

Subject: Science

Activity - Nature of Metal Oxides

Chapter- Metals and Non-metals

Class: VIII

Duration:30 minutes

Nature of the activity: Group

Learning Outcome: Students will be able to analyse the nature of metal oxides and also, enlist the precautions while carrying out the activity in the chemistry lab.

What we have to do?

To show that metal oxides are basic in nature.

What do we require?

Magnesium ribbon, distilled water, red and blue litmus papers, sand paper, spirit lamp, watch glass, a pair of tongs, match box.

What do we need to know?

Difference between metals and non-metals on the basis of physical and chemical properties.

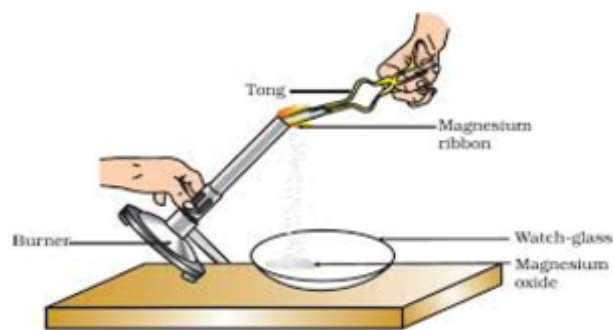
How do we proceed?

- **Teacher's Activity:**

Teacher will make arrangements for Activity Kits. The activity will be carried out strictly under teacher's supervision in the chemistry lab.

- **Student's activity:**

1. Take about 5 cm of magnesium ribbon. Clean it properly with a sand paper if it is not shiny.
2. Hold magnesium ribbon with the help of a pair of tongs.
3. Bring the free end of magnesium ribbon near the flame of the spirit lamp and let it burn . (Do not stare at the burning magnesium).
4. Collect the powdery ash (formed on burning of magnesium ribbon) in a watch glass.
5. Add small amount of distilled water to the ash and stir it.
6. Dip one by one blue and red litmus papers in the solution and observe the change in color of litmus papers



What have you observed?

Magnesium + Oxygen (air) →

Magnesium oxide + Water →

What have you learnt?

The product formed _____, when magnesium reacts with oxygen, when mixed with water forms _____. It is _____ (acidic/basic) in nature because it turns red litmus _____ (red/blue).

What more can we do?

- Test other samples of metallic Oxides like Rust and Copper oxide by following the above procedure.
- Test the above samples synthetic Indicators like Methyl Orange, Phenolphthalein.
- Test the above samples using Natural Indicators like Turmeric solution and Beetroot juice.

EXTENDED LEARNING WORKSHEET:

1. Why should we clean the magnesium ribbon before burning?

2. What is the name of the product obtained on burning of magnesium ribbon?

3. Name the product obtained on dissolution of ash (formed in this activity) in water.

4. Why there is no change in colour of the blue litmus paper when it is dipped into the oxide solution?

5. Why does the solution of magnesium oxide turn red litmus paper blue? What more can we do?
