Chemistry – Class VI

Chapter 4: Changes Around Us

I. Very Short Answer-Type Questions

1. What is a slow change?

A change that takes a long time to occur is called a slow change.

2. Give one example of a reversible change.

Melting of ice.

3. What is a periodic change?

A change that occurs at regular intervals of time is called a periodic change.

4. Give one example of an undesirable change.

Spoiling of food.

5. What happens when milk changes into curd?

Milk changes into curd, forming a new substance. It is an irreversible chemical change.

6. Can all changes be reversed?

No, all changes cannot be reversed.

7. What is a physical change?

A change in which no new substance is formed is called a physical change.

8. What happens when an iron ring is heated?

The iron ring expands when heated.

9. Is burning of paper a physical or chemical change?

Burning of paper is a chemical change.

10. What is a desirable change?

A change that is useful or beneficial to us is called a desirable change.

II. Short Answer-Type Questions

1. Differentiate between reversible and irreversible changes.

Reversible change	Irreversible change
A change that can be reversed is called a reversible change.	A change that cannot be reversed easily is called an irreversible change.
Example: Melting of ice.	Example: Burning of paper.

2. Why is breaking a glass a physical change, while burning paper is a chemical change?

Breaking a glass is a physical change because no new substance is formed; only its shape changes. Burning paper is a chemical change because new substances, such as ash and gases, are formed.

3. Give three examples of changes that are both slow and reversible.

1. Melting of ice in a freezer followed by refreezing.
2. Stretching and releasing a spring gently.
3. Inflating and deflating a balloon.

4. What are desirable and undesirable changes? Give two examples of each.

• **Desirable changes:** Changes that are useful to us.

• Ripening of fruits.

• Cooking of food.

• **Undesirable changes:** Changes that are harmful or unwanted.

• Spoiling of food.

• Rusting of iron.

5. Give three examples of slow changes and explain why they are called slow changes.

1. Rusting of iron: It takes a long time for iron to rust.
2. Growth of a plant: A plant takes days or months to grow.
3. Ripening of fruits: Fruits take several days to ripen.

They are called slow changes because they take a long time to occur.

6. How can we prevent undesirable changes? Give three examples.

We can prevent undesirable changes by taking proper precautions.

1. Spoiling of food: Store food in a refrigerator.
2. Rusting of iron: Paint iron objects or keep them dry.
3. Rotting of fruits: Store fruits in a cool place or refrigerator.

7. What are periodic and non-periodic changes? Give two examples each.

• **Periodic changes:** Changes that occur at regular intervals of time are called periodic changes.

• Examples: Day and night; changing of seasons.

• **Non-periodic changes:** Changes that do not occur at regular intervals are called non-periodic changes.

• Examples: Earthquakes; landslides.

8. Can the same change be desirable in one situation and undesirable in another? Give examples.

Yes, the same change can be desirable in one situation and undesirable in another.

Example: Rain is desirable for farmers because it helps crops grow. However, heavy rain can cause floods and damage crops and houses.

III. Long Answer-Type Questions

1. Explain how slow and fast changes affect our daily lives with examples.

Changes affect our daily lives in different ways. They are classified as slow changes and fast changes according to the time they take to occur.

1. Slow changes: Changes that take a long time to occur are called slow changes.

Examples:

1. Growth of plants: Plants take days or months to grow.

2. Rusting of iron: Iron takes a long time to develop rust.
3. Ripening of fruits: Fruits take several days to ripen.
4. Growth of hair: Hair grows slowly over time.
5. Change of seasons: Seasons change gradually over several months.

2. Fast changes: Changes that occur in a short time are called fast changes.

Examples:

1. Bursting of a balloon: A balloon bursts in a moment.
2. Breaking of glass: Glass breaks quickly when dropped.
3. Burning of paper: Paper burns in a short time.
4. Lighting a matchstick: A matchstick catches fire quickly.
5. Switching on a light: A light turns on almost instantly.

Conclusion: Slow changes take a long time, while fast changes occur in a short time. Both types of changes are part of our everyday lives.

2. Explain the changes that occur when a candle burns. Identify the physical and chemical changes.

When a candle burns, both physical and chemical changes occur.

- **Physical change:** The candle wax melts due to heat. When it cools, the melted wax solidifies again. No new substance is formed.
- **Chemical change:** The wax vapour burns in the presence of oxygen and produces new substances, such as carbon dioxide and water vapour, along with heat and light.

Therefore, burning a candle involves both physical and chemical changes.

3. Explain the importance of periodic changes in our daily lives.

Periodic changes are important because they help us organise our daily activities and understand natural events.

1. Day and night help us plan our daily activities.
2. The changing of seasons helps farmers decide when to sow and harvest crops.
3. The regular movement of clock hands helps us measure time.
4. The rising and falling of tides help fishermen and sailors plan their activities.

Thus, periodic changes are useful in our daily lives.

4. Explain why rusting of iron and burning of paper are chemical changes.

Rusting of iron: When iron reacts with oxygen and moisture in the air, rust is formed. Rust is a new substance with properties different from iron. Therefore, rusting is a chemical change.

Burning of paper: When paper burns, it produces ash, smoke and gases. These are new substances, and the original paper cannot be obtained easily. Therefore, burning of paper is a chemical change.

5. Explain the different ways in which changes can be classified with examples.

Changes can be classified in different ways:

1. Slow and fast changes

- Slow: Growth of a plant.
- Fast: Bursting of a balloon.

2. Reversible and irreversible changes

- Reversible: Melting of ice.

• Irreversible: Burning of paper.

3. Periodic and non-periodic changes

• Periodic: Day and night.

• Non-periodic: Earthquakes.

4. Physical and chemical changes

• Physical: Breaking of glass.

• Chemical: Rusting of iron.

5. Desirable and undesirable changes

• Desirable: Cooking food.

• Undesirable: Spoiling of food.