

Activity Number- 15

Components of Air

Class :VI

Subject: Science

Duration –30 minutes

Nature of activity : Individual

Learning Outcome : Students will be able to

- **appraise** that living things cannot survive without air. Air is a mixture of many gases.

- **discover** the major components of air -nitrogen(78 %) and oxygen(21 %).

What I have to do ? To show the proportion of oxygen and nitrogen in air.

What I require ? A container , a gas jar , a stand , a candle , ink , pencil, matchsticks , caustic soda solution , paper strip , water

What do I already know ? Air is a mixture of gases. The components of air are nitrogen, oxygen ,carbon dioxide , noble gases , water vapour , smoke and dust particles.

How will I proceed ?

Teacher's Activity: Teacher will

- (1) take a gas jar and leaving some space from the open end, paste a strip of paper along the length of the jar. Divide the paper strip into five equal parts and mark each division as shown in figure.
- (2) take a container and place the gas jar stand in it. Fill the container with 3-4th of water. Pour a solution of caustic soda into the container. Add a few drops of ink in water to make it visible.
- (3) light the candle and fix it to the gas jar stand and immediately cover it with an inverted gas jar.
- (4) after burning for a while , the candle stops burning. Allow the setup to cool

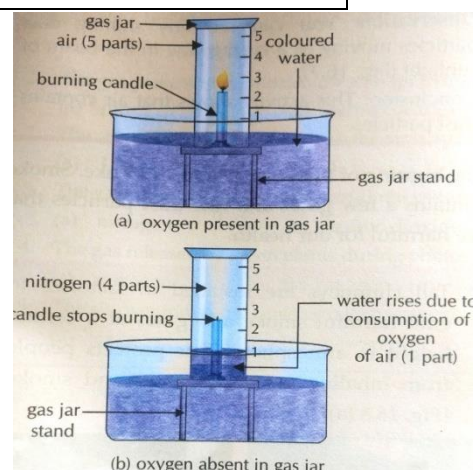
What have I observed :

S.No	Case	Level (Number mentioned on inverted glass jar)
1.	Level of the coloured water (initially)	
2.	Level of the coloured water in the gas jar when the candle blows off.	

What have I learnt ?

1. When the candle burns , the oxygen of the air in the gas jar gets used up and _____ (Carbon dioxide / nitrogen) is formed.

2. The carbon dioxide is absorbed by caustic soda present in water.



3.This creates some space in the gas jar and hence coloured water _____(rises/lowers) at a certain level.

4.It proves that one out of five parts of air has _____(oxygen /nitrogen) and the remaining four – fifth part does not support burning. This part is nitrogen because nitrogen is _____(reactive / unreactive)

What I would be interested / curious about ?:How do plants use nitrogen from the atmosphere ?

Extended learning worksheet

1.Tick the correct option:

a) _____proved that air is a mixture of gases.

a) Einstein

b)Lavoisier

c) Dalton

d)Newton

2. The amount of water vapour present in air is called_____

a)dust particles

b)smoke

c)humidity

d)none of these

3. In coastal areas, air has _____water vapour than in areas away from the coast.

a)more

b)less

c)equal

d)no

4.Which one is the most abundant gas in the air ?

a)oxygen

b)nitrogen

c)ozone

d)hydrogen

5.Carbon dioxide is produced during_____

a)respiration

b)burning of fuels

c)photosynthesis

d)both a and b

6.The gas which is present in air helps in burning of things.

a)oxygen

b)nitrogen

(c)carbon dioxide

d)ozone

7.Identify the following :

a) The process by which water changes into water vapour:_____

b)The blanket of air around the earth:_____