Respiration and Circulation

Cellular respiration – the process by which the energy stored in food inside the cells is released

Physical respiration – the process of releasing energy in a complex series of chemical reactions

Internal respiration – the exchange of oxygen and carbon dioxide between the blood in the capillaries and the cytoplasm of individual cells

External respiration- the exchange of oxygen and carbon dioxide between air and blood in the lungs

Nasal cavity – hollow spaces behind the nostrils subdivided by nasal bones lined with blood vessels that act as a filter to moisten and warm air before it reaches the lungs

Pharynx – a cone shaped passage way leading from the nasal cavity to the larynx that is shared with the digestive system. It takes air from the nasal passageway to the trachea

Epiglottis – a flap of tissue that covers the trachea during swallowing so that food passes only into the esophagus

Larynx (voice box) – air is passed over cartilaginous vocal cords to make sound

Vocal Cords – cartilaginous flaps which vibrate with air to make sound

Trachea – a large air passage surrounded by D-shaped rings that brings air from the pharynx to the bronchi. Makes sure foreign matter doesn't enter the lungs.

Bronchi – 2 cartilage-ringed tubes lined with ciliated cells that carry air to the lungs and then branch in 2. Air goes through them from the trachea to each lung and distributes air through the lungs

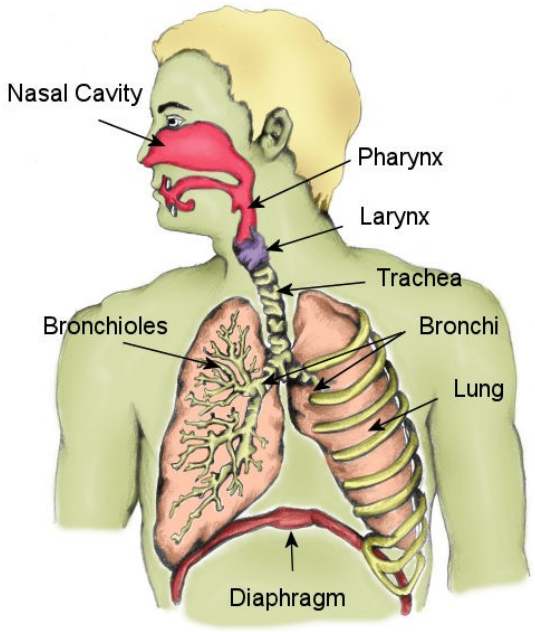
Bronchial tubes – A group of tiny cartilaginous tubes in the lungs which distribute air to the alveoli

Alveoli – Hollow grape shaped cavities with walls that are 1 cell thick. They make up the respiratory surface to exchange oxygen and carbon dioxide between blood and air

Pleural membrane – Tough skin which surrounds the lungs to protect them from tearing and provides elasticity. The double layer allows the lungs to move freely

Lung – Large lobed strictures which house the alveoli

Diaphragm - A muscle forming the floor of the chest cavity that separates the lungs from the abdominal cavity. It moves up and down to move air through the lungs



Intercostal muscles - are several groups of muscles that run between the ribs, and help form and move the chest wall and are mainly involved in the mechanical aspect of breathing. They help expand and shrink the size of the chest cavity when you breathe.

External intercostal muscles - The external intercostals are responsible for the elevation of the ribs, and expanding the transverse dimensions of the thoracic cavity.

Internal intercostal muscles - responsible for the depression of the ribs decreasing the transverse dimensions of the thoracic cavity.

Abdominal muscles - muscles of the abdomen that allow the intestines to create room for the diaphragm during respiration

Cilia - short, hair like organelles at the surface of a cell, with the capacity for movement. They move mucus and trapped foreign matter to the pharynx from the trachea.

Chronic bronchitis - when the linings of the bronchial tubes become irritated and swollen due to smoking, infection or air pollution. The passageway to the alveoli may swell and clog with mucus causing severe coughing and troubled breathing.