Overview of respiratory

- > Aerobic cell respiration is a biochemical pathway in which the chemical bonds within a glucose molecule are broken down sequentially to release energy
 - This energy is stored as ATP
- > Oxygen in the alveoli diffuses into the bloodstream and carbon dioxide from the bloodstream diffuses into the alveoli
 - Alveoli is a multitude of small spherical air sacs

The mechanism of ventilation

- > The tissue that makes up the lungs is passive and not muscular
- > There are muscles surrounding the lungs including the diaphragm, muscles of the abdomen and the external and internal intercostal muscles
- > The mechanism of breathing is based on the inverse relationship between pressure and volume
- Lungs are located within the *thoracic cavity* (or *thorax*)
 - Thorax is closed to the outside air
- > There are two environments that affect each other

 - 0

Inspiration > Cebs

Internal environment of the thorax The internal environment of the thorax The diaphroe The diaphragm contracts and the external intercostal muscles and one set of abdominal muscles help to raise the rib cage

- Increase of the volume of the thoracic cavity
- Because the thoracic cavity has increased its volume, the pressure inside the 0 cavity decreases
 - Less pressure pushes on the lungs
- The lungs increase their volume 0
 - The pressure inside the lungs decreases
 - Partial vacuum •
- Air comes in through your open mouth or nasal passages to counter the partial vacuum and fill the alveoli
- > The steps are reverse for an expiration
 - Muscles in the abdomen and internal intercostal muscles in the ribs \cap contract to push air out of the lungs