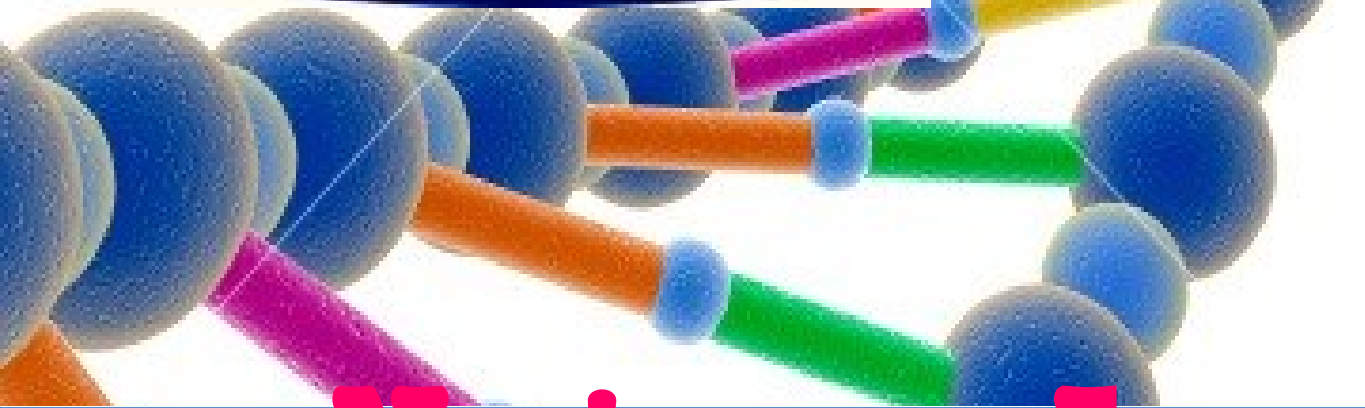
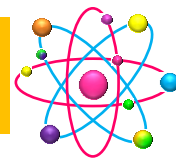




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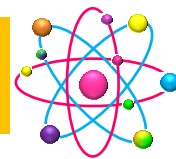
Natural Sciences



Content

<u>Know the contents</u>	1
<u>The matter, its properties and its transformations</u>	2
<u>Changes in water state</u>	3
<u>The matter has properties</u>	4
<u>The matter undergoes physical and chemical changes</u>	5
<u>The matter is mixed or combined</u>	7
<u>Application Guide</u>	9





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.

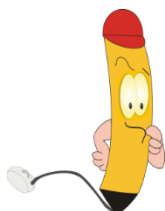
With this text handling you acquire attitudes, skills, abilities and ideas that allow you to expand your worldview.

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.



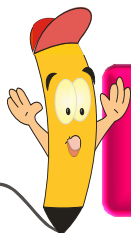
When you find this you will have to perform the activities for each topic or subtopic.



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

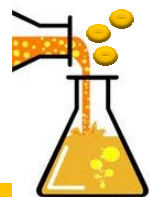


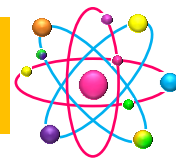
Virtualito invites you to learn more about the topic, research new things. It is interesting to know!



You know?

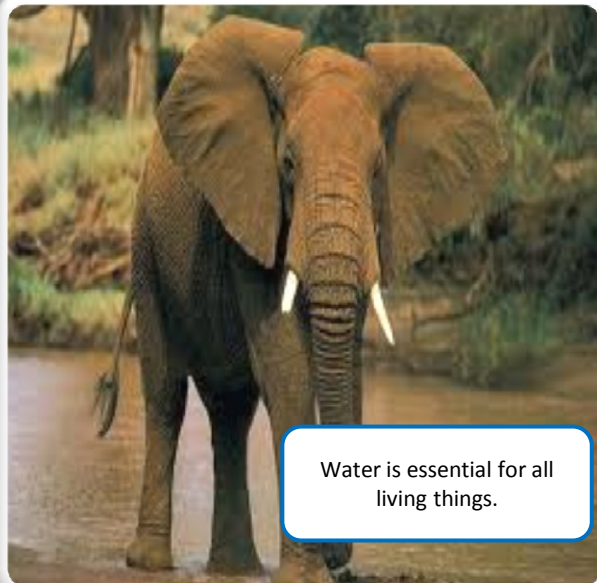
Find fun facts that invite you to learn about other related topics.





The matter, its properties and its transformations

Water chemistry



Water is essential for all living things.



Icebergs are formed by frozen water.

Water is a substance essential for the development of any life form known so far; occupies three-quarters of the land.

Also, water is one of the few substances that can be seen in the three basic states of matter: solid, liquid, and gas.

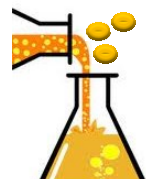
This substance is known to scientists as H_2O , is formed by the elements: hydrogen (H) and oxygen (O). When it is pure, no color, taste or smell.

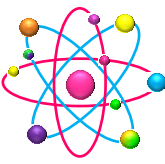
In liquid state, water has the ability to dissolve a variety of substances such as minerals required by most living things, and gases such as oxygen-breathing fish in the seas, rivers and lakes.

The planet has two poles, north and south, there we find solid water. In the summer the huge ice caps forming fragment floating ice blocks known as icebergs.

Large scientific studies by this state of water, lets us know that solid state water occupies more volume, as if you were in a liquid state.

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

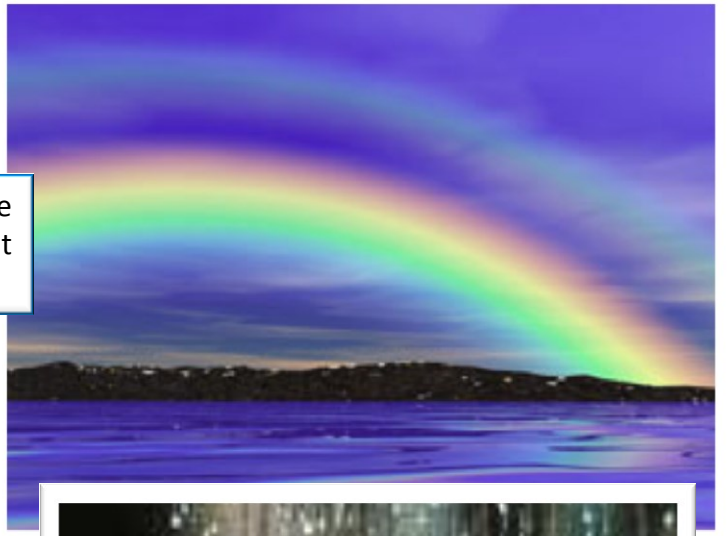




Changes in water status

The temperature control allows us to observe how water changes from one state to another.

The rainbow is formed by the decomposition of water does the light from the Sun



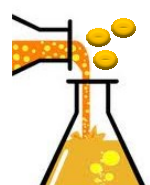
Water has the ability to move from one state to another due to changes in temperature. For example, if the temperature rises to 100 degrees Celsius, the water evaporates. If we subject the water to a temperature to a degree centigrade, eta freezes.

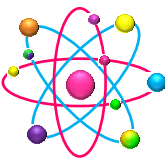
We can also find the gaseous water, this is condenses into liquid state. You can appreciate it when it rains.



The dynamic that has water to move from one state to another is known as the hydrologic cycle. As a result, the water circulating around the globe again and again.

Additional to all that was told in this wonderful liquid, water also provides a wonderful show when dispersed into fine droplets and receives sunlight to break it down: the rainbow.
<http://www.youtube.com/watch?v=e7vEExRWthM>



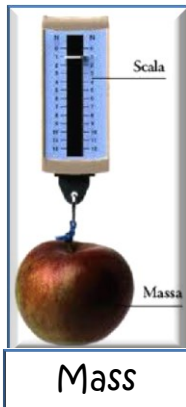


The matter has properties

All we can see around us is made up of matter: your body, the air, water and even your toys. Therefore, scientists say that matter is anything that occupies a place in space.

Material occurs through material or natural or artificial substance. Natural materials are provided by nature, such as wood, rocks and water, among others. Meanwhile, artificial materials have been created by humans, such as plastic, rubber and glass.

Matter has two types of properties: the general and specific.



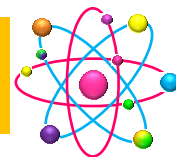
The general properties allow describing the bodies. Among these properties can find the color, taste, shape, size, texture, mass, weight and volume.

Mass is the amount of matter in an object or a body. You can measure it with the balance.

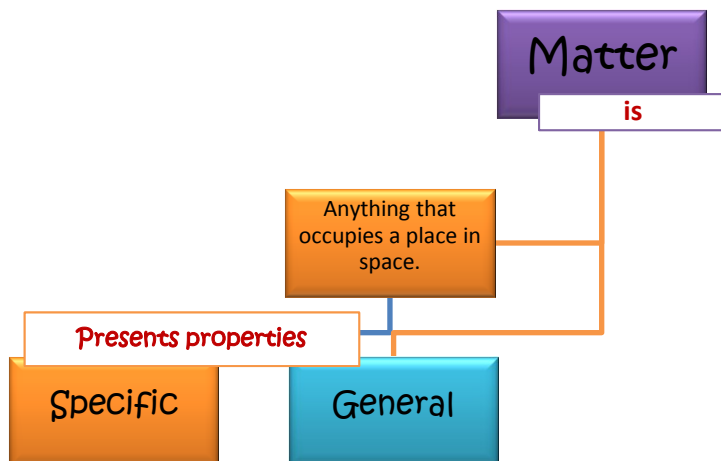
Weight is the force of Earth's gravity on a body. Thanks to the weight we remain in the soil and can be measured with an instrument called a dynamometer.

Volume is the space occupied by a body. I can measure as the specimen containers, pipette and beaker.





The specific properties differentiate one material from another. Among these properties can observe the boiling point, melting point and solubility.



The matter undergoes physical and chemical changes

How I can see a physical change?

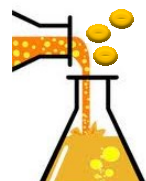


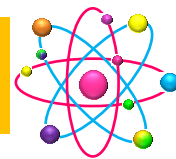
Physical changes:

These changes do not alter the composition of matter, but their status and form.

Note that if you leave an ice cube on a container begins to melt, ie changes from solid to liquid state, but its composition remains the same: water.

You can heat the liquid water, moving it into gas, but water remains. Obtained the water vapor can condense on the lid, so that the gaseous water pass into the liquid state again. Finally, the liquid can deposit it in a bucket and put it in the freezer until ice, which is nothing but water in the solid state.





Chemical changes

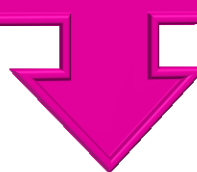
These changes will alter the composition of matter and form new substances are not reversible, ie can not return to its original state.

You can check this when burning a piece of paper it will be in ashes, the leaf composition changed, a new substance is formed and so can not want to regain the same sheet.

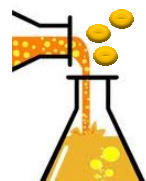
The physical and chemical changes experienced by the matter we see in our daily lives.

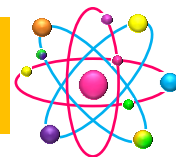


Inquire about expansion and metals undergo oxidation. What kind of changes are they? Write your answer.



A dashed-line rectangular box intended for writing an answer.





The matter is mixed or combined

Does it differ a mixture and a combination?

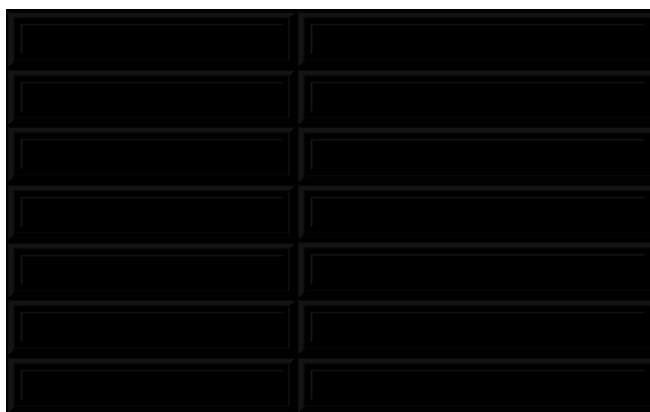
In nature are presented in different ways. You can find it in pure form or being part of a mixture. Therefore it is said that the matter is in the form of a pure substance or a mixture.

Pure substances

Are those that in their natural state are not mixed with other substances. We as examples, table salt, water and the oxygen we breathe.

Mixtures

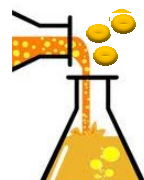
Are formed by the joining of two or more pure substances, which do not lose their properties, ie physical changes and can be separated by simple methods.

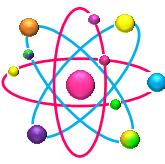


Combinations

A combination is a union of two or more substances that undergo a chemical change and therefore give rise to a new substance with different properties.

In the wild they generate combinations that cause enough damage to the environment. The combination of carbon dioxide produced by cars and factories, with water in the atmosphere. This combination produces acidic substances that burn forests, crops and pollute lakes. This phenomenon is known as acid rain.





The properties of matter can be measured.

The matter has properties that change from one substance to another. Not all properties can be seen in all substances, however, there are properties that are common to all bodies and therefore are called fundamental properties.

The volume and mass are fundamental properties, which can be measured with instruments and units.

Among the units used to measure the fundamental properties there are matches.

Remember that the volume is the space occupied by a body. The tools you can use to measure are the specimen, the pipette, the burette.

The units of measure are:

- Cubic meter (m³)
- Liter (L)
- Milliliter (ml)
- Cubic centimeter (cm³)



Science in English
Materia: matter
Volumen: volume
Masa: mass
Kilogramo: kilogramme
Litro: liter

Mass is the amount of matter that has a body, you can measure it with a scale.

The units of measure are:

- Kilogram (Kg)
- Gram (g)



