## Aerobic Respiration

**Glucose + Oxygen → carbon dioxide + Water + (energy)**

- Glucose is a type of carbohydrate.
- Glucose contains energy. Organisms require this energy to be able to stay alive, reproduce, move, sense the environment, grow, excrete waste and process nutrients.
- Energy can be released from Glucose without Oxygen, but not as much as when Oxygen is present. This is anaerobic respiration.

## The Respiratory System

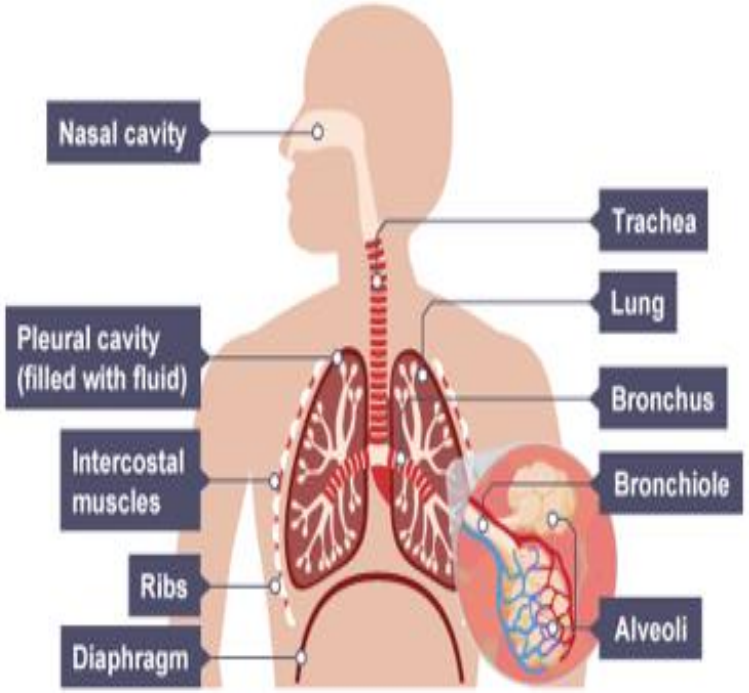
We need to take in oxygen and get rid of carbon dioxide.

Air enters our body through the mouth and nose.

It travels down the trachea to the lungs.

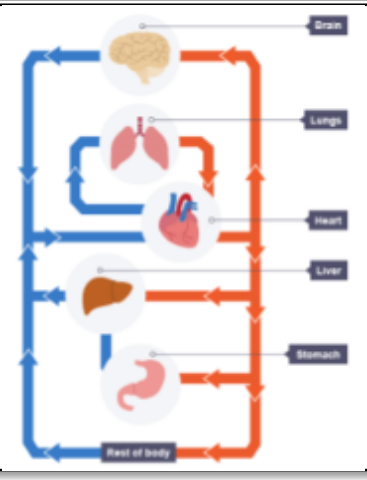
Gas exchange takes place in the lungs.

The alveoli are the site of gas exchange.



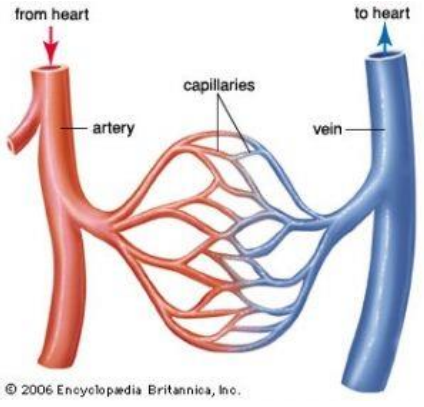

## The Circulatory System

Humans have a double circulatory system, which means that blood travels through the heart twice on each loop around the body.
The function is :
1. **transport** and deliver oxygen, nutrients and hormones to the body
2. **remove waste** products such as carbon dioxide




## Types of blood vessel

We have different blood vessels
**Arteries:** carry blood away from the heart (usually oxygenated).
**Veins:** carry blood to the heart (usually deoxygenated).
**Capillaries**: very small (one cell thick). Where oxygen and carbon dioxide is exchanged at tissues.




## The Effect of Exercise

Exercising requires energy, this means our cells need more **glucose** and **oxygen**.

We need to increase our breathing rate to get more oxygen.

Our heart rate increases so that our cells get more oxygen and glucose