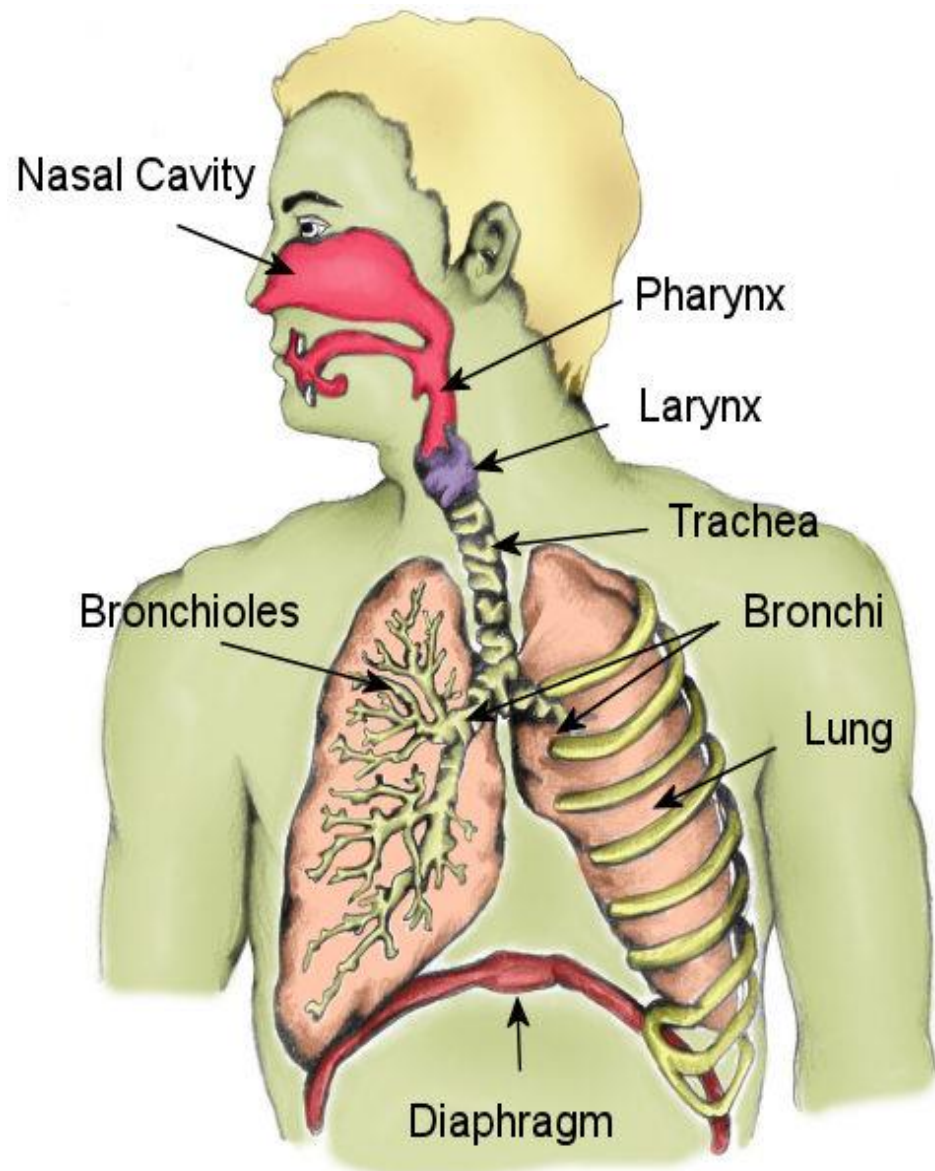


RESPIRATORY SYSTEM



The respiratory system, which includes air passages, pulmonary vessels, the lungs, and breathing muscles, aids the body in the exchange of gases between the air and blood, and between the blood and the body's billions of cells. Most of the organs of the respiratory system help to distribute air, but only the tiny, grape-like alveoli and the alveolar ducts are responsible for actual gas exchange.

In addition to air distribution and gas exchange, the respiratory system filters, warms, and humidifies the air you breathe. Organs in the respiratory system also play a role in speech and the sense of smell.

The respiratory system also helps the body maintain homeostasis, or balance among the many elements of the body's internal environment.

The respiratory system is divided into two main components:

Upper respiratory tract: composed of the nose, the pharynx, and the larynx, the organs of the upper respiratory tract are located outside the chest cavity.

- **Nasal cavity:** inside the nose, the sticky mucous membrane lining the nasal cavity traps dust particles, and tiny hairs called cilia help move them to the nose to be sneezed or blown out.
 - **Sinuses:** these air-filled spaces alongside the nose help make the skull lighter.
- **Pharynx:** both food and air pass through the pharynx before reaching their appropriate destinations. The pharynx also plays a role in speech.
 - **Larynx:** the larynx is essential to human speech.

Lower respiratory tract: composed of the trachea, the lungs, and all segments of the bronchial tree (including the alveoli), the organs of the lower respiratory tract are located inside the chest cavity.

- **Trachea:** located just below the larynx, the trachea is the main airway to the lungs.
- **Lungs:** together the lungs form one of the body's largest organs. They're responsible for providing oxygen to capillaries and exhaling carbon dioxide.
- **Bronchi:** the bronchi branch from the trachea into each lung and create the network of intricate passages that supply the lungs with air.
- **Diaphragm:** the diaphragm is the main respiratory muscle that contracts and relaxes to allow air into the lungs.

<http://www.livescience.com/22616-respiratory-system.html>