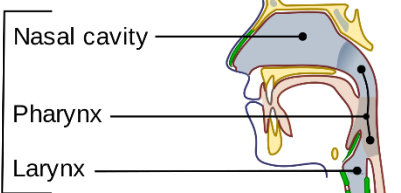


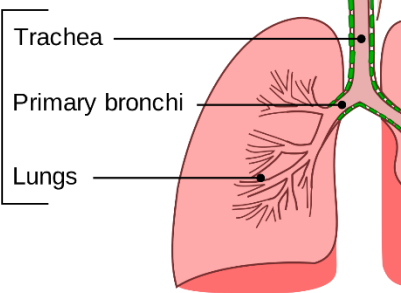
Respiratory System

- Divided into upper and lower system
 - Upper includes nose, nasal cavity, mouth, pharynx, and larynx
 - Lower includes trachea, lungs, and bronchial tree

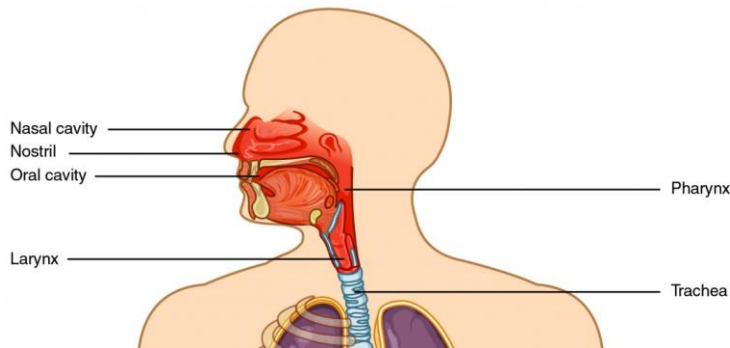
Upper respiratory tract



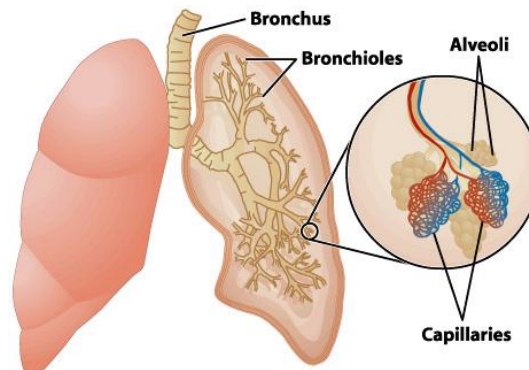
Lower respiratory tract



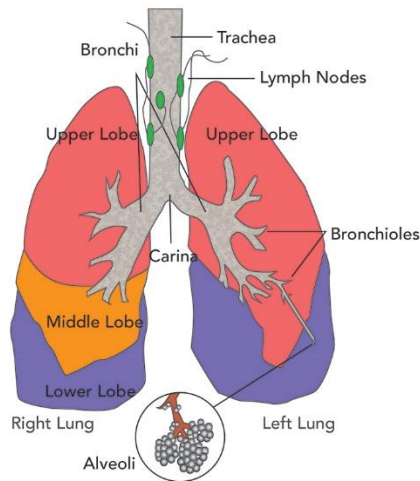
- Categorized into 3 sections
 - Part of airway -nose, nasal cavity, mouth, pharynx (throat), larynx (voice box), and trachea (wind pipe)



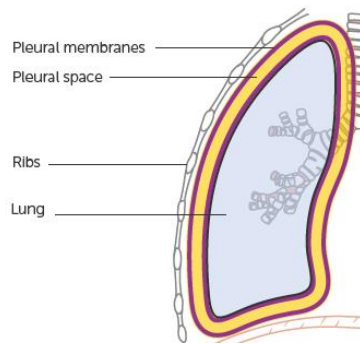
- Lungs
 - Houses the bronchi and bronchial network which extends and make alveoli
 - Alveoli is where the exchange of gas occurs and are surrounded by blood capillaries



- **Right lung vs left lung**
 - Right lung have 3 lobes but left lung only have 2 lobes because it needs to leave space for heart

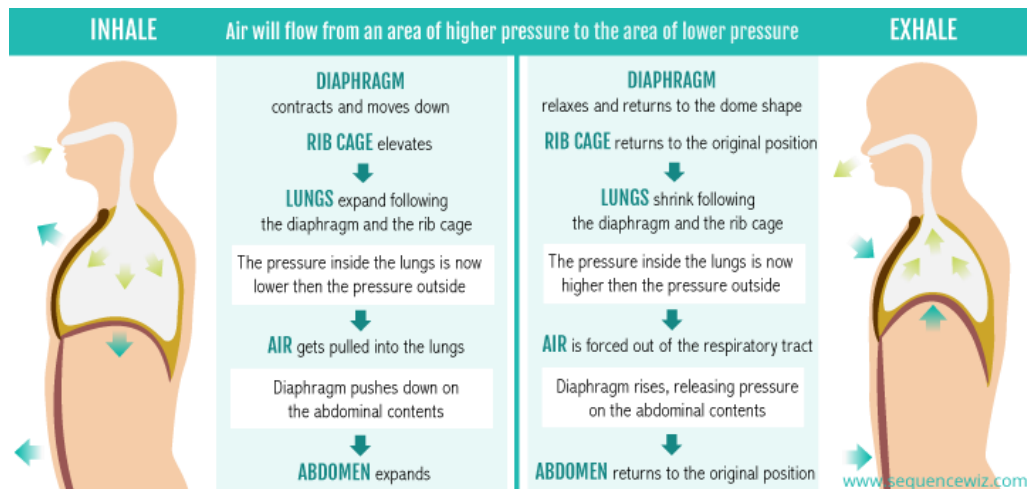


- **Pleural membrane**
 - Surrounds lungs to reduce frictions when we breath



- Respiratory muscles -diaphragm and intercostal muscles
 - Diaphragm separates the thoracic and abdominal cavities
 - Intercostal muscles are found between ribs
- **Functions of the respiratory system**
 - Main function is to supply body with oxygen and get rid of carbon dioxide in body -gas exchange
 - This occurs in alveoli
 - Filtering air
 - Air is warmed, moistened, and filtered as it goes through nasal pathways before reaching lungs
 - Responsible for speech
 - Air goes to larynx (voice box) which vibrates and makes a sound
 - Cough production
 - Aids in smell
 - Chemoreceptors in the nasal cavity respond to chemicals in air
 - Maintaining acid-base homeostasis
 - Hyperventilation → increase of blood pH during acidosis (low pH)
 - Slows down breathing → lower blood pH during alkalosis (high pH)
- **Breathing process**
 - Inspiration/inhalation process
 1. Diaphragm and intercostal muscles contract
 2. Increase in chest cavity size and rib expansion
 3. Volume of chest cavity increases leading pressure of chest cavity to decrease

4. Outside air is under great pressure leading the air to enter lungs
- Expiration/exhalation process
 1. Diaphragm and intercostal muscles relax
 2. Size of chest cavity decreases
 3. Air rushes out of lungs



- Medulla oblongata role
 - Monitors the level of carbon dioxide in blood to either increase or decrease breathing rate
 - Known as the “control center of breathing”