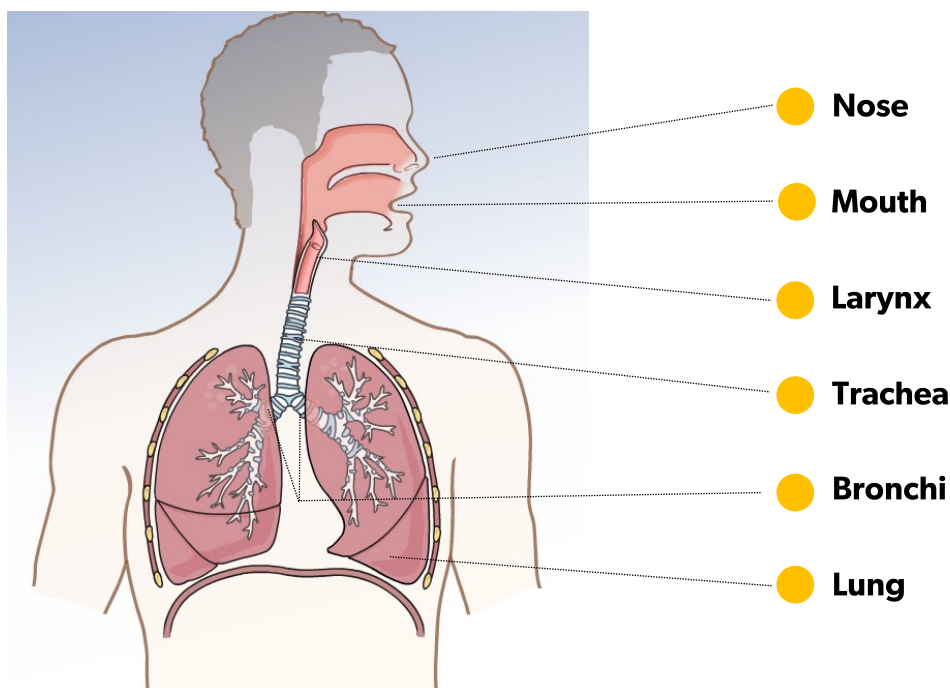


The Respiratory System—Anatomy

The main function of the respiratory system is to move air in and out of our bodies. This brings oxygen in to fuel our bodies and remove the waste gas, carbon dioxide, out from the lungs.

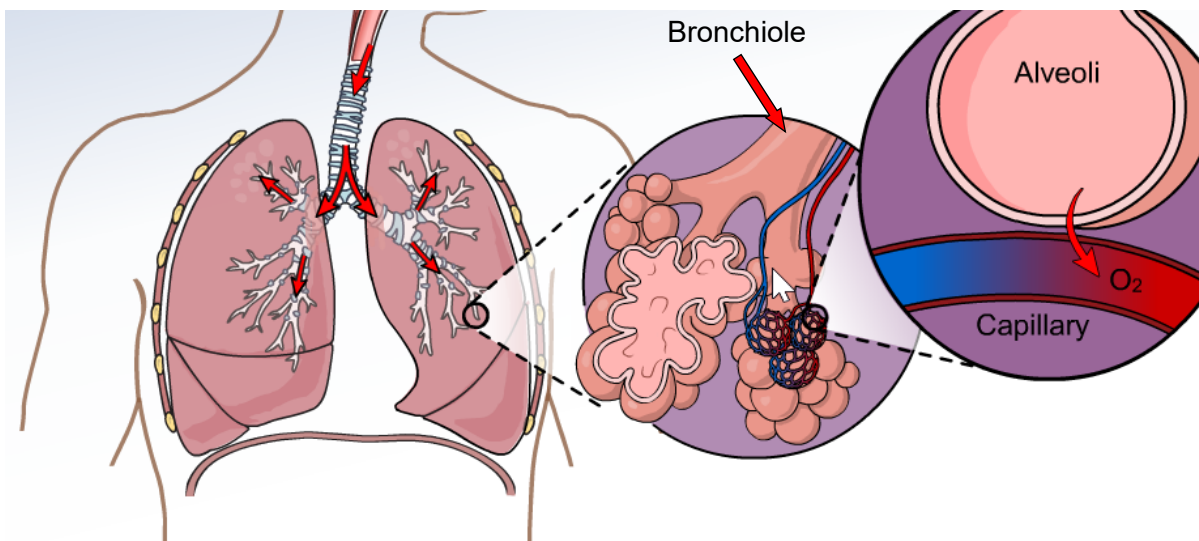


Nose	The nose is the preferred entrance for outside air which is cleaned, heated or cooled, and humidified as it passes into the respiratory system. The hairs that line the inside wall of the nose are part of the air-cleansing system that prevents harmful substances from entering your body.
Mouth	Air also enters the respiratory system through your mouth, especially if your nose is blocked.
Larynx	The larynx (voice box) contains your vocal cords. It is in the larynx that speaking or singing sounds are made as you breathe out.
Trachea	The trachea (windpipe) is the passage leading from the larynx to your lungs.
Bronchi	The bronchi (airways) are tube-like passages inside the lungs through which air travels. They branch from the trachea into two main bronchi — one to each lung.

The Respiratory System—Anatomy

Your **lungs** are made up of five pink spongy lobes (three on the right and two on the left), with the heart between them.

In the LUNG	
Bronchioles	Each of the main bronchi divides into bronchioles (smaller airways) inside the lung. They look like the branches of a tree. These smaller airways eventually lead to the alveoli (air sacs).
Alveoli	The alveoli are very small air sacs at the end of the airways. They look like clusters of grapes. The alveoli fill with air as we breathe in and empty as we breathe out. They have very thin walls and are surrounded by tiny blood vessels (capillaries). Oxygen from the air passes through the walls of the alveoli into the capillaries and carbon dioxide passes from the capillaries into the alveoli to be exhaled. There are 300 million air sacs in a normal lung.
Capillaries	The capillaries are the tiny blood vessels that run through the lungs, like a fine mesh, very close to the alveoli. As blood flows through the capillaries it absorbs the oxygen and releases the carbon dioxide for the lungs to remove. The blood flows through the body, taking oxygen to every cell.



The Respiratory System—Anatomy

Muscles and bones in your chest work together to help move air in and out of the lungs.

Diaphragm	The diaphragm is a large strong muscle that curves up under the lungs separating the chest from the abdomen. It is your main breathing muscle. As you breathe in (inhale), it moves downward, like a piston. The lungs expand and air is drawn in through the nose or mouth. As you breathe out (exhale), the diaphragm relaxes and moves up.
Intercostal Muscles	The intercostal muscles are muscles that are attached between the ribs. The external intercostals (outside layer) pull the ribs up, making the rib cage bigger to draw air into the lungs. The internal intercostals (inside layer) pull the ribs down, making the rib cage smaller to help push air out of the lungs.
Accessory Muscles	The accessory muscles assist us with breathing when our bodies need more oxygen. These muscles include muscles of the neck (sternocleidomastoid and scalenes), chest (pectorals) and abdominals .
Ribs	The ribs support and protect the lungs and chest cavity. These bones are attached to the sternum (breastbone) at the front and to the spinal vertebrae (backbone) at the back. Their movement enables the lungs to expand.

