



KALPAVRUKSHA MODEL SCHOOL

CLASS: X

SUBJECT: BIOLOGY

TOPIC: LIFE PROCESSES - PRACTICAL

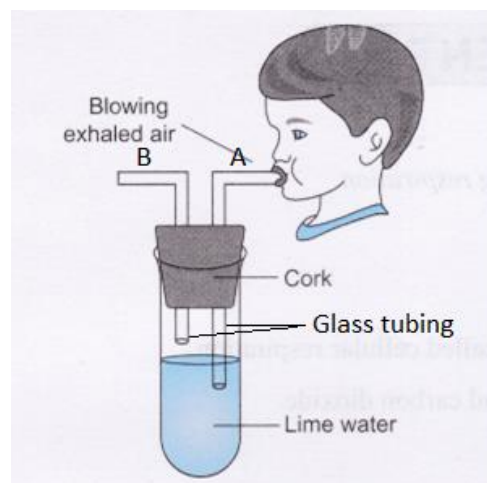
EXPERIMENT NO: 1 (a)

Aim: To show experimentally that carbon dioxide is given out during respiration (in animals).

Materials Required: A test tube, a cork with two holes, two glass tubings bent at 90°, freshly prepared lime water.

Procedure

1. Take some freshly prepared lime water in a test tube.
2. Fix the glass tubings A and B in the cork.
3. Fix the cork in the mouth of test tube, such that end of glass tubing A is dipping in lime water.
4. Put your mouth at the end of tube A and exhale out air with full force.



Observation

- As the exhaled air bubbles pass through lime water, gradually turns limewater milky.

Conclusion

As, the clear limewater turns milky only with carbon dioxide, Therefore, we can say that carbon dioxide is present in the exhaled air and is produced by the process of respiration.

EXPERIMENT NO: 10 (b)

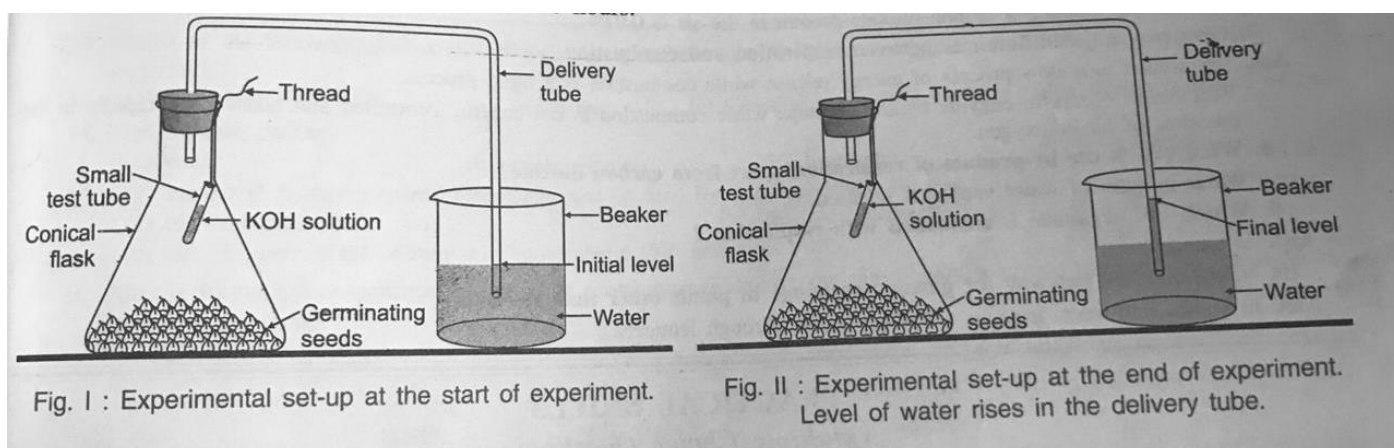
Aim: To show experimentally that carbon dioxide is given out during respiration (in plants).

Materials Required

A conical flask, small test tube, a cork with one hole, thread, germinating gram seeds, a glass tubing bent twice at right angles, a 100 cc beaker half filled with water, water and potassium hydroxide solution.

Procedure:

1. Place about 50 germinating gram seeds in a conical flask with little water sprinkled over it.
2. Tie a cotton thread to the neck of small tube. Pour about 4 ml of KOH solution in it and suspend it in the conical flask.
3. Close the mouth of conical flask with a cork in which a delivery tube is fitted, such that thread tied to the small test tube is held firmly.
4. Place a beaker containing water under the other end of test tube.
5. Apply Vaseline on the cork so as to make the apparatus airtight.
6. Leave the apparatus undisturbed for two hours.



Observation:

After two hours the level of water in the delivery tube rises up as compared to level of water in the beaker.

Conclusion:

The rise in the level of water in the delivery tube indirectly proves that germinating seeds produce carbon dioxide.

The carbon dioxide produced by germinating seeds is absorbed by the potassium hydroxide solution. Now as carbon dioxide is produced due to the consumption of oxygen during respiration, therefore, pressure of air within the flask falls. To make up for this loss of pressure, the air from outside exerts pressure, and hence, forces up the water within the delivery tube.