

## Water Solution

### What is a Solution?

A solution is formed when: Two or more substances are evenly mixed together. One substance dissolves in the other.

### Components of a solution:

i. **Solvent** → The substance in which another substance dissolves.

- Usually present in larger quantity.

**Example:** Water.

ii. **Solute** → The substance that dissolves in the solvent.

- Present in smaller quantity.

**Example:** Salt, sugar.

### Formula:

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Solute + Solvent → Solution

### Example:

- When you add salt to water and stir, it forms a saltwater solution.
- Lemonade is a solution of lemon juice, sugar, and water.

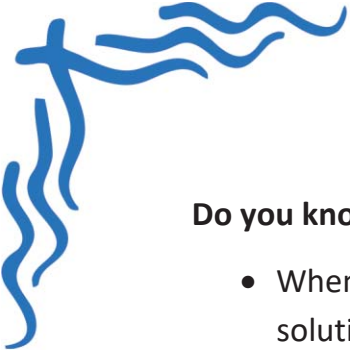
### Water: The Universal Solvent

Water is called the universal solvent because: It can dissolve more substances than any other liquid. It can dissolve:

i. **Solids** → Salt, sugar.

ii. **Liquids** → Juice, syrup.

iii. **Gases** → Oxygen, carbon dioxide.



### Do you know?

- When making tea, water dissolves sugar, tea leaves, and milk to form a solution.
- Soft drinks contain water with carbon dioxide gas dissolved in it, making it fizzy.

### Uses of Water as a Solvent in Daily Life

**Washing and Cleaning:** Water dissolves detergents and soaps, making it easier to clean clothes and dishes.

**Cooking:** Water dissolves spices and salt while cooking food. It helps in making soups, sauces, and gravies.

**Drinks:** Water dissolves sugar and flavor in juices, milkshakes, and lemonade.

**Medicines:** Water dissolves medicines, making them easier to consume and absorb in the body.

**Agriculture:** Water dissolves fertilizers and nutrients, helping plants grow.

### Conclusion

A solution is formed when a solute dissolves in a solvent. Water is the universal solvent because it can dissolve most substances. Water solutions are used in cleaning, cooking, drinking, and agriculture.

**Tip:** The more water you add, the less concentrated the solution becomes.