CHEMISTRY PROJECT

GROUP 1

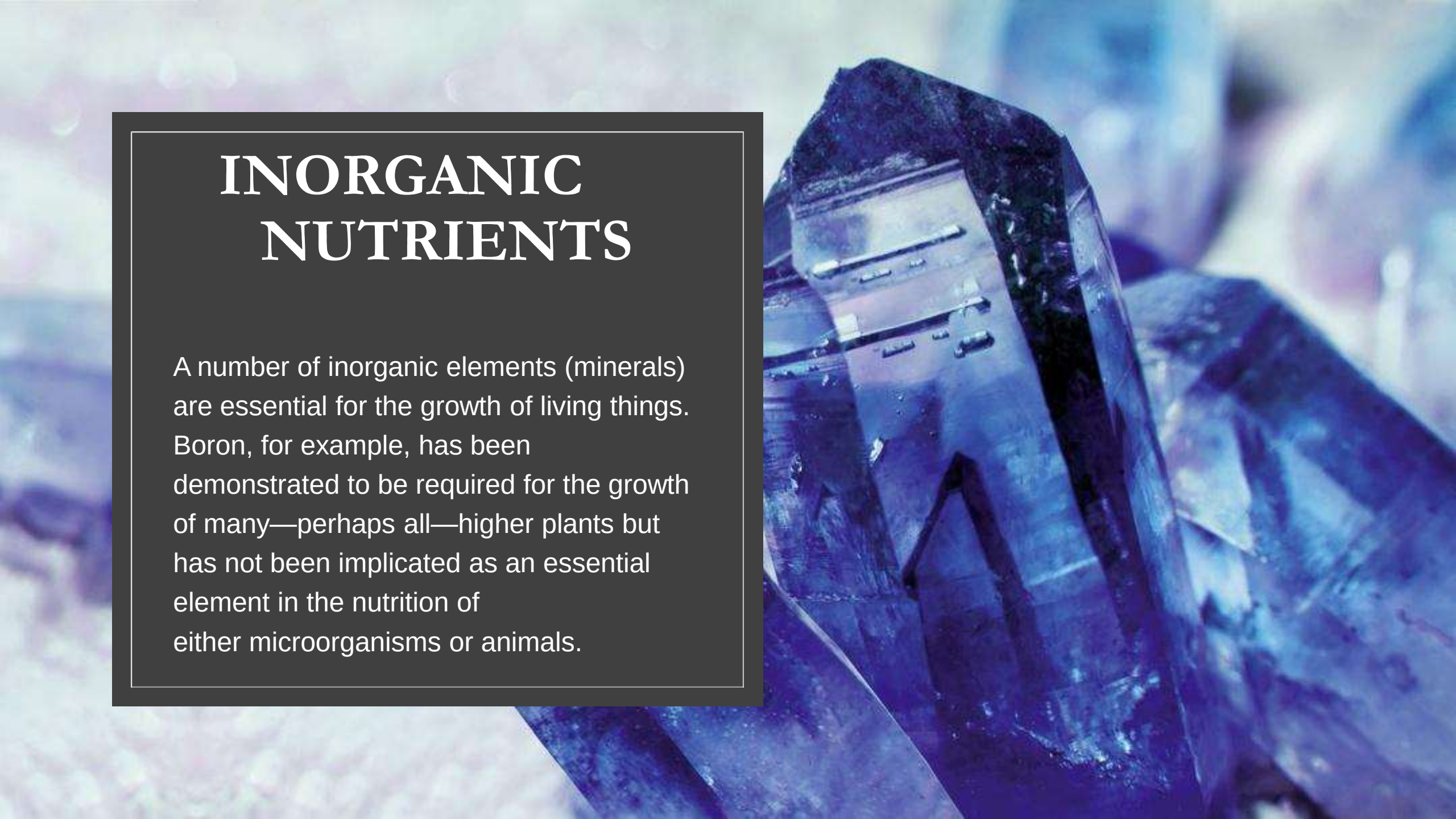
CLASS- 10B

Organic Nutrients

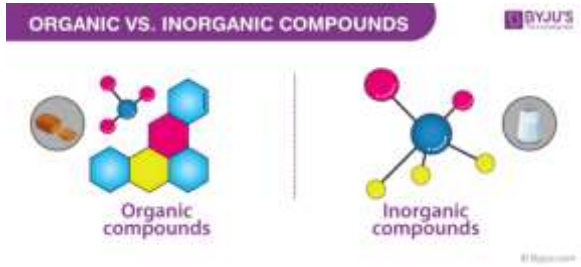
The **organic nutrients** are the necessary building blocks of various cell components that certain organisms cannot synthesize and therefore must obtain preformed. These compounds include carbohydrates, protein, and lipids.

INORGANIC NUTRIENTS

A number of inorganic elements (minerals) are essential for the growth of living things. Boron, for example, has been demonstrated to be required for the growth of many—perhaps all—higher plants but has not been implicated as an essential element in the nutrition of either microorganisms or animals.

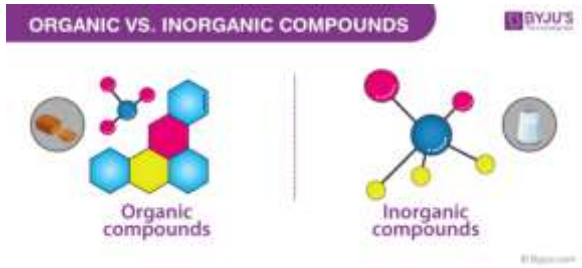


DIFFERENCE BETWEEN ORGANIC AND INORGANIC COMPOUNDS



Organic Nutrients	Inorganic Nutrients
1. Organic compounds are characterized by the presence of carbon atoms in them.	1.Most inorganic compounds do not have carbon atoms in them.
2. Organic compounds consisting of hydrogen, oxygen, carbon, and their other derivatives.	2. They do not possess hydrogen or oxygen and their derivatives.
3. Organic compounds are said to be more volatile and also highly inflammable	3. These compounds are not inflammable and are non-volatile in nature.
4.These compounds exist in the form of solids, gases, and liquids.	4. These exist as solids.
5. These are insoluble in water.	5. These are soluble in water and also non-soluble in some of the organic solutions.

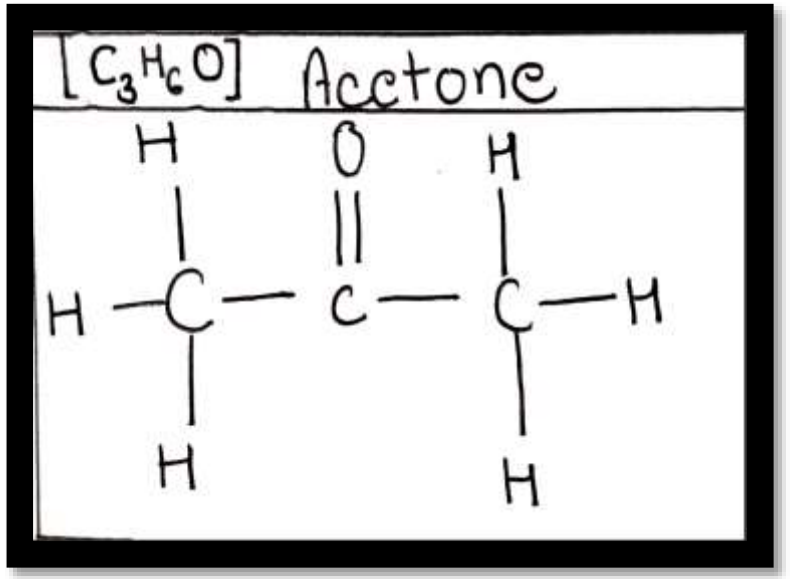
OTHER DIFFERENCES



Organic Nutrients	Inorganic Nutrients
6. These compounds have the carbon-hydrogen bonds.	6. These do not have the carbon-hydrogen bonds.
7. Organic compounds are mainly found in most of the living things.	7. These compounds are found in non-living things.
8. Organic compounds form covalent bonds.	8. Inorganic compounds form ionic bonds between the atoms of molecules.
9. In most of the aqueous solutions, these are poor conductors of heat and electricity.	9. In aqueous solutions, these are known to be good conductors of heat and electricity.
10. Examples of organic compounds include fats, nucleic acids, sugars, enzymes, proteins and hydrocarbon fuels.	10. The example for inorganic compounds includes non-metals, salts, metals, acids, bases, substances which are made from single elements.

ORGANIC NUTRIENT USED IN DAILY HOUSEHOLD

Acetone- Acetone is also **used** in household products, including cosmetics and personal care products, where its most frequent application would be in the formulation of nail polish removers.



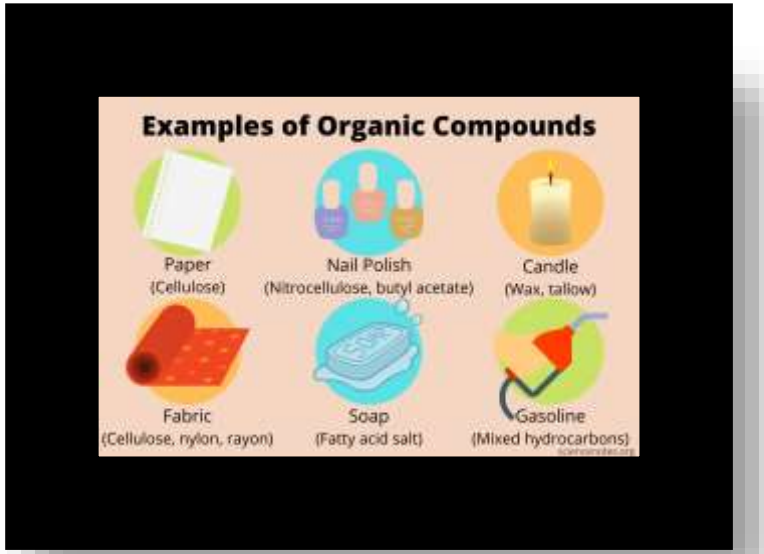
About Acetone-

- IUPAC Name- Propan-2-one
- Other names- Di-methyl Ketone
- Formula- $(CH_3)_2CO$

How to name an Organic Compound?

- Oxyanions are named with -ite or - ate, for a lesser or greater quantity of oxygen, respectively. For example, NO 2 is nitrite, while NO 3 is nitrate. If four oxyanions are possible, the prefixes hypo- and per- are used hypochlorite is CIO, perchlorate is CIO-4

- The prefix bi- is a deprecated way of indicating the presence of a single hydrogen ion as in "sodium bicarbonate (NaHCO3).



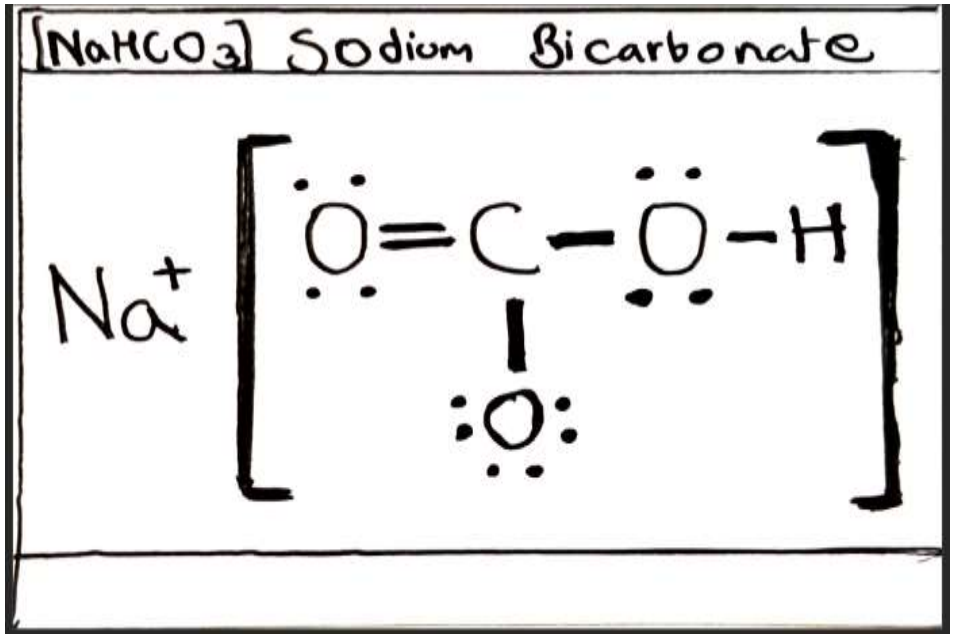
INORGANIC NUTRIENT USED IN DAILY HOUSEHOLD

Sodium Bicarbonate i.e. Baking Soda

Daily Uses at home-

- Remove stains in bathrooms:
- Dissolve grease and gunk

It is even used in Mouthwashes and Deodorants.

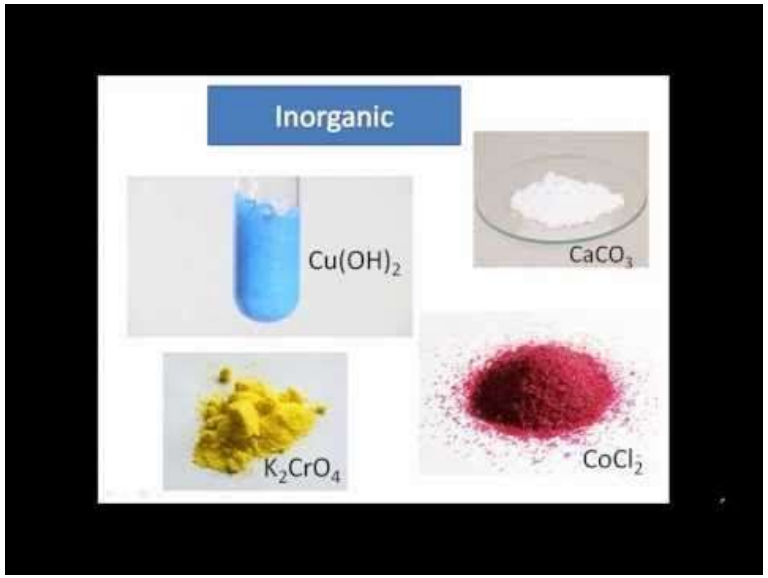


About Acetone-

- IUPAC Name- Sodium hydrogen carbonate
- Formula- $NaHCO_3$

How to name an Inorganic Compound?

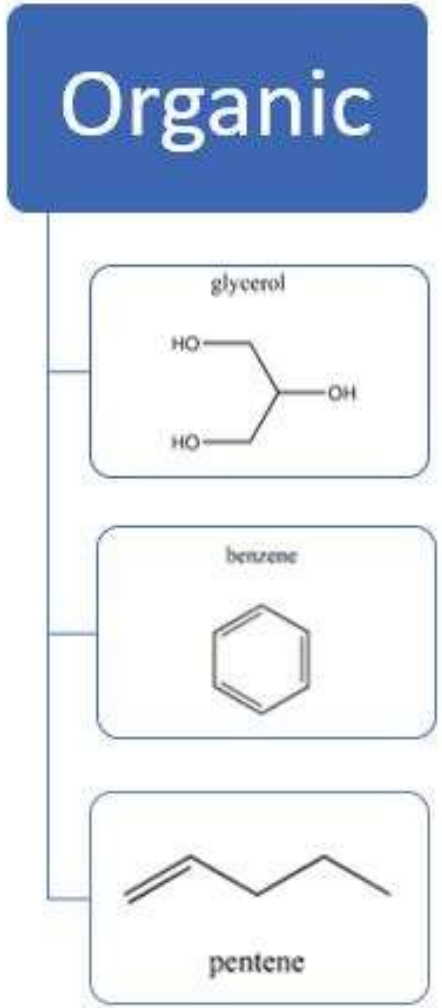
- Every inorganic compound should have a name from which an unambiguous formula can be determined.
- Single atom anions are named with an -ide suffix: for example, H- is hydride.
- Compounds with a positive ion (cation): The name of the compound is the cation's name followed by the anion. For example, NaCI.



Name the most important organic and inorganic constituents that make our body.

Organic compounds involved in normal physiology of the body:

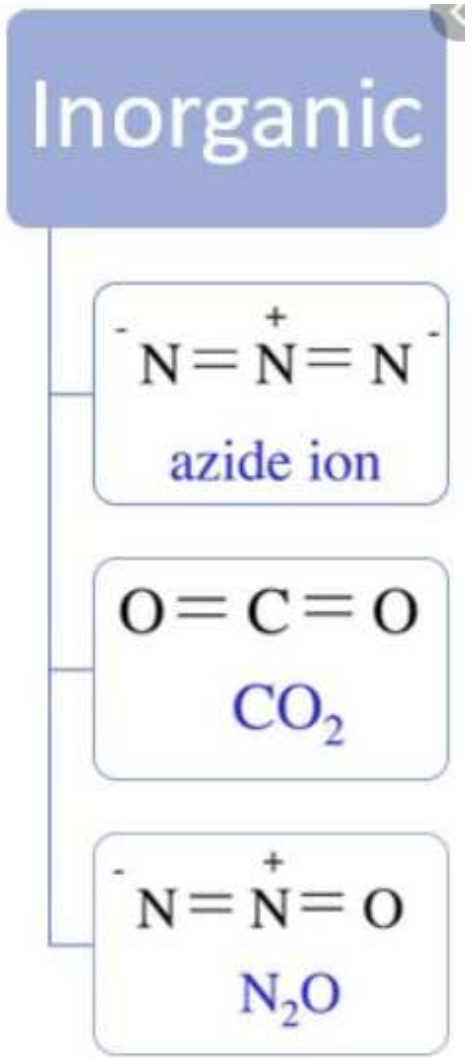
- Carbohydrates.
- Lipids.
- Proteins.
- Nucleic acids.
- High-energy compounds.



Name the most important organic and inorganic constituents that make our body.

Inorganic compounds are important in the body and responsible for many simple functions. The major inorganic compounds are:-

- Water (H2O)
- Bimolecular oxygen (O2)
- Carbon dioxide (CO2),
- some acids , bases, and salts.
- The body is composed of 60–75% water.



Our Debate

Organic Compounds are better than Inorganic Compounds!

Organic and inorganic compounds form one of the primary bases for chemistry. In our everyday lives, we have constantly been using both kinds of compounds explicitly, and it's clear that surviving without either would be nearly impossible. But which compound has higher importance? Most of us will say both compounds have equal importance and most of us are right, but to some level we all know that organic compounds have higher importance than inorganic compounds.

So with this thought in mind, Good Afternoon one and all present here, today I Saket Fatehpuria will be representing group 1 of class 10b and speak for the motion organic compounds are more important than inorganic compounds. First of all, what does the word organic compound mean? In its simplest definition, any large class of chemical compounds in which one or more atoms of carbon are covalently linked to atoms of other elements, most commonly hydrogen, oxygen or nitrogen . It constitutes not only the building blocks of living organisms but also various metabolic processes ranging from keeping us alive to the maintenance of our life in general, involving an essential and active participation of organic compounds.

But you might have a question how are organic compounds better then inorganic compounds? Let's talk about fertilizers. Fertilizers, no matter the kind, provide your plants with the macronutrients they need that might be in short supply in your soil. Organic fertilizers are an environmentally sound investment in your soil and plant's future. They are created from the by-products or end products of naturally occurring processes, which means they come directly from nature itself. Even though they take longer to work, and the exact ratio of nutrients is indeterminable, organic fertilizers provide a healthy food source for your plants and protect little part of the environment and also keep you healthy as they are completely natural.

Organic Compounds are better than Inorganic Compounds!

Inorganic fertilizers are perfectly measured out shots of nutrients exactly when you need them most but at significant cost. They can easily upset the entire ecosystem, create a toxic build-up of chemicals, and cause long-term changes in the pH of the soil, increases a pest problem, and releases greenhouse gases. Greenhouse gases are raising the temperature of the Earth, causing climate change and global warming. We all know and It's undeniable that mother nature is the reason why we are alive at all. Here we clearly see how inorganic compound is harmful for our environment while on the other hand organic compound give us a room for protecting the same.

Moreover, Organic compounds are also used to extinguish fire, in LPG, as preservatives, in many medical drugs and endless number of things. They are much better and important than inorganic compounds as they are more degradable and less toxic compared to inorganic compounds making it better to use for the environment. Organic compounds are more stable than inorganic ones making them less reactive thus they don't corrode easily like inorganic compounds making them better for people.

Lastly, organic compounds are generally found in the majority of the living things, on the other hand inorganic compounds are generally found in non-living things.

These are some arguments that prove the fact that organic compounds are more important than inorganic compounds. I would like to conclude by saying that the end of the day, both compounds are equally important but organic compounds are more environment-friendly which makes it better,

As said by Stephen Jay Gould, Life began three and a half billion years ago, necessarily about as simple as it could be, because life arose spontaneously from the organic compounds in the primeval oceans.

Thankyou

Group Members & Contribution

Saket Fatehpuria- Debate, Presentation & Research

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Harshil Doshi- Research

Kanishk Sikaria- Research

THANKYOU

- Group 1