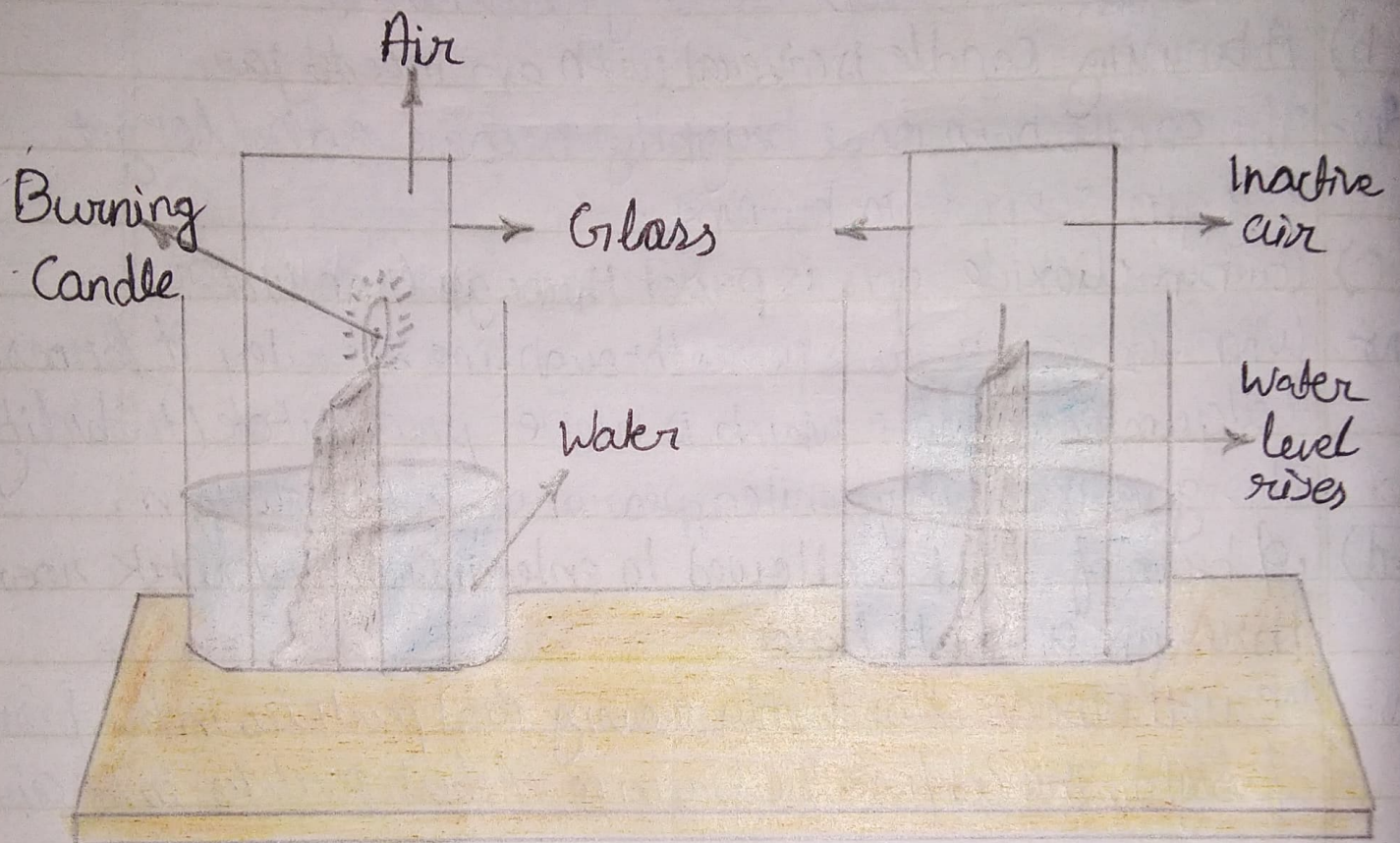




Air contains oxygen and nitrogen

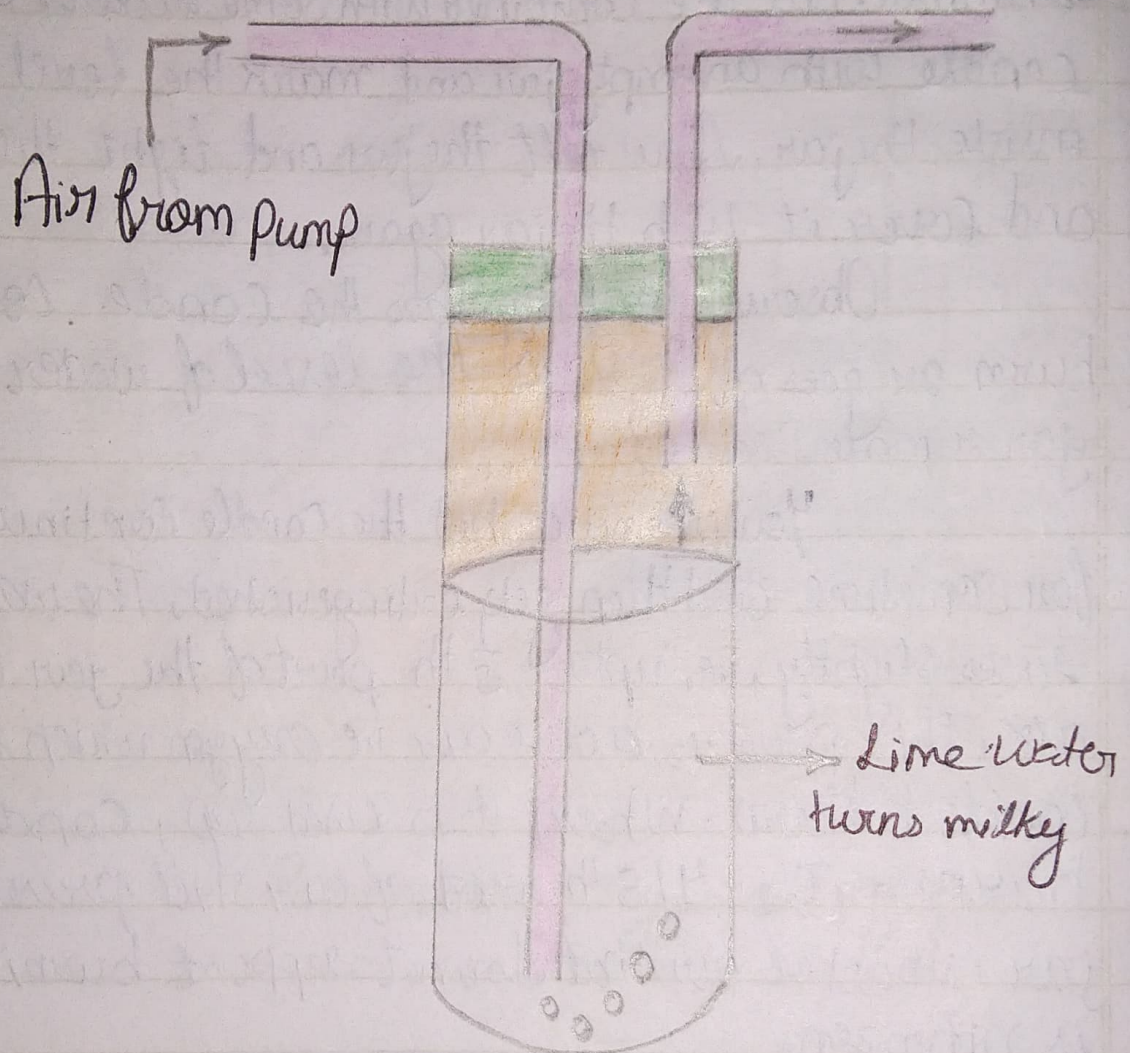
Activity - 5

To show that air contains oxygen (an active part) and nitrogen (an inactive part).

Fix a candle in the middle of a shallow container. Fill the container with some water. Cover the candle with an empty jar and mark the level of water inside the jar. Now lift the jar and light the ~~the~~ candle and cover it with the jar again.

Observe carefully. Does the candle continue to burn or goes off? Does the level of water inside the jar remain same?

You will notice that the candle continues to burn for sometime and then gets extinguished. The water level rises slightly, i.e. upto $\frac{1}{5}$ th part of the jar containing air. This part is active air i.e. oxygen which helps the candle to burn. When it is used up, candle stops burning. The $\frac{4}{5}$ th part of air still present in the jar is inactive air that does not support burning, and it is nitrogen.



Air contains Carbon dioxide

Activity - 6

To show that air contains carbon dioxide.

Take a test tube fitted with a two-bore rubber cork. Fit a long bent tube through one hole and fit a short bent tube through the other hole. Take out the cork and pour some freshly prepared lime water (Ca(OH)_2) into the test tube. Fit the cork again. Make sure that the long bent tube is immersed in lime water while the short one remains suspended in air.

Blow air by an air pump through the long tube. You will observe that the air blown through lime water turns it milky.

Why does lime water turn milky?

Carbon dioxide that is present in the air reacts with lime water and turns it milky, to form calcium carbonate ($\text{Ca(OH)}_2 + \text{CO}_2 = \text{CaCO}_3$).

This shows that air contains carbon dioxide.