



Chemistry 10
Chapter 15 - Water
Exercise - Short Questions

Download All Subjects Notes from website www.lasthopestudy.com

1. How water rises in plants?

Capillary action is the process by which water rises up from the roots of plants to leaves. This process is vital for the survival of the land plants.

2. Which forces are responsible for dissolving polar substances in water?

Hydrogen bonding is responsible for dissolving polar substances in water

3. Why are non-polar compounds insoluble in water?

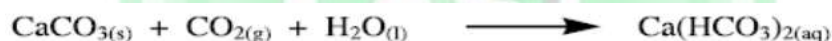
Many covalent substances like benzene, ether, octane, etc., which do not have polar ends or bonds are not attracted by water molecules. Therefore, non-polar compounds do not dissolve in water

4. How does water dissolve sugar and alcohol?

Water molecules are made up of oxygen and hydrogen atoms and can form hydrogen bonds with other water molecules. Each water molecule can connect with four others, creating a tetrahedral arrangement. This unique property allows water to dissolve many polar non-ionic compounds, like sugar and alcohol, by forming hydrogen bonds with them. As a result, substances like sugar and alcohol mix well with water.

5. How does limestone dissolve in water?

limestone is insoluble in water. However, in the presence of carbon dioxide small quantity of limestone is soluble in water according to the following chemical reaction.

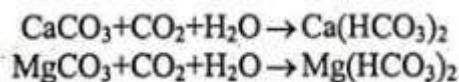


6. Differentiate between soft and hard water.

Soft water	Hard water
i. Soft water is that water which produces good lather with soap	i. Hard water is that water which does not produce lather with soap
ii. It does not have calcium and magnesium ions	ii. It contain calcium and magnesium ions.

7. What are the causes of hardness in water?

Causes of hardness in water. The rain water while coming down absorbs carbon dioxide from the atmosphere. The water mixed with carbon dioxide, when passes through the beds of the soil, converts insoluble carbonates of calcium and magnesium into soluble bicarbonates. It may also dissolve chlorides and sulphates of calcium and magnesium. These salts make the water hard.



8. What are the effects of temporary hardness in water?

- i. Hard water consumes large amount of soap in washing purposes.
- ii. Drinking hard water causes stomach disorders

9. Mention the disadvantages of detergents.

- i. It causes water pollution.
- ii. The detergent remains in the water for a long time and makes the water unfit for aquatic life.
- iii. Phosphate salts in detergents lead to rapid algae growth in water bodies. When these algae die and decay, they consume the oxygen in the water, causing oxygen depletion and ultimately resulting in the death of aquatic life.

10. What is the difference between biodegradable and non-biodegradable substances?

Biodegradable Substances	Non-biodegradable Substances
Definition: The substance which can be decomposed by micro-organisms like bacteria are called bio degradable substances.	Definition: The substances which cannot be decomposed by microorganism like bacteria are called as non-biodegradable substances.
Example: Dead bodies of living organisms like plants and animals.	Example: <ul style="list-style-type: none">• Plastics• Rubber

11. How detergents make the water unfit for aquatic life?

When house hold water containing the detergents is discharged in stream, ponds, lacks and river, it causes water pollution. The detergent remains in the water for a long time and makes the water unfit for aquatic life.

12. Why are pesticides used?

Pesticides are used either directly to kill or control the growth of pests. Pests may be weeds, herbs, insects, fungi, viruses, etc. They all damage crops and transmit diseases both to human beings and animals.

13. What are the reasons of waterborne diseases?

- i. Waterborne infectious diseases are caused by drinking polluted water or eating food prepared with it, often due to toxins or microorganisms.
- ii. Toxins include substances like arsenic, mercury, and lead, while microorganisms include viruses, bacteria, protozoa, and worms.
- iii. The lack of proper sanitation facilities is a major cause of the rapid spread of these diseases.

14. How waterborne diseases can be prevented?

- i. Drinking water must be properly treated and purified.
- ii. There must be adequate sanitary disposal of sewage. Any type of waste must not be thrown or discharged directly in water supplies or reservoirs