

# Respiratory System

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Review...

- What is air?
  
- Why do we need air?

## Function of respiratory system

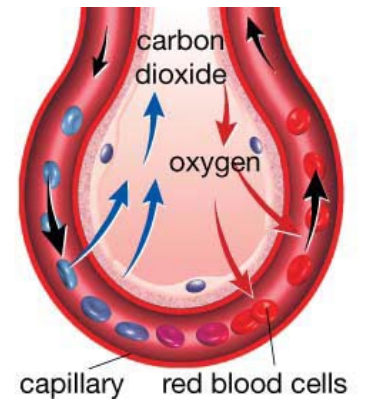
1. Take oxygen from the atmosphere and deliver it to the bloodstream
2. Take carbon dioxide from the bloodstream and expel it from the body

	Structure	Function
Nasal Cavity		
Pharynx		
Trachea		
Epiglottis		
Larynx		
Bronchi		
Bronchiole		

<b>Alveoli</b>		
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### Gas Exchange in the Alveoli

- O<sub>2</sub> moves from the alveolus to capillaries through O<sub>2</sub>
- moves from the alveolus to capillaries through diffusion - movement from high concentration to low concentration. **aka Inhaling**
- CO<sub>2</sub> moves into alveolus by diffusion, collected from all the alveoli in the lungs and pushed back up and out the trachea to the mouth and nose. **aka Exhaling**



### How do you know when to inhale and exhale?

- Breathing is involuntary; it is controlled by a part of the brain (Medulla Oblongata) that detects the concentration of CO<sub>2</sub>.
- If CO<sub>2</sub> is high, the brain increases breathing.
- If CO<sub>2</sub> is low, the brain decreases breathing.

### Mechanics of Breathing (How do we breathe?)

Inhaling:

- rib muscles pull out and up, while diaphragm muscle contracts pulling down
- Chest cavity volume increases resulting in a decreased air pressure
- Air moves from area of high pressure (atmosphere) to low pressure (in the lungs)

Exhaling:

- Rib muscles and diaphragm relax
- Chest cavity volume decreases resulting in an increased air pressure
- Air moves from area of high pressure (in the lungs) to low pressure (atmosphere)

### Respiratory Diseases

- Asthma
- Chronic Bronchitis
- Emphysema
- Pneumonia
- Influenza