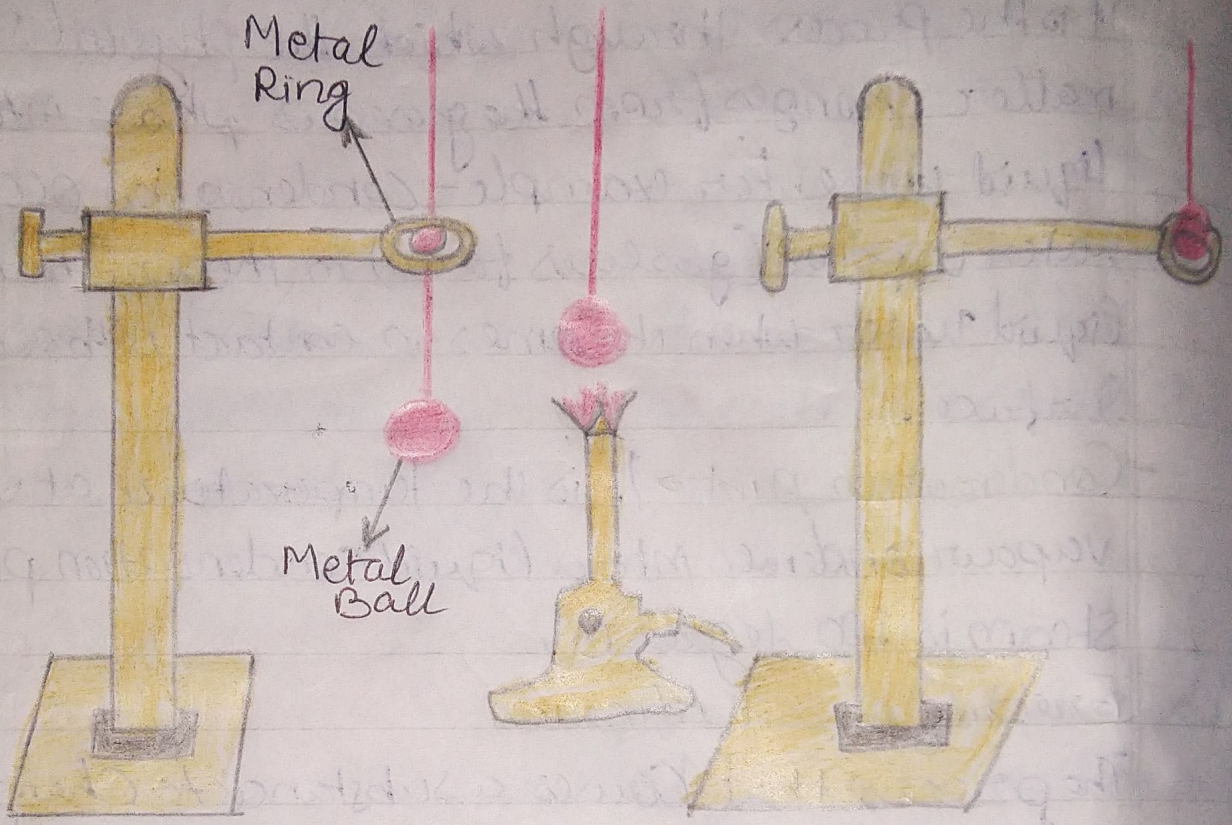
Activity 14



I

The metal ball passes through the ring

II

Metal ball is heated

III

The metal ball is unable to pass through the ring after being heated

H.W
22.07.21

Date
Page

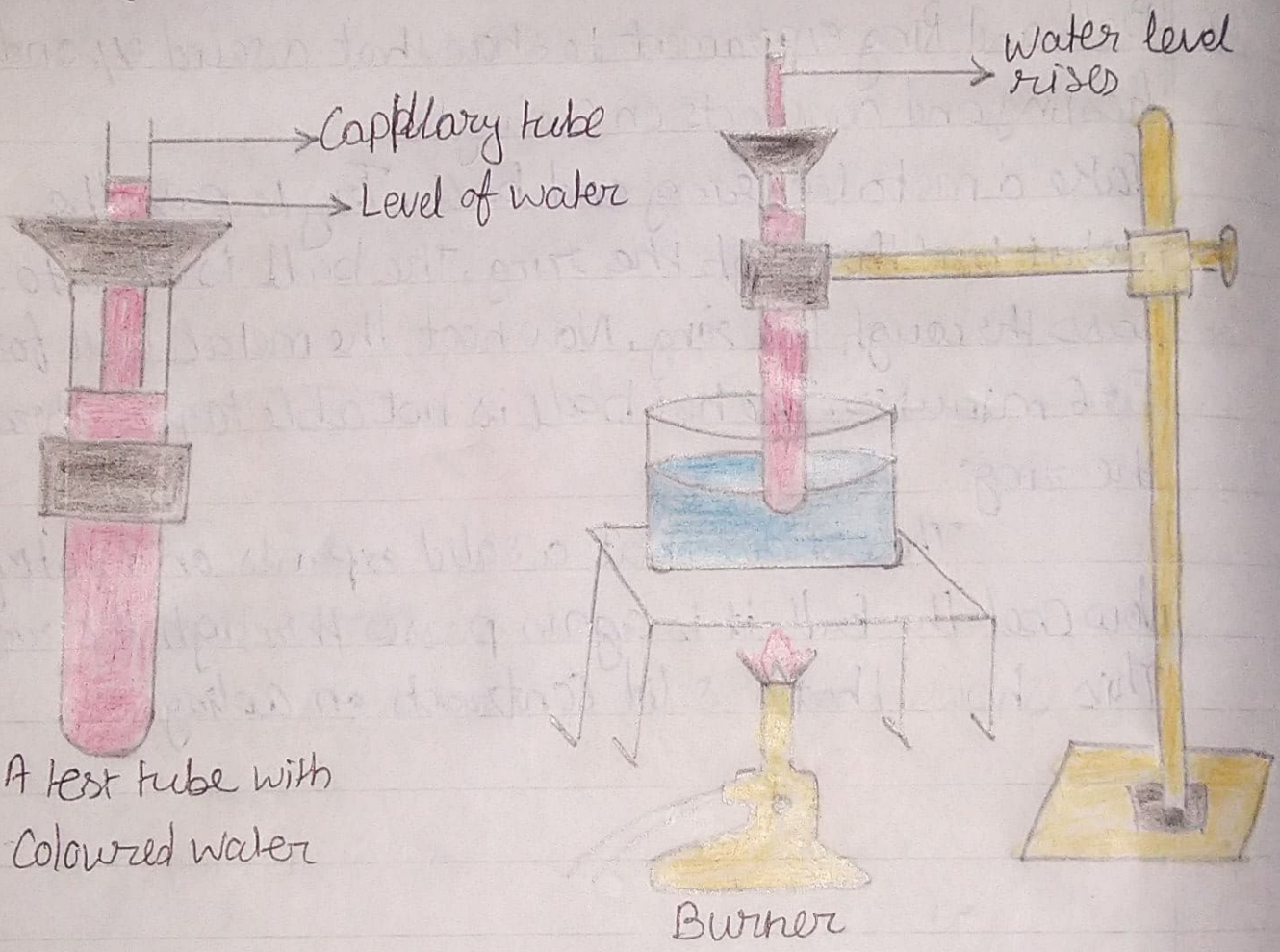
Activity 14

Ball and Ring experiment to shew that a solid expands on heating and contracts on cooling.

Take a metalic ring and ball. Try to pass the metal ball through the 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 shews that a solid expands on heating. Now cool the ball, it is again passes through the ring. This shows that a solid contracts on cooling.

Activity 15



This shows that liquids expand on heating.

Date
Page

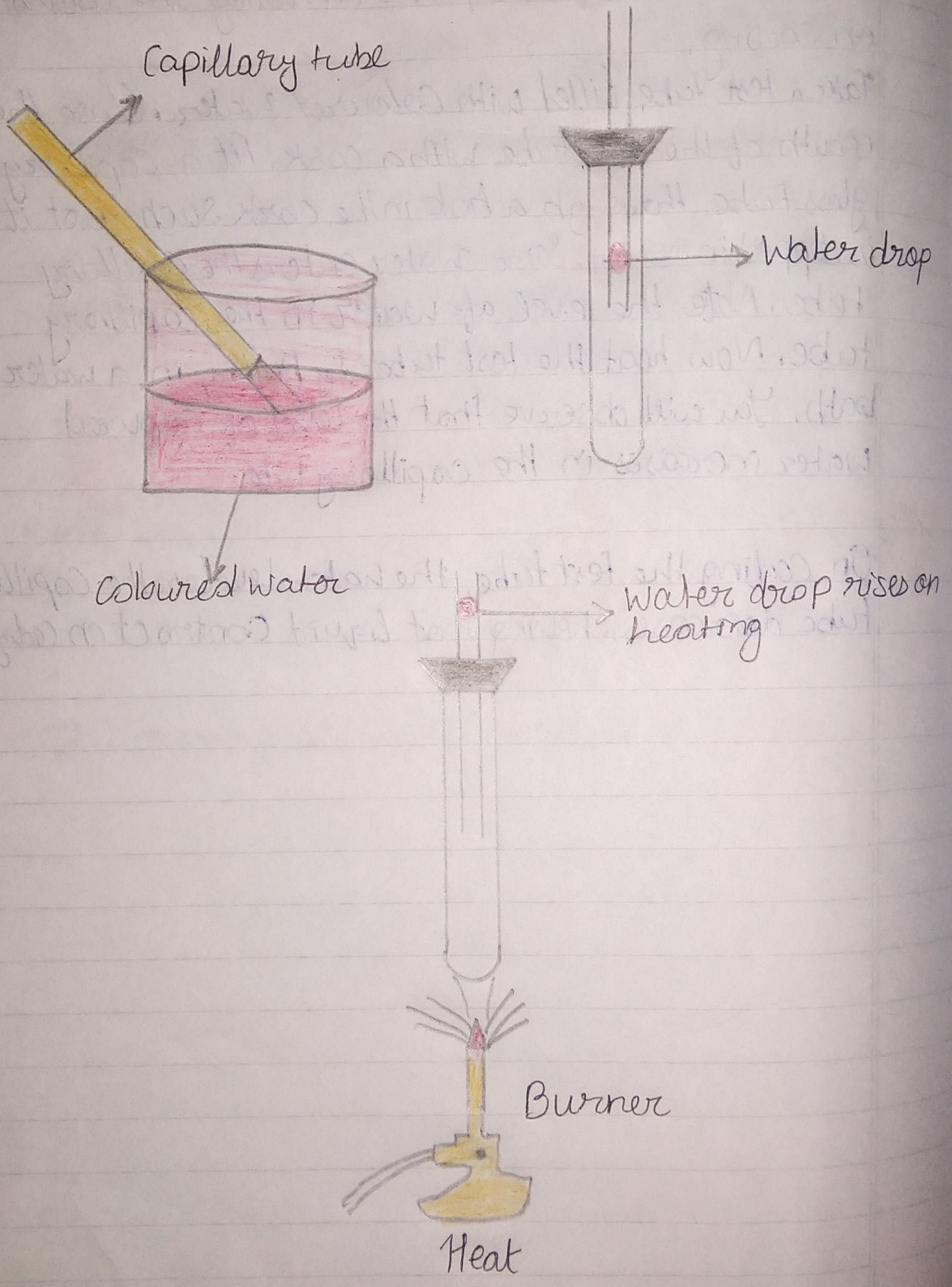
Activity 15

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 a 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 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 increases in the capillary tube.

On cooling the test tube, the water level in the capillary tube decreases, showing that liquid contract on cooling.

Activity 16


Capillary tube
Water drop
Coloured water
Water drop rises on heating
Burner
Heat

Date
Page

Activity 16

To show thermal expansion of a gas

Take some coloured water in a beaker. Take a capillary tube and dip its one end in the coloured water to take a drop of it in the capillary tube. Fit this capillary tube 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.