CLASS VII SCIENCE
CHAPTER 10
RESPIRATION IN ORGANISMS
MODULE 2/2

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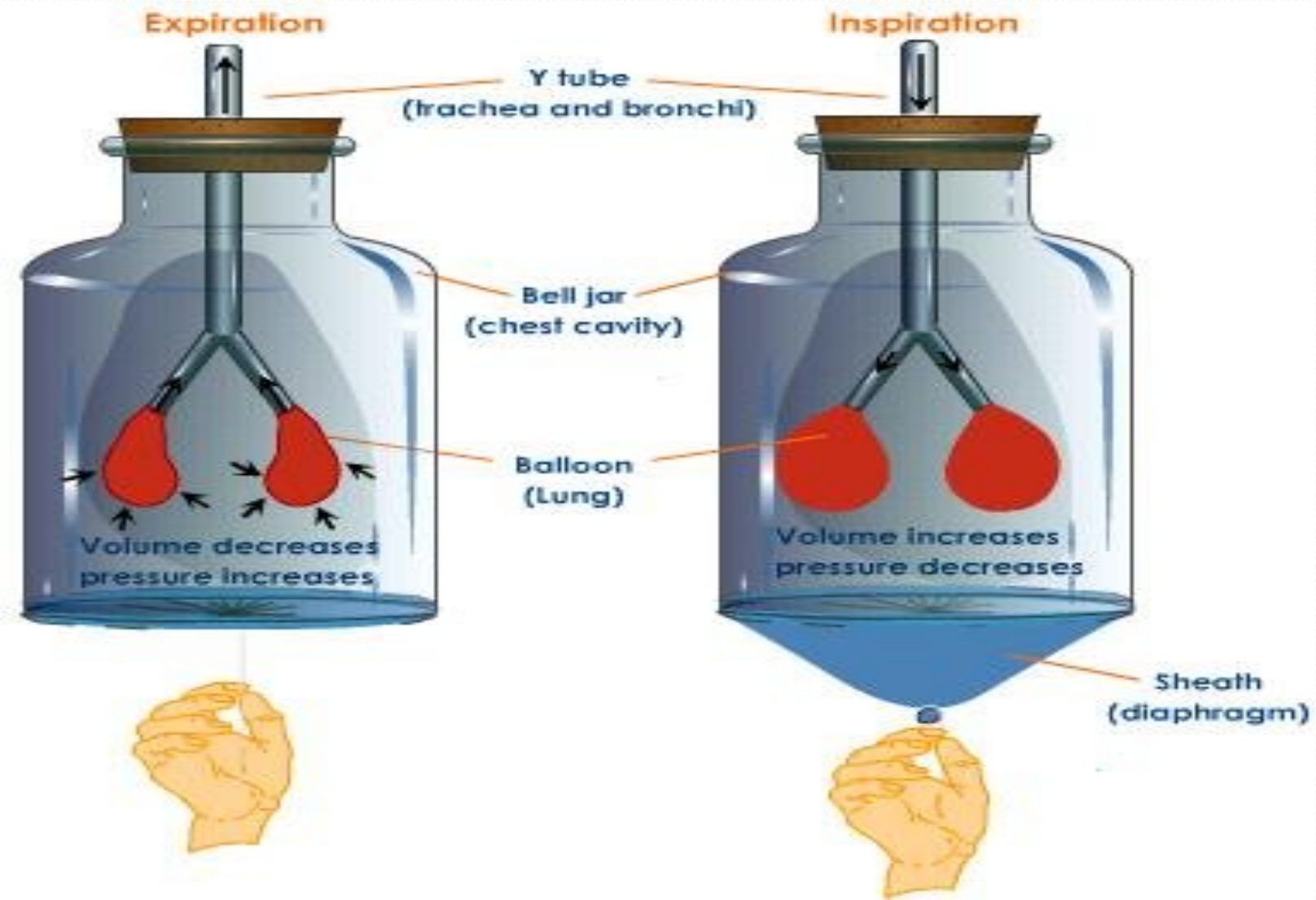
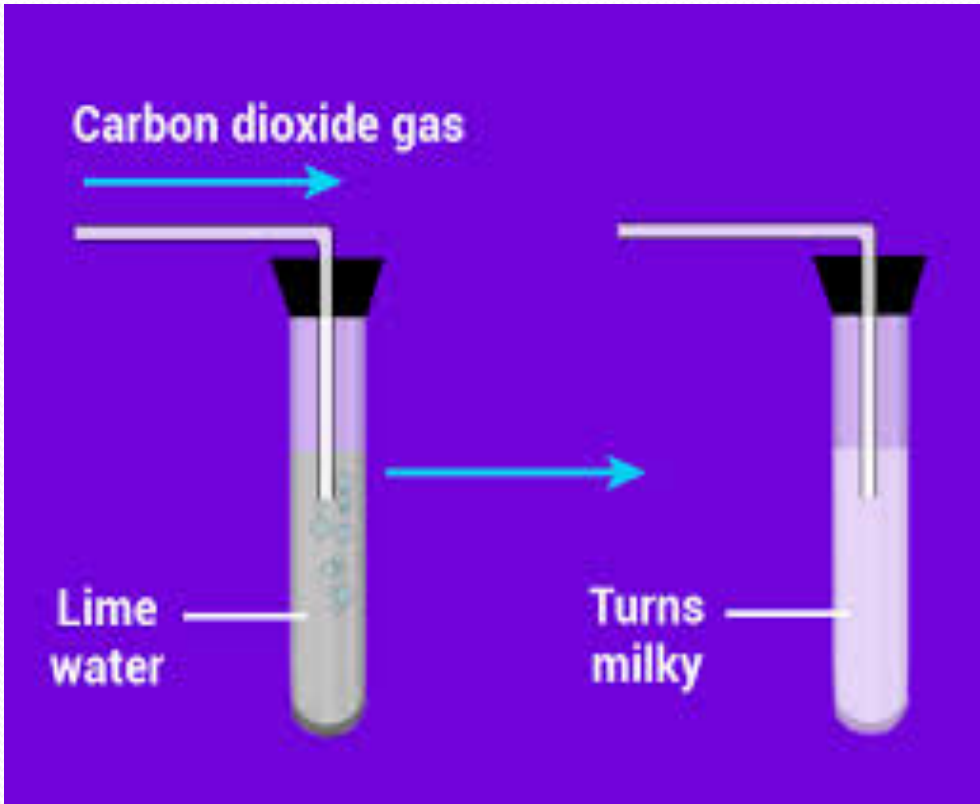
MODEL OF LUNG TO SHOW MECHANISM OF BREATHING



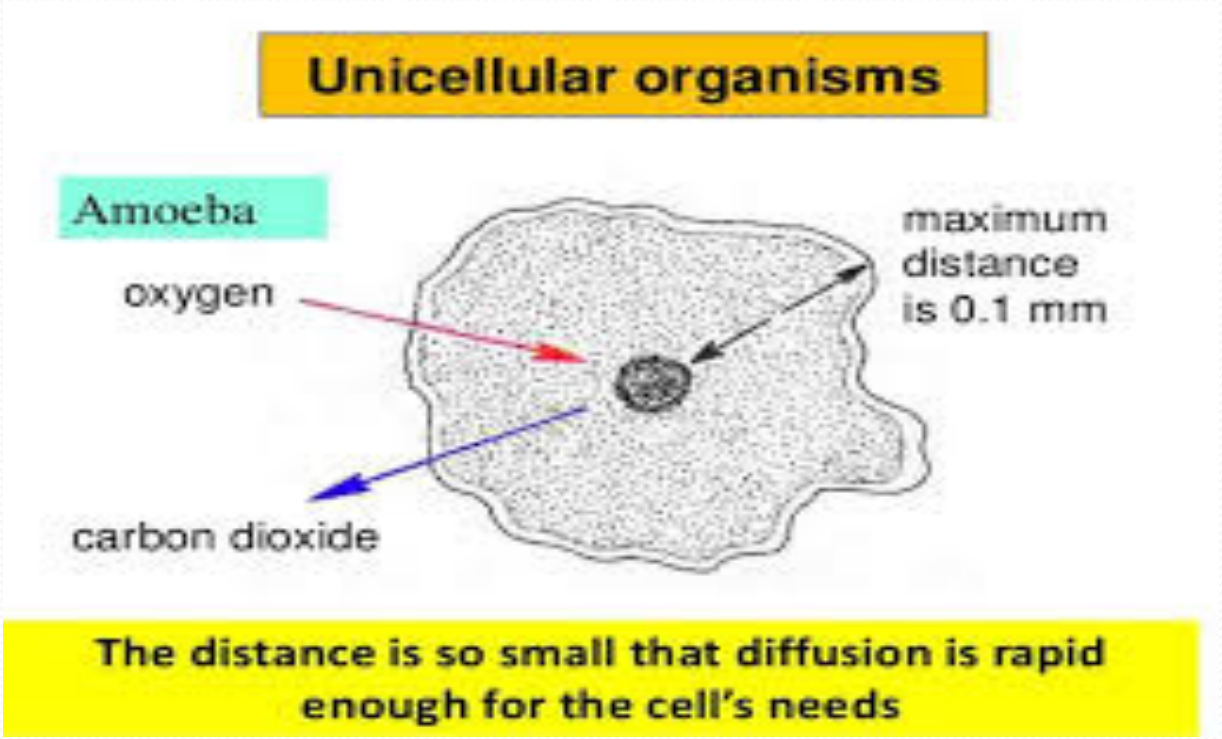
Activity To Show What Do We Breathe Out

Take a test tube fill it with freshly prepared lime water take a straw dip it inside lime water and then exhale out. You will find that the lime water turns its colour to white like milky colour. This shows that the air which we exhale is carbon dioxide .



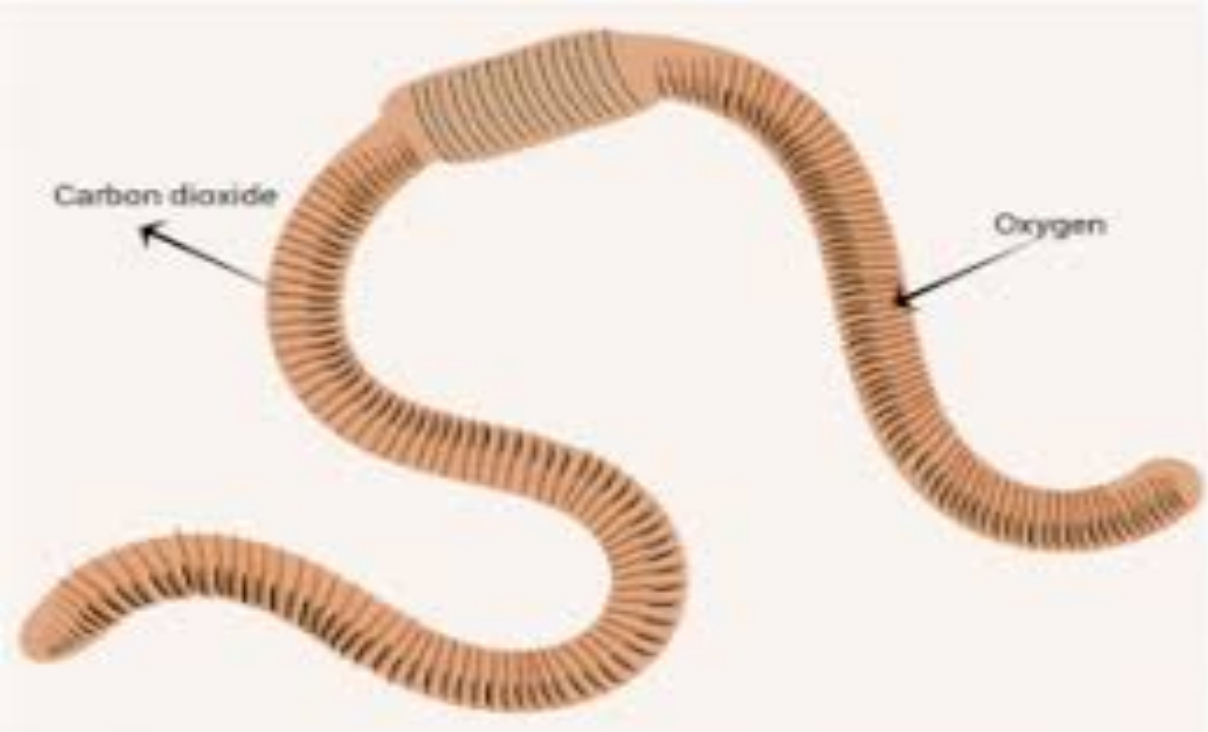
IN AMOEBA
Through Plasma Membrane

In unicellular animals, such as amoeba, exchange of gases takes place through cell surface. They absorb oxygen from the surrounding air or water and give out carbon dioxide through plasma membrane by diffusion.



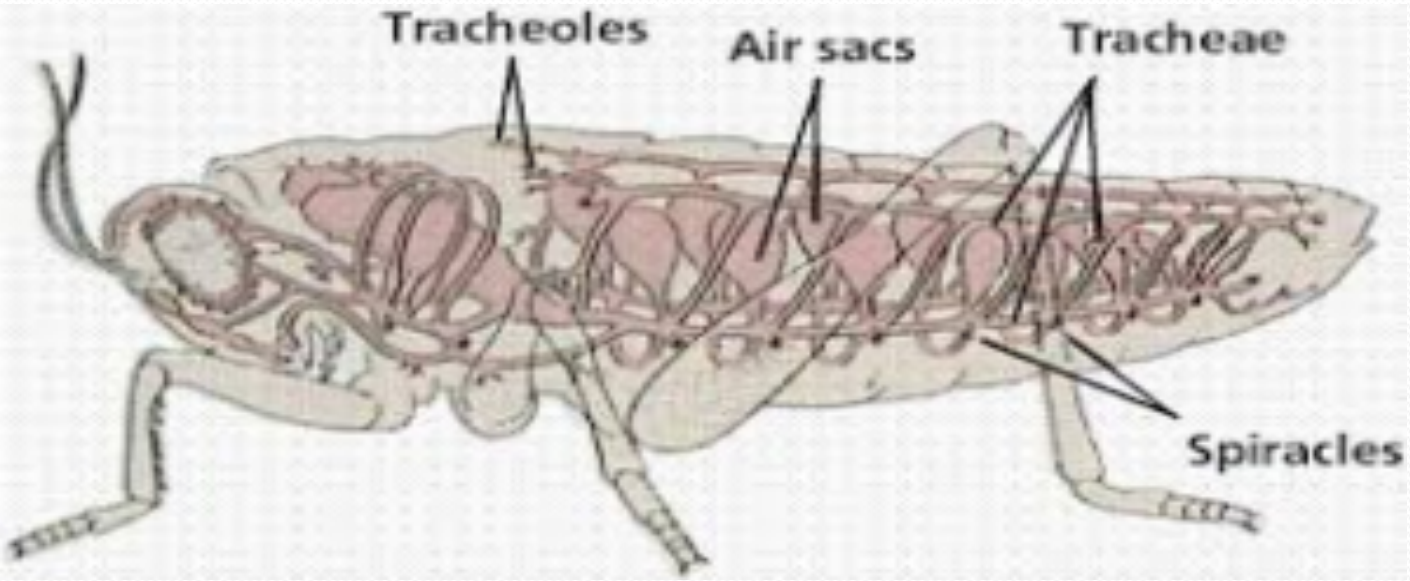
Through Body Wall or Skin

Tapeworms, earthworms, and leeches use their skin for the exchange of gases. The skin of Earthworms is very thin and moistened. Many blood cells are spread on this skin. These **blood cells** are known as capillaries. The exchange of gases occurs at capillaries. They die of suffocation if their skin is dried up.



Through Tracheal System

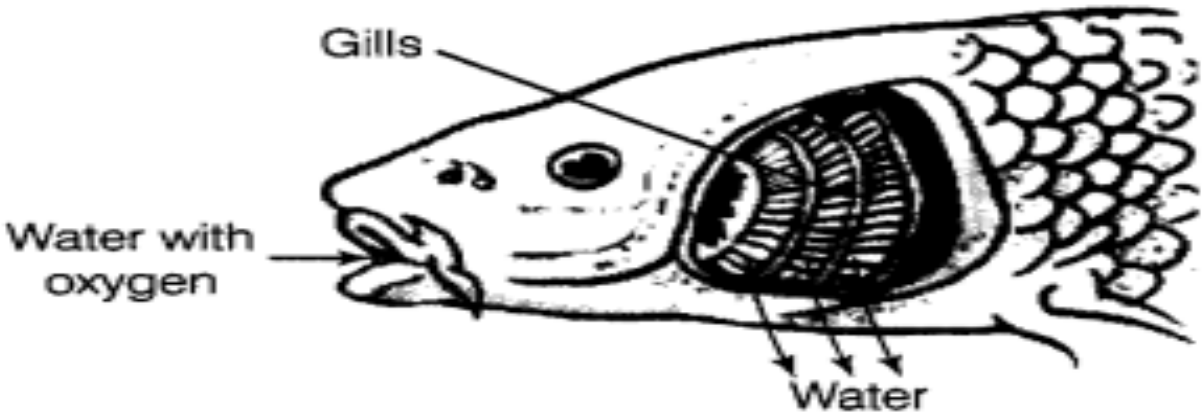
In insects like cockroaches, grasshopper, transportation of gas or gaseous exchange take place by a special type of fine tubes is called tracheae.



Air containing oxygen enters through spiracles into the tracheal tubes. It then diffuses into the body tissue and reaches every cell in the body. Carbon dioxide released from the cells goes into the tracheal tubes and comes out through spiracles

Through Gills

A majority of aquatic animals like fish and prawns breathe through special organs called gills. Gills are projections of the skin that help in using oxygen dissolved in water. Gills contain blood vessels which help in exchange of gases.

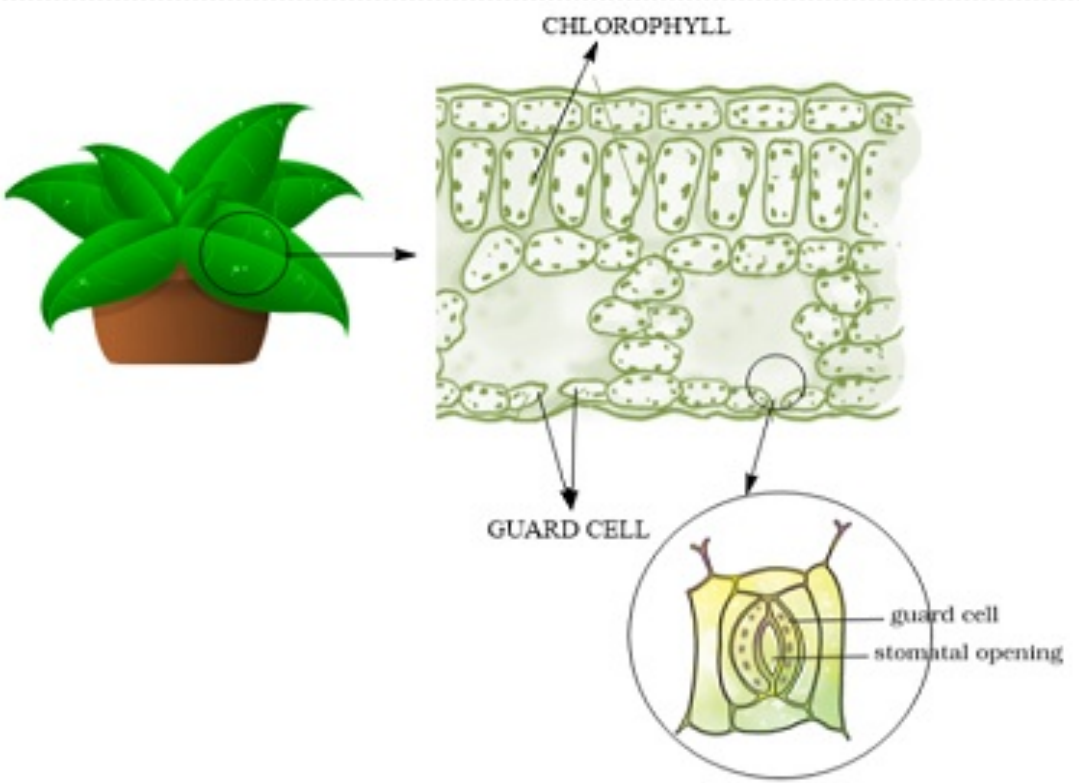


Breathing in fish

To get oxygen dissolved in water, fish gulp water through the mouth and pump it over the gills. Water passes into the gill chamber through gill slits. They absorb oxygen from the water and replace it with carbon dioxide formed, which is then thrown out.

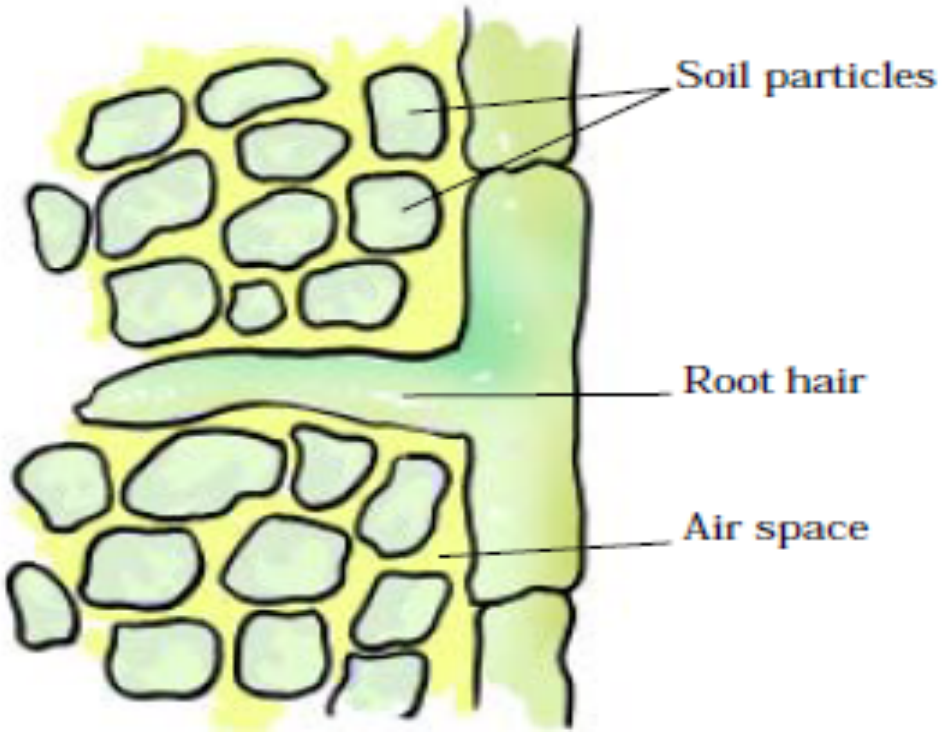
Respiration in plants-Leaves

They take in oxygen rich air from the atmosphere and breathe out air rich in carbon-dioxide through the tiny pores present in the lower surface of the leaves known as stomata



RESPIRATION IN ROOTS

- The roots of plants too respire to generate energy but they follow a different method. They take up air rich in oxygen from air spaces between the soil particles.
- The breathed in oxygen is supplied to the cells where it is used to break down glucose into carbon-dioxide and water.



THANK YOU