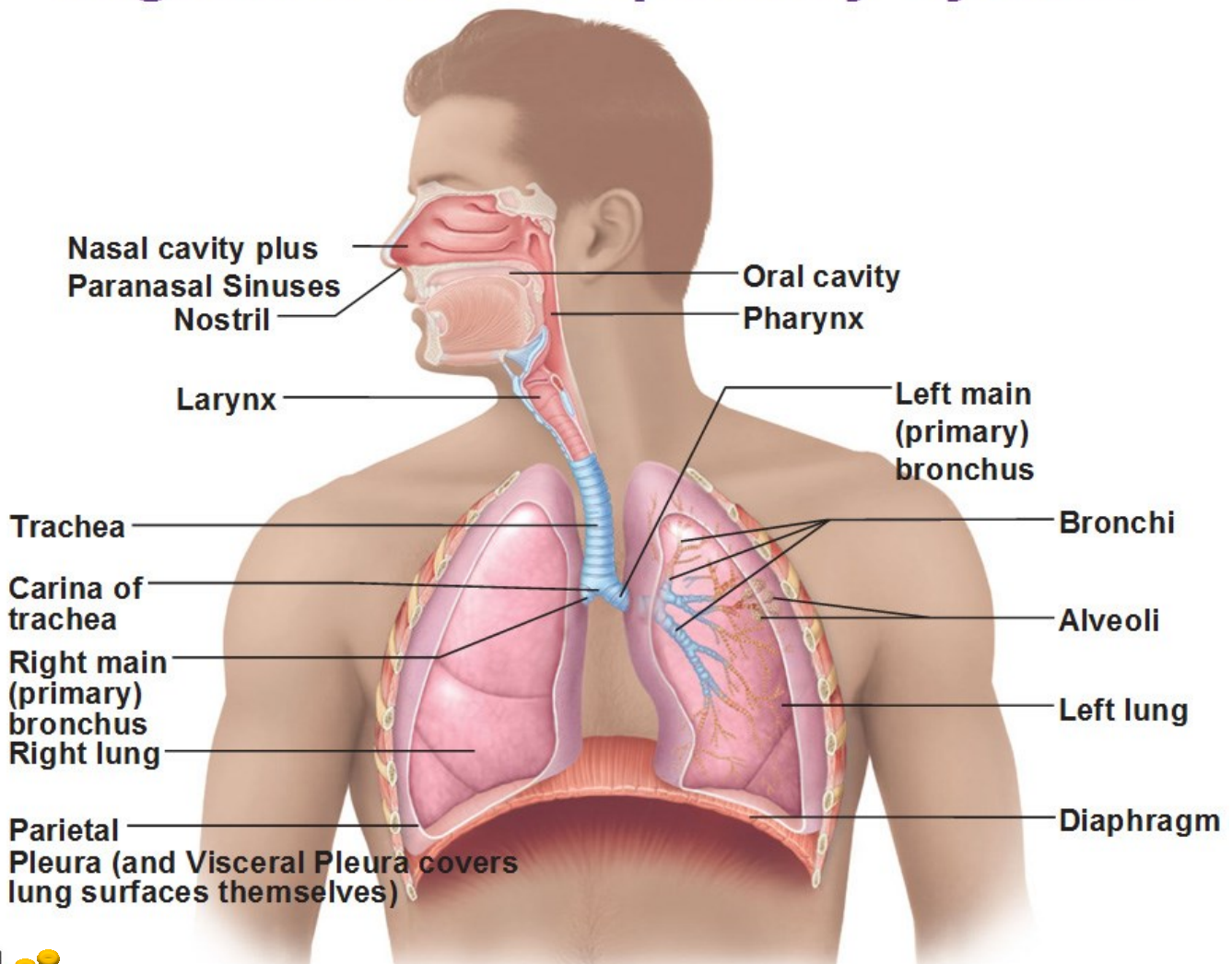
The respiratory system

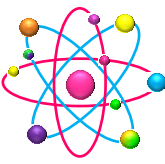
The respiratory system is responsible for receiving oxygen from the air and transfer it to the blood. Also expels carbon dioxide from the interior of our body. oxygen inlet and outlet of carbon dioxide is known as gas exchange.

The respiratory system consists of the airways and lungs.

The airways so the channels through which the air we breathe travels. This consists of the nose, pharynx, larynx, trachea, bronchi and bronchioles.

Organs of the Respiratory System





Anatomy of the human respiratory system

Nose holes. Are two holes which communicate the exterior with the nostrils, inside of which there are some hairs which filters the air and mucus-secreting glands which retain dust and humidify the air.

Nostrils. There are two large cavities located on the mouth. Inside present some folds called turbinates, which slow the flow of air, thus favoring humidification and warming.

Pharynx. Is a conduit of about 14cm which allows communication between the nostrils, the oral cavity, the middle ear (through the eustachian tubes), larynx and esophagus.

Mouth: Allows entry of air but without filtering dust and providing humidification nostrils.

Tongue. This body presses the food against the palate to introduce foods.

Epiglottis. It is a tab when pushed by a bolus descends upon closing the glottis, thus preventing access to food is introduced into the trachea.

Larynx. A short duct is about 4cm in length which contains the vocal cords.

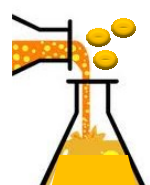
Vocal cords. Two muscular and fibrous folds on the inside of the larynx. The space between them is called the glottis and leads into the trachea. constitute the vocal organ of humans.

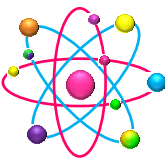
Trachea. Through a 12cm long and 2cm in diameter, consists of a series of semi-annular cartilage whose rear ends are joined by muscle fibers. This prevents friction with the esophagus, where food passes through this.

Lungs. They are two globular masses. The right lung has three lobes and the left only two.

Pleura. These two membranes surrounding the lungs. The space between them is filled with pleural fluid called. Its purpose is to avoid friction between the lungs and ribs.

Thoracic cavity. Is the cavity formed by the ribs and sternum, where the lungs are housed.





Bronchi. Are the two pipes in which the trachea bifurcates.

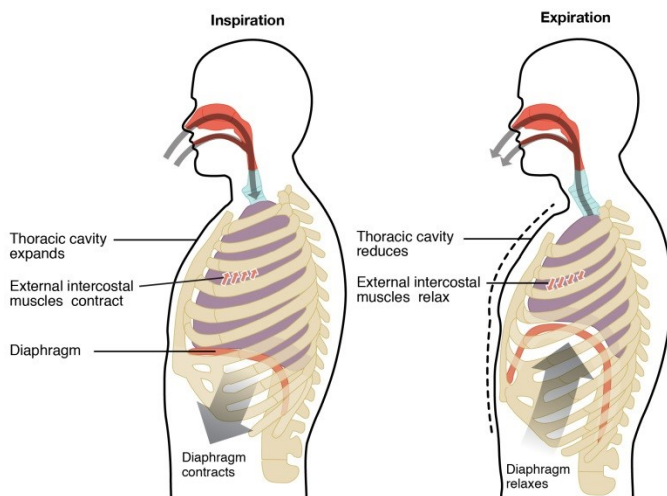
Bronchioles. Are the branches of the bronchi. The ultimate ramifications bronchial called capillaries originate ending in the lung sacs, which are numerous expansions globose cavities called alveoli.

Heart chamber. A concavity in the left lung in which the heart is received.

Diaphragm. Is a muscular diaphragm descends during inspiration allowing dilation and lung during exhalation amounts favoring the emptying of the lungs.

The external respiration or "Ventilation" in humans

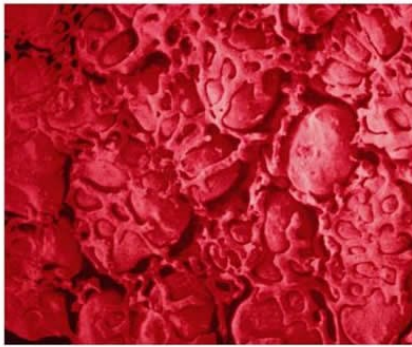
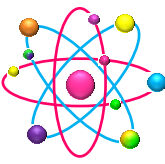
The external respiration or ventilation comprises the following three stages:



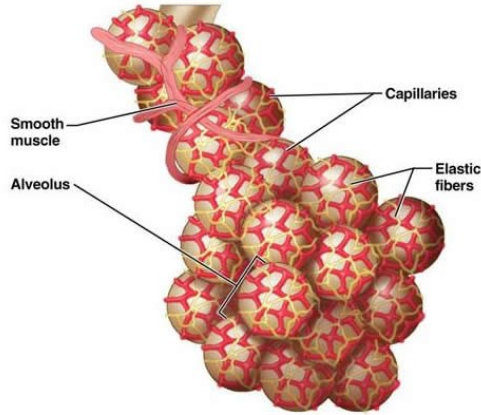
1. Inspiration. Here the external intercostal muscles contract and raise the ribs and sternum, and diaphragm descends. This increases the ability of the rib cage, causing the lungs to expand and between O₂ enriched air.

2 . Gas exchange. It O₂ rich air reaches the alveoli, the walls of which are so thin that allow gas exchange. How are coated with fine blood capillaries containing CO₂ laden and low in O₂, CO₂ passes into the alveoli and into the blood O₂ is in the blood capillaries.



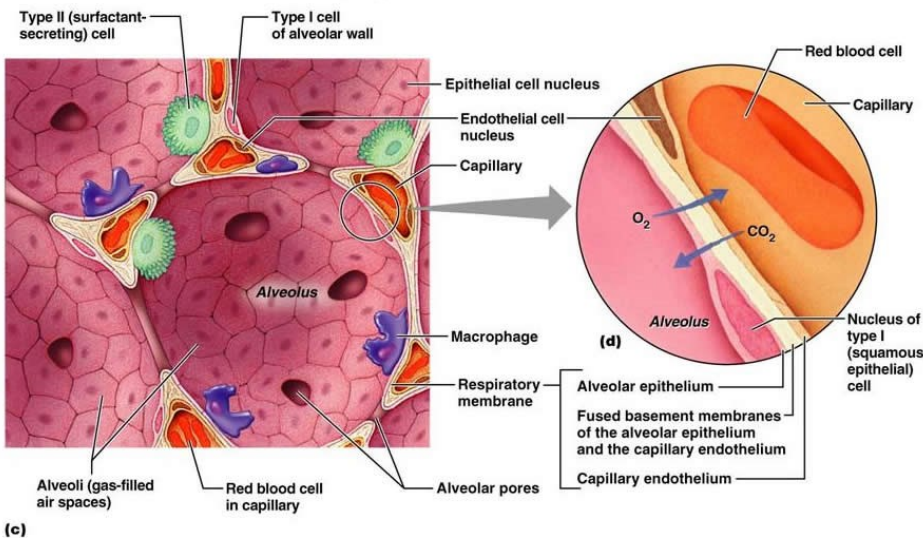


(a)



(b)

3 . Expiration. Here the external intercostal muscles relax and lower ribs and sternum and diaphragm rises. This diminishes the ability of the rib cage, causing the lungs to contract and, therefore, which leaves the CO₂ rich air



(c)

(d)

The gas exchange. Gas exchange characteristics that occurs in the alveoli are:

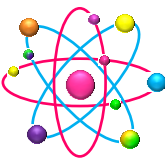
The blood from the heart, which reaches the blood capillaries lining the alveoli, is charged with carbon dioxide and contains very little oxygen.

2) In the alveoli comes from outside air that is rich in oxygen. Carbon dioxide comes also from blood capillaries. The result is a gas mixture which is mainly oxygen.

3) the distance between the gases contained inside the alveoli and gases contained within the blood capillaries is very small, only 0.6 micron (0.6 μ) and the walls that separate are permeable them. Due to that gases can move from one to another. The result is that both end gas mixtures having a very similar composition.

4) The blood from the capillaries lining the pulmonary alveoli into the heart is very rich in oxygen and low in carbon dioxide.





The main respiratory diseases. The main ones are:

Shortness of breath. Decreased lung capacity to exchange gases. It can be caused by snuff tar deposits on the surface breathing, asthma, infections, etc..

Bronchial asthma. Sudden contraction of the bronchial muscles usually due to an allergic reaction. Causes a very unpleasant choking sensation.

Pulmonary edema. Infiltration of fluid (serous fluid) that fills the interior of the lungs causing respiratory failure.

Lung infarction. Severe pain in the chest caused by a pulmonary embolism, ie by a clot blocking a vessel that supplies blood to the lung tissues.

✦ **Infectious Diseases.**

Viral. The main ones are the cold and flu.

Bacterial. According to the affected section is divided into the following conditions: sinusitis, tonsillitis, pharyngitis, laryngitis, bronchitis, pleurisy (pleura), pneumonia or pneumonia.

Also need to mention tuberculosis (infection caused by *Mycobacterium tuberculosis* that results in the formation of caverns in the lungs), and pertussis (whooping cough that affects infants and young children).



