



Class: 5

Subject: Science

Lesson-8: Physical and chemical changes of matter

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Prepared on-

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I. Key words:

- | | |
|-------------------|------------------|
| 1. Matter | 7. Solute |
| 2. Molecule | 8. Miscible |
| 3. Intermolecular | 9. Immiscible |
| 4. Solubility | 10. Irreversible |
| 5. Solvent | 11. Bounce |
| 6. Solution | 12. Volume |

II. Pre activity: List some examples of solid, liquid and gases.

III. Name the following.

Q.1. Any physical change

Ans- Melting a sugar cube

Q.2. Any chemical change

Ans- Burning of wax

Q.3. Any miscible liquid

Ans- Milk

Q.4. Any immiscible liquid

Ans- Petrol

IV. Short answers questions.

Q. 1. Define molecules.

Ans- When a group of atoms are bonded together, they make up a molecule which in turn forms matter. Molecules are always in motion.

Q. 2. Define intermolecular distances.

Ans- The distance between molecules of a substance is defined as intermolecular distance

Q. 3. What are immiscible liquids?

Ans- Immiscible liquids are those liquids which do not dissolve in each other. For example: kerosene, oil and petrol

Q. 4. Define physical change.

Ans- Physical change includes a change in shape, texture, size or state of a substance.

Example- Cutting of vegetables.

Q. 5. What is a chemical change?

Ans- Chemical changes happen, when the molecules of two or more substances interact and react with each other. The atomic bonds of the substances have to break, and new bonds have to be created for a chemical change to take place.

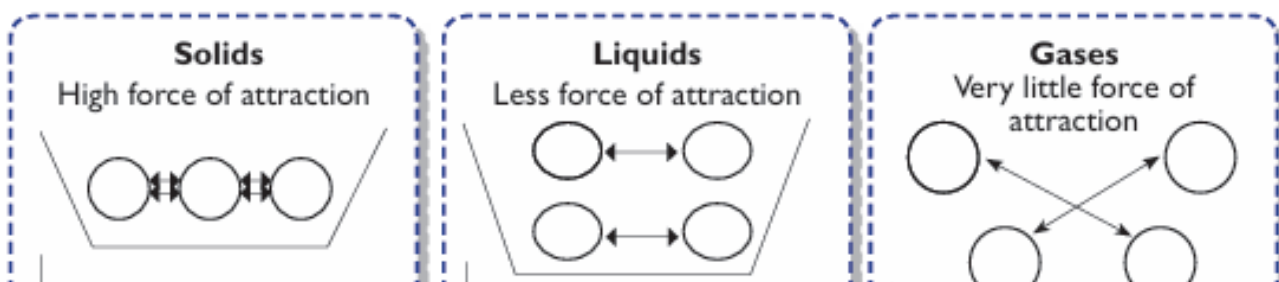
Example-Burning of paper

V. Long answers questions.

Q.1. Explain with the help of diagrams the arrangements of molecules in solid, liquids, and gases.

Ans-

The arrangement of molecules in solids, liquids and gases is as given below



Solids	Liquids	Gases
1.Solids have definite shape	1.liquids flow as fluids.	1.Gases molecules float, and have no definite shape
2.solids have definite volume.	2.liquids have definite volume.	2.Gases have no definite volume.
3.solids are hard and brittle.	3.liquids take the shape of the container.	3. Gases spread in any direction.
4.In solids the force of attraction is difficult to break.	4. In liquids force of attraction easily breakable.	4.In gases force of attraction very easily breakable.

Q.2. Describe the formation of solutions.

Ans- We know that molecules of liquids have spaces between them. When a solid is mixed in a liquid, the molecules of that solid separate, and enter the space between the molecules of the liquid. This is how a solute (the solid), dissolves in a solvent (the liquid), and forms a solution (the end result).

Q.3. What is the difference between miscible and immiscible liquids?

Ans-

Miscible liquids	Immiscible liquids
1. Miscible liquids are those that dissolve in each other (generally water).	1. Immiscible liquids are those which do not dissolve in each other.
2, For example: alcohol, glycerine, milk etc.	2. For example: kerosene, oil and petrol.

Q.4. Differentiate between physical and chemical changes.

Physical change	Chemical change
1. Physical change includes a change in shape, texture, size or state of a substance.	1. when the molecules of two or more substances interact and react with each other. The atomic bonds of the substances have to break, and new bonds have to be created for a chemical change to take place.
2.Ex- Cutting of vegetables	2.Ex- Burning of paper

HOTS:-

Q- A glass breaks into smaller pieces. What kind of changes is it-physical or chemical? Why?

Ans- It is a physical change as only the shape and size of the glass has been changed. The atomic bonds of the glass have not broken and new bonds have not been created.

Post-activity- Make a list of physical and chemical changes that you see in your day to day life.

Subject Teacher

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