

St. Andrews Scots Sr. Sec. School

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Session: 2026 – 2027

(Answer Key)

Class: VII

Subject: Science

**Chapter 2: Changes around Us: Physical
And Chemical Changes**

Self-Assessment:

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A. Multiple Choice Questions:

1. (d) 2. (d) 3. (c)

B. Assertion-Reason Based Questions:

1. (a) 2. (c)

Self-Assessment:

Page No. 62

A. Multiple Choice Questions:

1. (b) 2. (c) 3. (b)

B. Assertion-Reason Based Questions

1. (a) 2. (a)

SECTION – A

A. Oral Questions:

1. When dough is rolled into a ball, it is a physical change because only the Shape changes and no new substance is formed.
2. Erosion changes the shape of land by wearing away rocks and soil through wind, water or ice, slowly reshaping the Earth's surface.

B. Multiple Choice Questions:

1. (b) 2. (c) 3. (d) 4. (b) 5. (b)

C. Assertion-Reason Based Questions:

1. (a)

D. Case-Based Questions:

Case 1:

1. The process responsible for the cracked rock is weathering, caused by wind, rain and plant roots. It is a physical change because no new substance is formed.
2. The red stains are due to the rusting of iron present in the rocks. It is a chemical change because a new substance (iron oxide) is formed.

3. This natural change is useful for soil formation, as weathering breaks large rocks into small particles, which gradually mix with organic matter to form fertile soil.

Case 2:

1. Dissolving sugar and salt in water is a physical change because no new substances are formed and the original materials can be recovered by evaporation.
2. This change is desirable because it helps make lemonade, which is useful and enjoyable to drink.

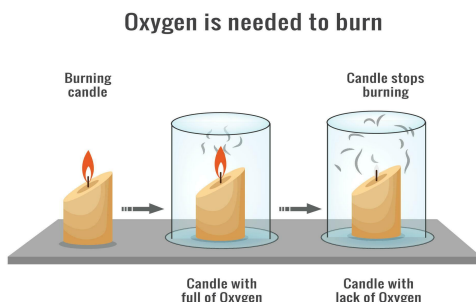
Section –B

A. Very Short Answer Questions:

1. Rusting is the process in which iron reacts with air and moisture to form a reddish-brown substance called rust (iron oxide).
2. The conditions necessary for combustion are:
 - Presence of oxygen (air)
 - Ignition temperature (sufficient heat)
 - A combustible substance (fuel)
3. Examples:
 - **Fermentation** is desirable for making curd but undesirable when milk spoils.
 - **Rusting** helps in forming soil (natural process) but is undesirable in iron objects and machines.

B. Short Answer questions:

1. Curdling of milk is a chemical change because a new substance (curd) is formed with different properties and the change cannot be reversed.
2. Light a candle and cover it with a glass jar. After a while, the flame goes out because the oxygen inside the jar gets used up. This shows that oxygen is necessary for combustion.



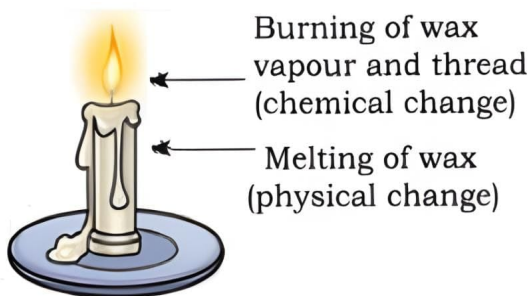
3. A **reversible change** is a change that can be reversed to get the original substance back. (e.g. melting ice into water).

An **irreversible change** is a change that cannot be reversed and forms a new substance. (e.g. burning paper).

C. Long Answer Questions:

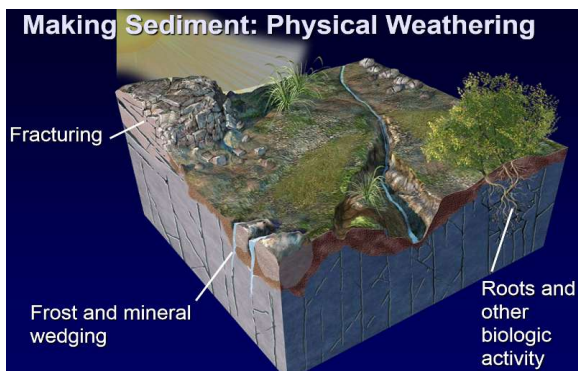
1. Burning a candle shows both types of changes

- Physical change: Melting of wax and solidifying again when cooled.
 - Chemical change: Burning of wax vapour produces heat, light, carbon dioxide and water vapour, which are new substances.
- Hence, a candle shows both physical and chemical changes.



2. Weathering is the breaking down of rocks into smaller pieces by natural forces like wind, water and temperature changes.

- It helps form soil when rock particles mix with organic matter and minerals, making the soil fertile for plant growth.



3. Four characteristics of chemical changes:

1. Formation of a new substance – e.g. burning paper forms ash.
2. Change in colour – e.g. rusting of iron.
3. Release or absorption of heat/light/gas – e.g. burning wood.
4. Irreversible in nature – e.g. cooking food cannot be undone.

D. Application-Based Questions:

1. The rust on Ravi's bicycle chain is a chemical change because a new substance (rust or iron oxide) is formed when iron reacts with air and moisture. He can prevent rusting by oiling, painting or greasing the chain to keep air and moisture away from the metal surface.
2. The change in Meera's bread is a chemical change. The bread spoiled and turned greenish due to the growth of fungus (mould). This happens because of moisture and microorganisms, which break down the bread and produce new substances with a bad smell.

E. Picture-Based Questions:

1. The burning of sugar is a chemical change because a new substance (charred sugar and gases) is formed and the change cannot be reversed.
2. (a) The change occurring in the given picture is the decomposition of fallen leaves into simpler substances.
(b) This is a chemical change because new substances like humus and nutrients are formed during decomposition and the process cannot be reversed.

