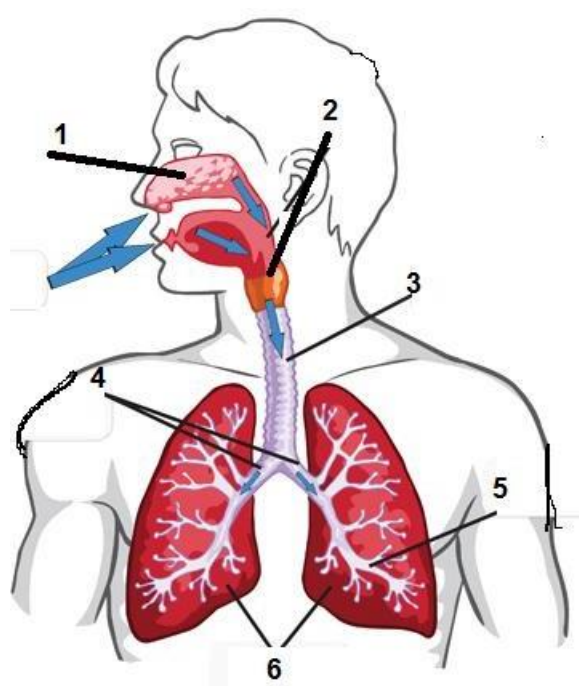


# CLASS 7 ICSE BIOLOGY RESPIRATION AND TRANSPIRATION



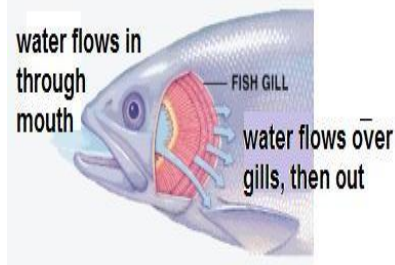
1. NOSE: Air enters through the mouth and nose which is lined with fine hair and mucus to trap dirt and bacteria
2. The EPIGLOTTIS is a flap of tissue which closes over the wind pipe when we swallow food
3. TRACHEA or wind pipe directs air into the lungs
4. The windpipe divides into two BRONCHI each 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?

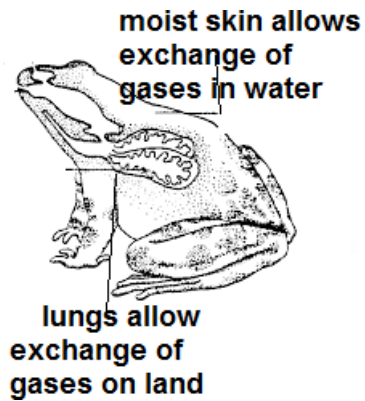
<p>The diagram illustrates the exchange of gases between the environment, the lungs, and a typical cell in the body. At the top, 'Breathing' is shown with an arrow for <math>O_2</math> entering and an arrow for <math>CO_2</math> leaving. Below this, the 'Lungs' are depicted. A red arrow shows <math>O_2</math> moving from the lungs to a 'typical cell in body'. A blue arrow shows <math>CO_2</math> moving from the cell back to the lungs. At the bottom, 'Cellular respiration' is shown within the cell.</p>	<p><b>Breathing</b>          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  <b>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</b></p>	<p><b>Respiration</b>          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  <math>\text{Glucose} + \text{oxygen} \rightarrow \text{carbon dioxide} + \text{water} + \text{energy}</math>          Anaerobic respiration does not use oxygen          Produces carbon dioxide due to oxidation of food</p>
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## RESPIRATORY ORGANS IN DIFFERENT ANIMALS

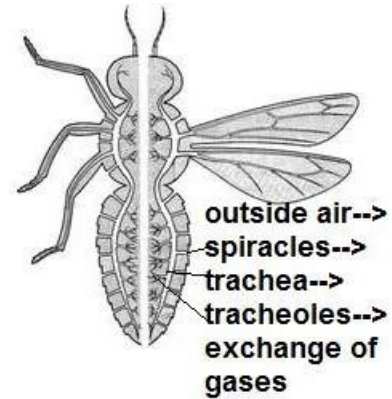
### FISH: GILLS



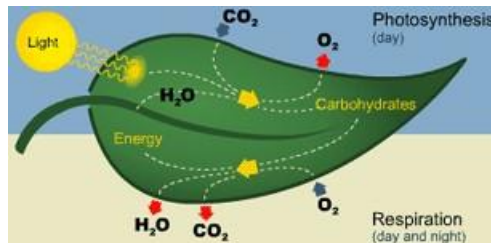
### AMPHIBIANS: LUNGS AND SKIN



### INSECTS: TRACHEA



## RESPIRATION IN PLANTS:



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

