

Burning Candle

Chemical change - Wax is the fuel that produces heat and light, carbon dioxide and water vapour.

Physical change - Wax melts when it gets hot and solidifies when it gets cold.

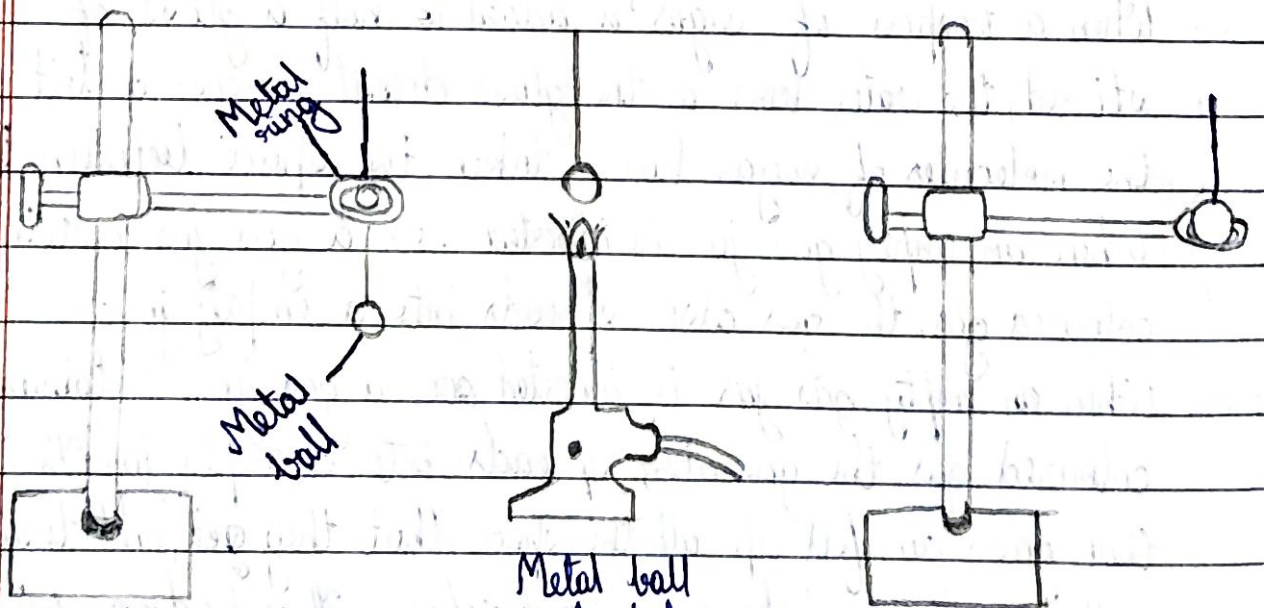
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Activity-14

Ball and ring experiment to show that solid expands on heating and contracts on cooling.

Take a metallic ring and ball. Try to pass the metal ball through ring. The ball is able to pass through the ring. Now heat the metal ball for 5-6 minutes. The hot ball is not able to pass through the ring.

This shows that a solid expands on heating. Now cool the ball it again passes through the ring. This shows that a solid contracts on heating.



The metal ball passes through the ring.

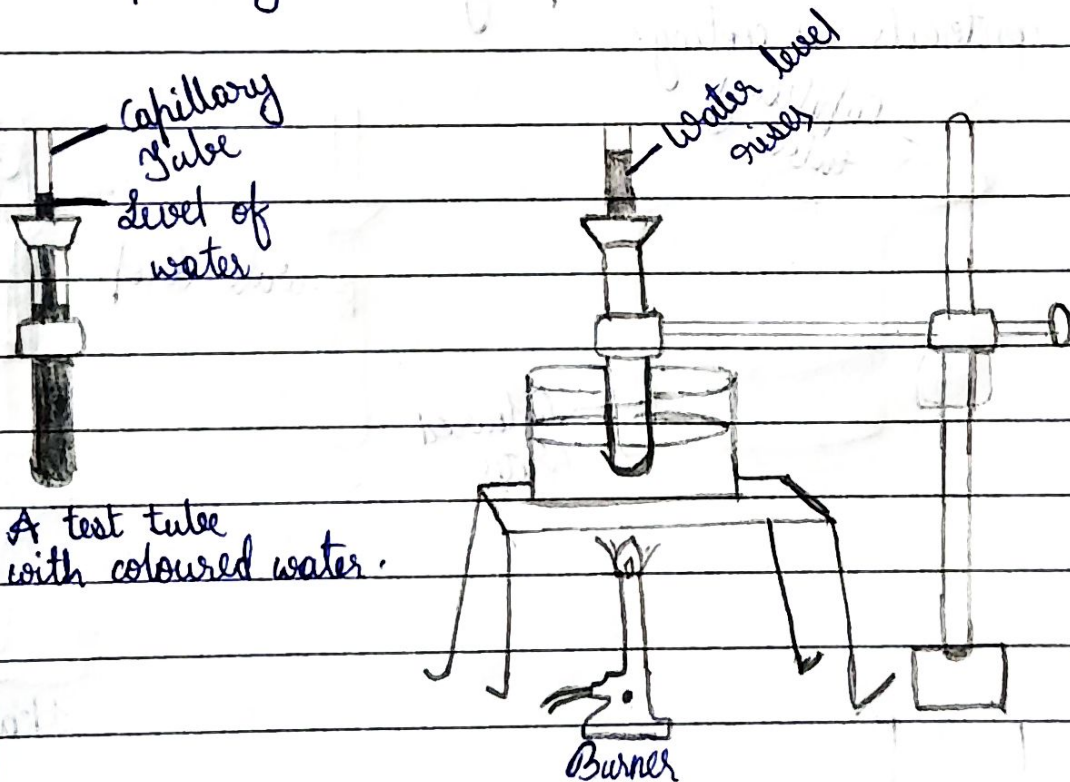
Metal ball is heated

The metal ball is unable to pass through the ring after heating.

Activity-15

To show that a liquid expands on heating and contracts on cooling.

Take a test tube filled with coloured water. Close the mouth of the test tube with the cork. Fit a capillary glass tube through a hole in the cork such that it is dipped in water. Some water enters the capillary tube. Note the level of the water in the capillary tube. Now heat the test tube by putting in a water bath. You will observe that the level of coloured water will increase in the capillary tube.



Activity -16

To show thermal expansion of a gas

Take some coloured water in a beaker. Take a capillary tube and deep its ~~one~~ ^{one} end in the coloured water to take a drop of it in the capillary tube. Fit this capillary through a hole in the cork. Now fit the cork in a test tube carefully.

Now heat the test tube. After some time you will observe that drop of water moves up. This is because air in the test tube expands on heating which pushes the water drop up. Now cool the test tube, the water drop again comes down. This shows that air contracts on cooling.

