

# Topic Synopsis

## Chemical Change - Rusting

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### Chemical Changes

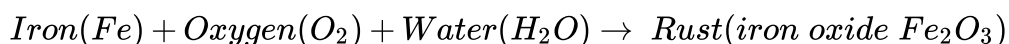
- Those changes in which new substances are formed are called chemical changes.
- The properties of new substances formed are entirely different from those of the original substances.
- Few examples of chemical changes are rusting of iron, burning of magnesium ribbon, turning of the colour of blue copper sulphate solution to green on keeping an iron nail in it for some time, mixing vinegar *acetic acid* and baking soda *sodiumhydrogencarbonate*.
- These changes are permanent changes which cannot be reversed.
- A lot of energy is either absorbed or given out in this type of change.
- Sound may be produced in this change.
- A gas may be produced in this change.
- A change in smell or a new smell be given off in this change.

### Rusting of Iron

- When an iron object is left in damp air *or water* for a considerable time, it gets covered with a reddish-brown flaky substance called rust. This is called rusting of iron.



- The process of rusting is represented as follows:



- Rusting of iron is a chemical change because a new substance iron oxide is formed.
- The presence of oxygen and water or water vapour is essential for rusting.
- Rusting of iron is a continuous process which slowly eats up the iron objects and makes them useless.
- Rusting of iron can be prevented by painting, applying grease or oil, by galvanisation and by coating with chromium.
- Galvanisation is the process of depositing a thin layer of zinc metal on iron objects to prevent rusting.