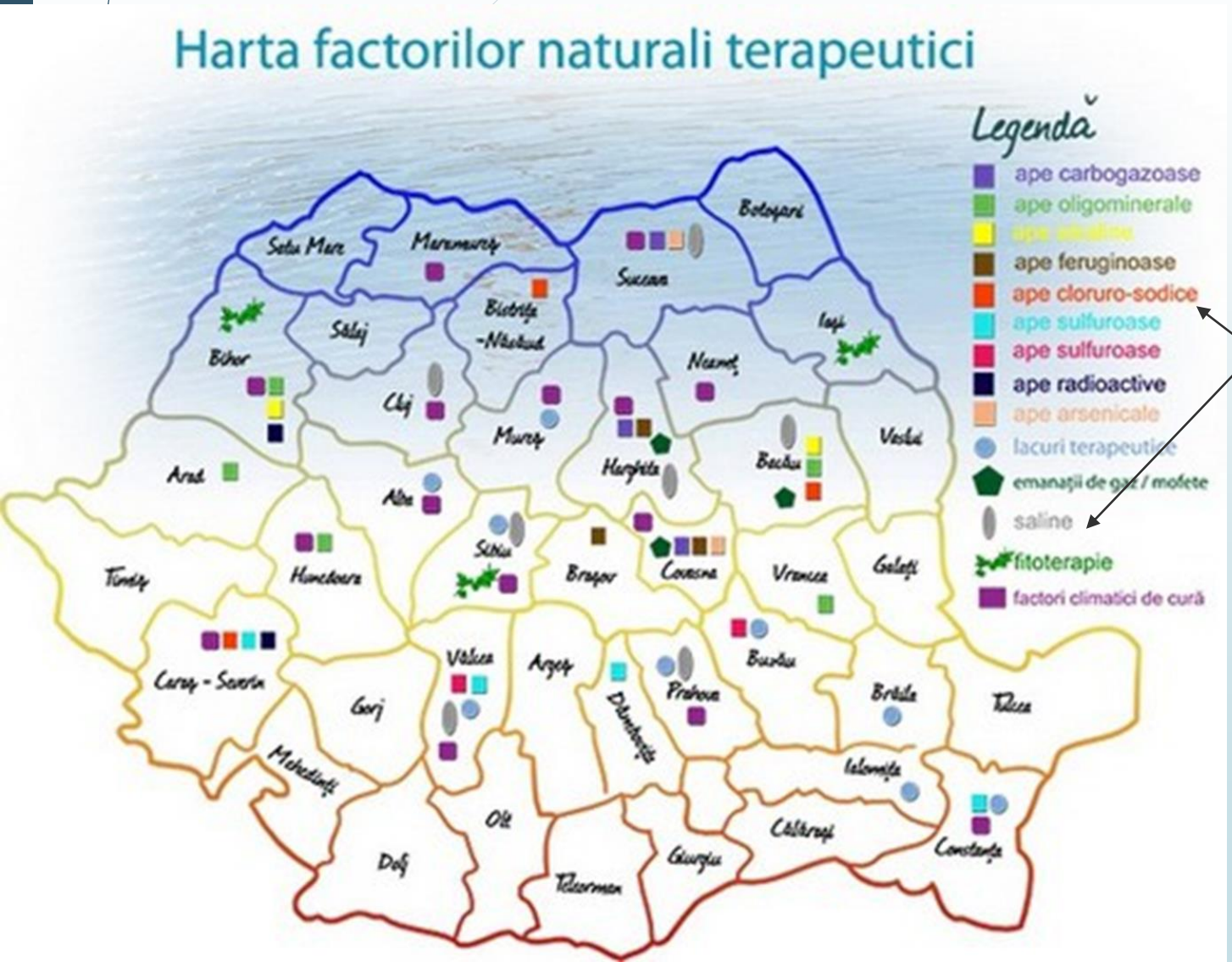
Salt diamonds

Spread



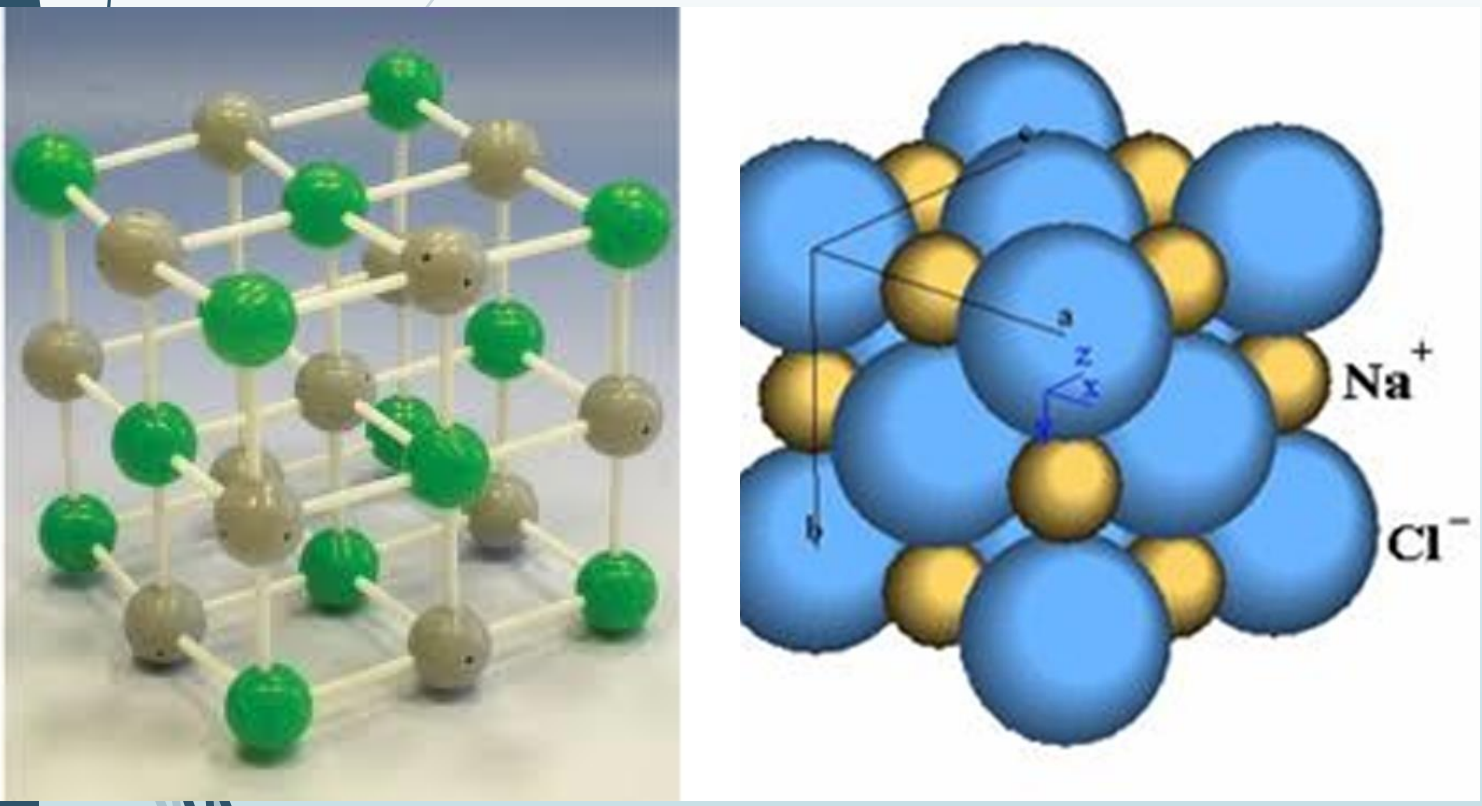
- Cooking salt (NaCl) is found in the form of deposits, in salt mines - **rock salt**, in sea and ocean waters - **sea salt**
- In Romania there are many springs with **chlorinated**, **ferruginous**, **sulfurous**, **mineral waters** (as you can see on the map)

Can you give examples of salt mines or mineral springs in your country?

Salt crystals

Can you think of several physical properties of table salt?

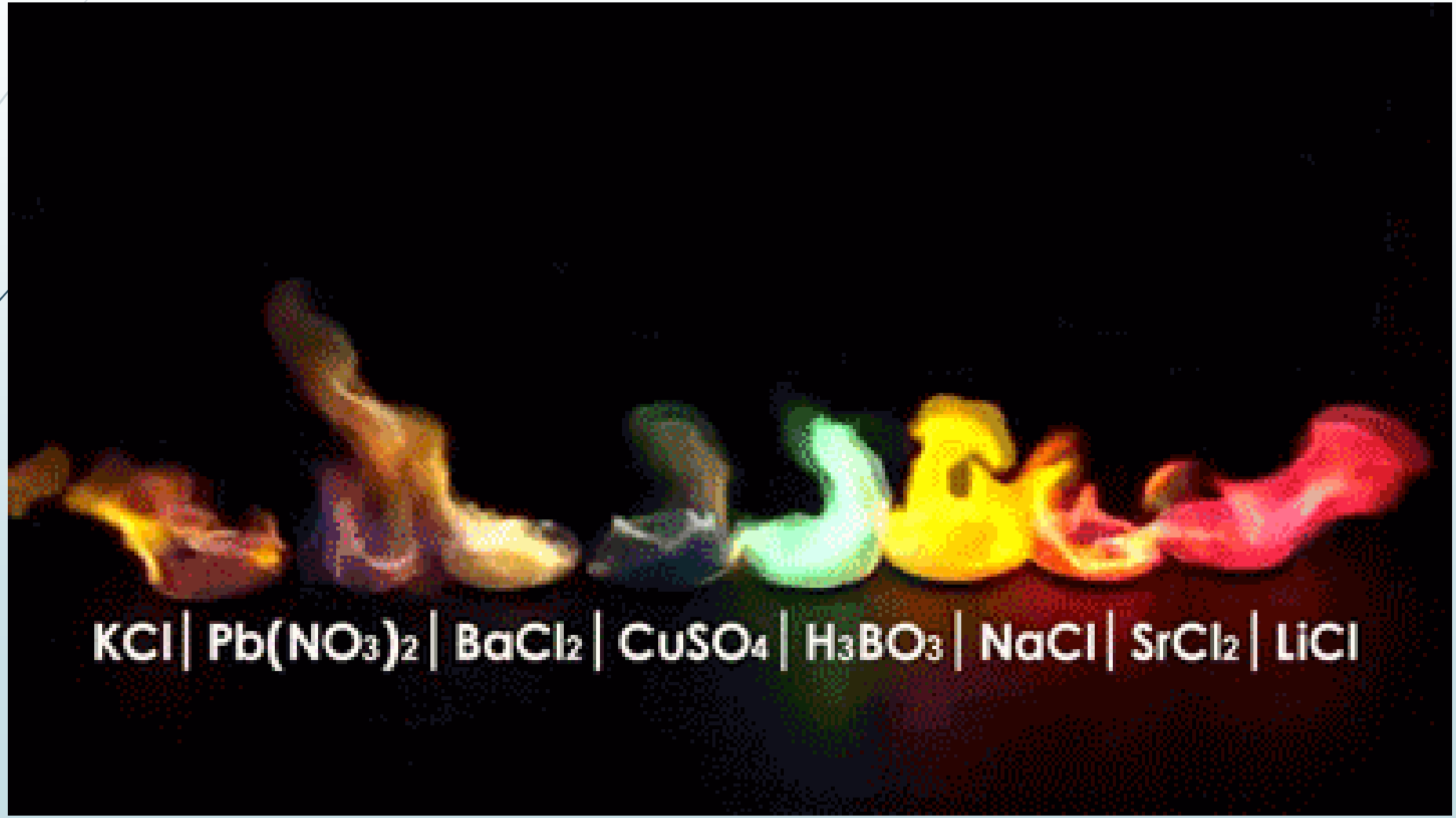
Physical properties of table salt



Structural models

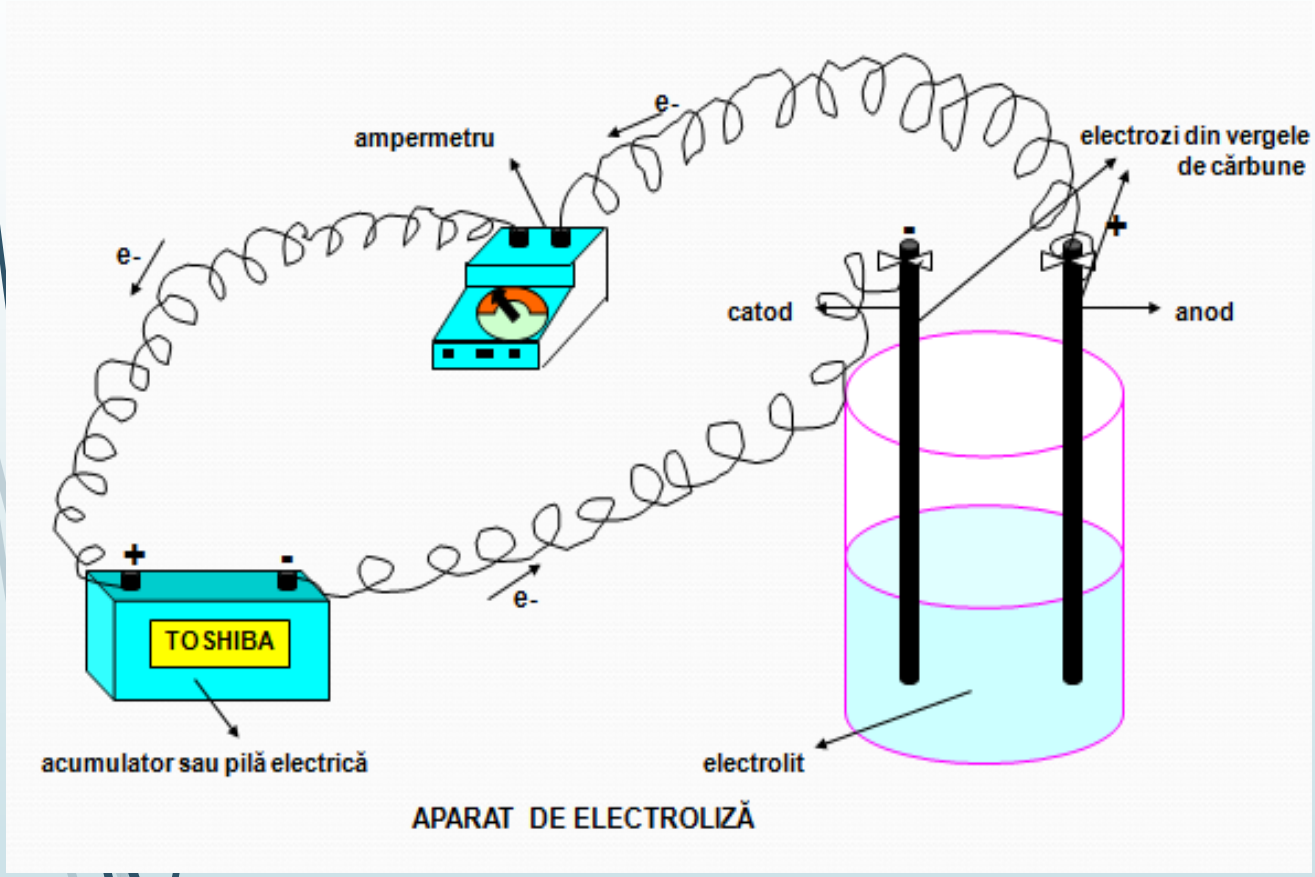
- NaCl is the best known salt
- It is a solid, crystallized substance
- It is colorless
- It tastes salty
- It is soluble in water
- It is hygroscopic (absorbs water vapor from the atmosphere)

Ion recognition



Chemical properties of NaCl

- The main chemical property is electrolysis which can be reproduced in the laboratory, using the NaCl solution
- At the industrial level, NaCl electrolysis is performed, both in solution and in melt



APARAT DE ELECTROLIZĂ

- By electrolysis of the salt solution, **caustic soda** and **chlorine** are obtained.

$2NaCl + 2H_2O \longrightarrow 2NaOH + Cl_2 + H_2\uparrow$

- In **the chlorosodium industry**:

- From **caustic soda** (NaOH) are obtained **soap**, **detergents**, **artificial silk**

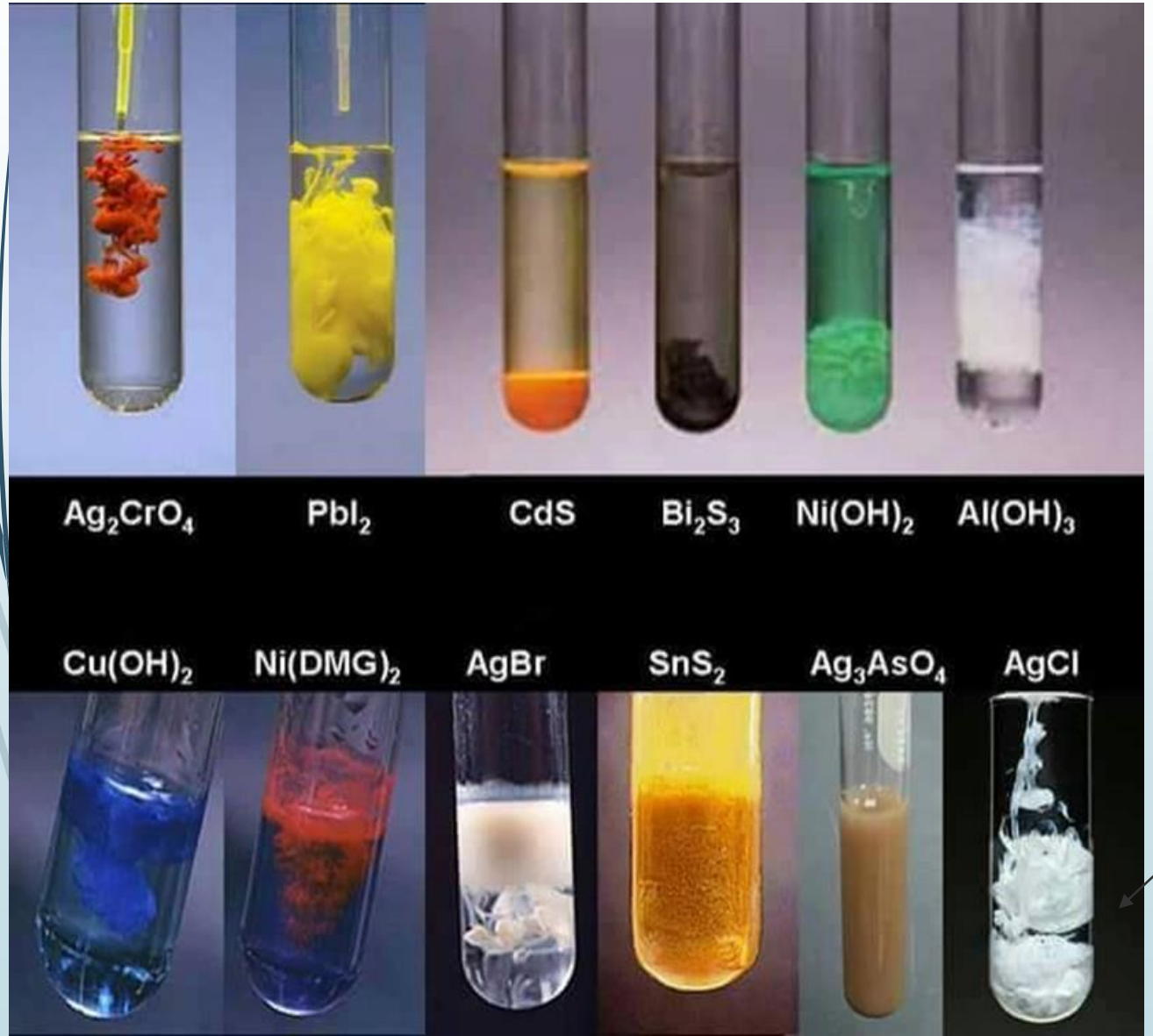
- **Chlorine** (Cl_2) is the basis for obtaining **hydrochloric acid (HCl)**, which in its turn is used:

- as a reagent in the laboratory,

- in the plastics industry,

- in the manufacture of organic solvents,

- in the medicine industry



- NaCl is identified with AgNO3 (hell stone), resulting in a white precipitate

Can you think of some uses of salt?

Uses of table salt

- In the diet, in the preservation of fish and meat, in the tannery
- In the energy industry
- In the chlorosodium industry
- when thawing roads
- In animal husbandry
- In medicine as a saline, because the solution with sodium chloride with a concentration of 0.9%, has the same concentration with blood plasma
- as a disinfectant

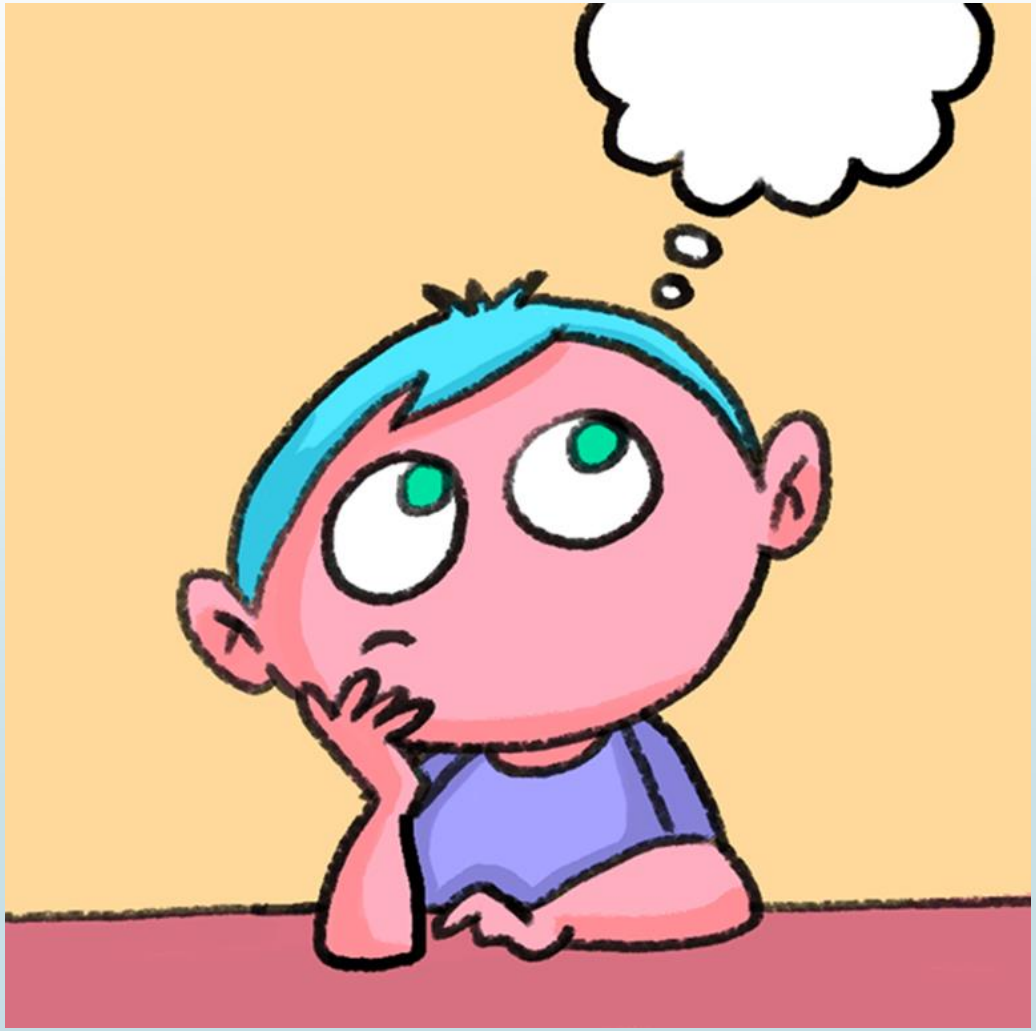
The effects of the salt on the human body

- Once the salt is in the human body, it dissociates (splits) into Na ions and Cl ions.
- In the healthy organism, there is a **balance** between the **ingestion** and the **elimination** through urine of the ions from the body.
- **Some diseases** (diarrhea, vomiting, some kidney or glands diseases) go to **disequilibrium**, as well as **the salt excess** goes to **different illnesses**.
- The daily necessary of salt is a ¼ spoonful of salt, or 500 mg of natrium.

What role do Na and Cl ions play in our body?

The role of Na^+ :

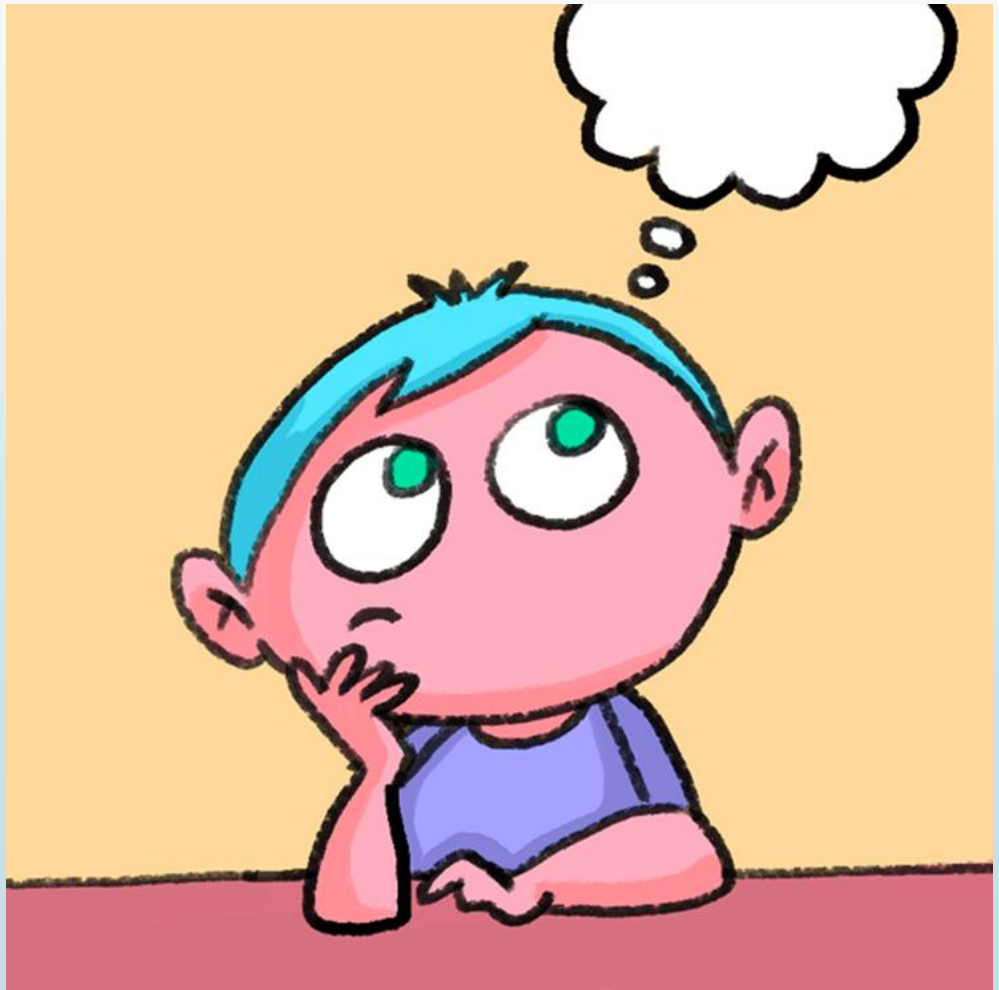
- In the transmission of the nervous impulse
- In maintaining the equilibrium of the electrolytes
- In the good functioning of the muscles



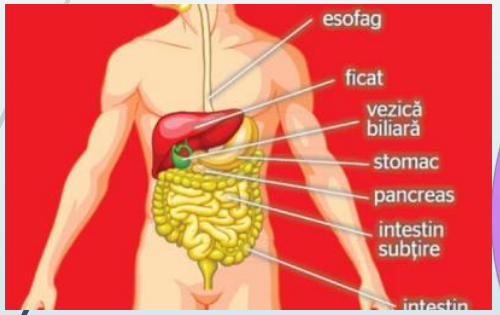
The role of Cl^- :

- Antibacterial
- It forms HCl (chlorine Hydrogen)
- It adjusts the intestinal transit
- The good functioning of the heart

What are the effects of salt excess?



The salt excess goes to:

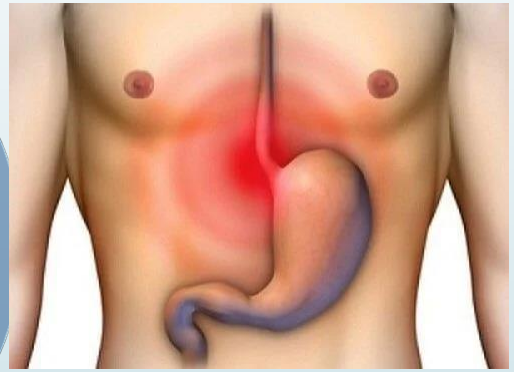


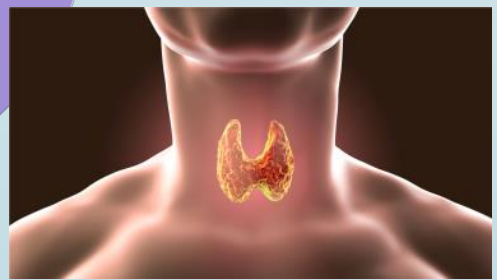
The increasing of the blood pressure (the sodium ions retain water)

The destruction of the intestinal microflora

Gastric hyperacidity

Kidney and thyroid diseases





And now, please open package **number 2.**

Salt lamps

Some of the benefits of Himalayan salt lamps are:

- **Cleans and purifies the air**
- **Neutralizes the electromagnetic radiation generated by electrical appliances**
- **Reduces static electricity in the air**
- **May relieve sleep and concentration disorders**
- **Relieves allergy and asthma symptoms**
- **Increase the efficiency of relaxation exercises.**

The beneficial effect of salt crystals is intensified by heating the salt. **Salt naturally attracts moisture from the air, along with various particles and positive ions. By heating the salt, the water evaporates back into the air together with the negative ions, and the particles of dust, pollen, smoke, etc. remain trapped in the salt. This creates a saline air in the house.**

Thank you for your attention!