

Activity-29: Gases in our breath

Aim: What are the different gases in our breath?

Requirements: Lime water, large tubes (label them A & B), corks, straight glass tubes and bent glass tubes.

Procedure: Questions begin with:

Before you write down the observation and try to reason them ask yourself the following questions:

What is lime water and why is it used?

What are the different gases present in air?

Do we need all the gases present in air? Are all gases present in air important for life? Or we only need one gas?

What are the gases present in the expired air? Does it contain only one gas or more than one gas?

Are there gases that are present both in the expired air and inspired air in the same amounts? Is there a gas we do not use but still breathe in and breathe out the same amount?

Setup the apparatus as shown in the figure in your text book and start breathing in and breathing out air through the tubes respectively for about 3-5 minutes.

Observation:

What is the colour of the lime water in both the tubes before experiment? After breathing in and out of the tubes for 3-5 minutes you will observe a change. Mark the appropriate boxes in the table:

Tubes/Changes	Turns milky	Turns more milky than the other	No change at all
Tube-A			
Tube-B			



Concept covered:

Carbon dioxide is a gas present in very small quantities in the air. But it is present in more quantity in our expired air. This forms an acidic solution in water (also called Carbonic acid-Coco Cola, Pepsi etc.). Lime water is a solution of Calcium Hydroxide which upon reaction with Carbonic Acid forms a non-dissolving mass (precipitate) of Calcium Carbonate (lime stone, chalk etc...) and results in the water becoming turbid and milky.