

### Intro

We all get energy from food.

Food stores energy in the form of chemical energy in its nutrients.

Our body extracts chemical energy by oxidation of food materials.

During oxidation, oxygen helps in the breakdown of food thus, liberating energy and giving out carbon dioxide with the waste product.-So this means that oxygen breaks down food into simpler parts and liberating energy (energy which is released) releases the carbon dioxide with the waste product.

This process of energy production occurs all day

Digested food + oxygen = energy + waste products-So here digested food is getting combined with oxygen which creates energy. and the liberating energy thus releases the waste product so it talks about the combination of these symptoms.

### trachea ( windpipe )

Trachea emerges from the larynx below the neck. The opening of trachea is called glottis. The glottis is guarded by thin flap called epiglottis. Epiglottis closes the glottis and prevents the food from entering the windpipe during swallowing. The trachea is supported by c-shaped rings of cartilage. these rings prevent trachea from collapsing in the absence of air. The inner side of trachea is lined by ciliated epithelium. the cilia helps to expel the unwanted particles from the wind pipe.

*So the trachea emerges or starts out from the larynx below the neck. the glottis ( opening at the top of trachea) is guarded by a thin flap ( thin flap is a tissue) called epiglottis. epiglottis is the reson which covers the glottis to stop food to go to the wrong pipe. the c shaped ring prevents the trachea to explode. the ciliated epithelium helps expel or remove unwanted toxic particles in windpipe.*

### Characteristics of respiration

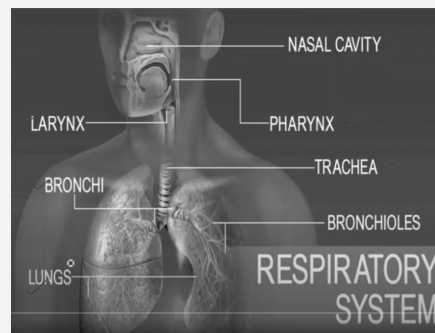
### Difference between aerobic and anaerobic

Aerobic --- 1-it takes place in the presence of oxygen	Anaerobic---1-it takes place in the absence of oxygen.
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2- Food molecules ( sugars) are broken down into carbon dioxide, water and energy	2- food molecules ( sugars) are broken down into ethyl alcohol, carbon dioxide and energy.
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3- high amount of energy released	3- less amount of energy released.
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### Diagram



### Larynx

Larynx is the upper part of the trachea. it also known as the **voice box**, as it contains two vocal cords. the vocal cords vibrate to produce sound.

*o the larynx contains 2 vocal cords which is in ur throat. vocal cords are thin tissues and they let the air pass through to breathe*

### Bronchi and bronchioles

The trachea divides into two branches in the chest region each one is called bronchus ( plural- bronchi ), each bronchi enters the lung and redivides into smaller branches called bronchioles.

*The trachea splits into two branches in the chest, and each branch is called a bronchus (plural: bronchi). Each bronchus goes into a lung and then divides into smaller branches called bronchioles.*

### Types of respiration

### Types of respiration (cont)

**Aerobic respiration-** Food + oxygen = carbon dioxide + water + high amount of energy.-so when food and oxygen combines it creates carbon dioxide and water as the waste product and in this process high amount of energy is released.

**Anaerobic respiration=** Food = Ethyl alcohol + carbon dioxide + less energy-so this process uses food as fuel and ethyl alcohol ( a type of alcohol) and carbon dioxide are the waste products. and this process releases less energy

### Nose

When a person breathes in or inhales, air passes into the body through the respiratory tract starting with the nose. the hair and mucus inside the nose trap the dust particles contained in inhaled air. the nose also warms and moistens the air entering in our body.

\*mucus is a slimy, sticky substance in the nose. and because of it and nose hair, it traps the dust particles which can be harmful if came in.

### Pharynx

Pharynx is present behind the mouth. it serves as the common passage for food and air. the food from pharynx enter the oesophagus whereas the air enters into the trachea.

*so its the common way food and air goes through in the body when we consume it, and the food we consume enters the oesophagus which is a tube like structure connected to your mouth to stomach. and if the food goes there, the air enters the trachea.*

Characteristics of respiration are: 1- food is used up 2- energy is produced 3- oxygen is used up and carbon dioxide is given out All three events take place in living cells.-So here it says that the food is used up means digested and energy is produced when we digested it then the oxygen is used up to break down food into simpler parts then the carbon dioxide and waste is given out.

**Aerobic-** when oxygen is used for the process of respiration it is known as aerobic respiration.

**Anaerobic-** in some organisms like bacteria and yeast, oxygen is not required. so the process where oxygen not required is anaerobic.



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