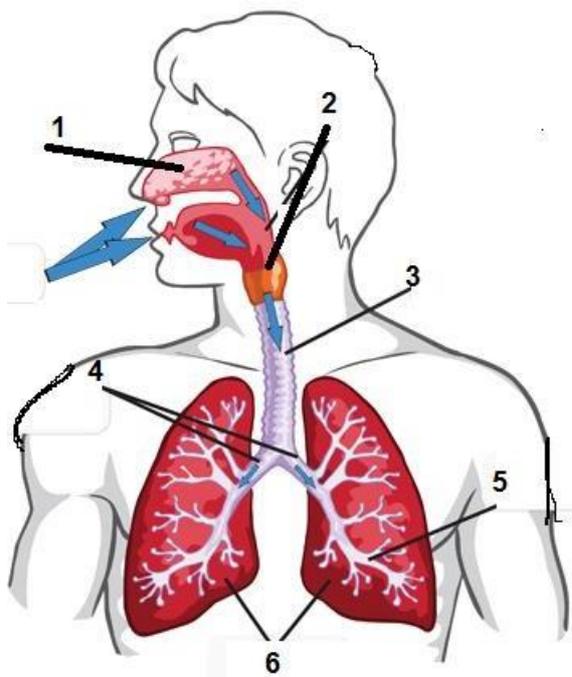


CLASS 7 ICSE BIOLOGY
RESPIRATION AND TRANSPIRATION

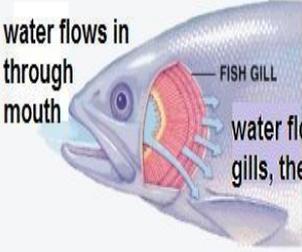
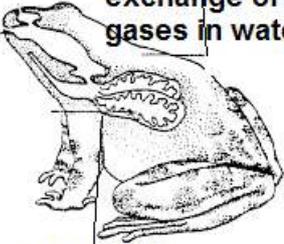
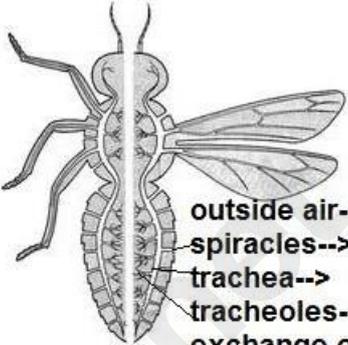


1. NOSE: Air enters through the mouth and nose which is lined with fine hair and mucus to trap dirt and bacteria
2. The EPIGLOTTIS is a flap of tissue which closes over the wind pipe when we swallow food
3. TRACHEA or wind pipe directs air into the lungs
4. The windpipe divides into two BRONCHI each of which enters into a lung
5. Bronchi branch into smaller BRONCHIOLES which end in minute bags called ALVEOLI
6. LUNGS: a pair of spongy lungs enclose the bronchioles and alveoli and oxygen is transferred to the blood and carbon dioxide is removed from the blood

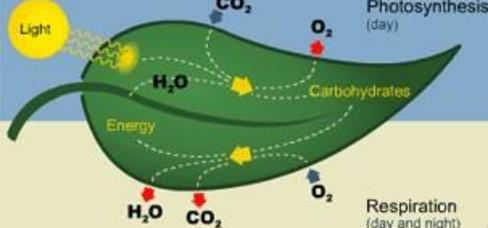
IS RESPIRATION DIFFERENT FROM BREATHING?

<p>The diagram illustrates the relationship between breathing and cellular respiration. At the top, 'Breathing' is shown with a red arrow labeled O₂ pointing down and a blue arrow labeled CO₂ pointing up. Below this, the 'Lungs' are depicted. A red arrow labeled O₂ points from the lungs down to a 'typical cell in body'. A blue arrow labeled CO₂ points from the cell up to the lungs. At the bottom, 'Cellular respiration' is shown within the cell.</p>	<p>Breathing Takes place in the lungs Process of gaseous exchange between lungs and environment Uses oxygen from the environment Removes carbon dioxide produced by oxidation of food during respiration When we breathe out through a pipe into a beaker containing lime water, we find the lime water turns milky showing the presence of carbon dioxide</p>	<p>Respiration Takes place in each cell of the body Process by which food is broken down to release energy Aerobic respiration uses oxygen obtained through lungs $\text{Glucose} + \text{oxygen} \rightarrow \text{carbon dioxide} + \text{water} + \text{energy}$ Anaerobic respiration does not use oxygen Produces carbon dioxide due to oxidation of food</p>
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RESPIRATORY ORGANS IN DIFFERENT ANIMALS

<p>FISH: GILLS</p>  <p>water flows in through mouth</p> <p>FISH GILL</p> <p>water flows over gills, then out</p>	<p>AMPHIBIANS: LUNGS AND SKIN</p>  <p>moist skin allows exchange of gases in water</p> <p>lungs allow exchange of gases on land</p>	<p>INSECTS: TRACHEA</p>  <p>outside air--> spiracles--> trachea--> tracheoles--> exchange of gases</p>
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RESPIRATION IN PLANTS:



Photosynthesis (day)

Light

CO_2

H_2O

Carbohydrates

Energy

O_2

Respiration (day and night)

H_2O

CO_2

O_2

Plants also respire by breaking down glucose to release energy and carbon dioxide and water

Photosynthesis involves using carbon dioxide and water to synthesize glucose

TRANSPIRATION IN PLANTS: Loss of water in the form of vapour from leaf surface

