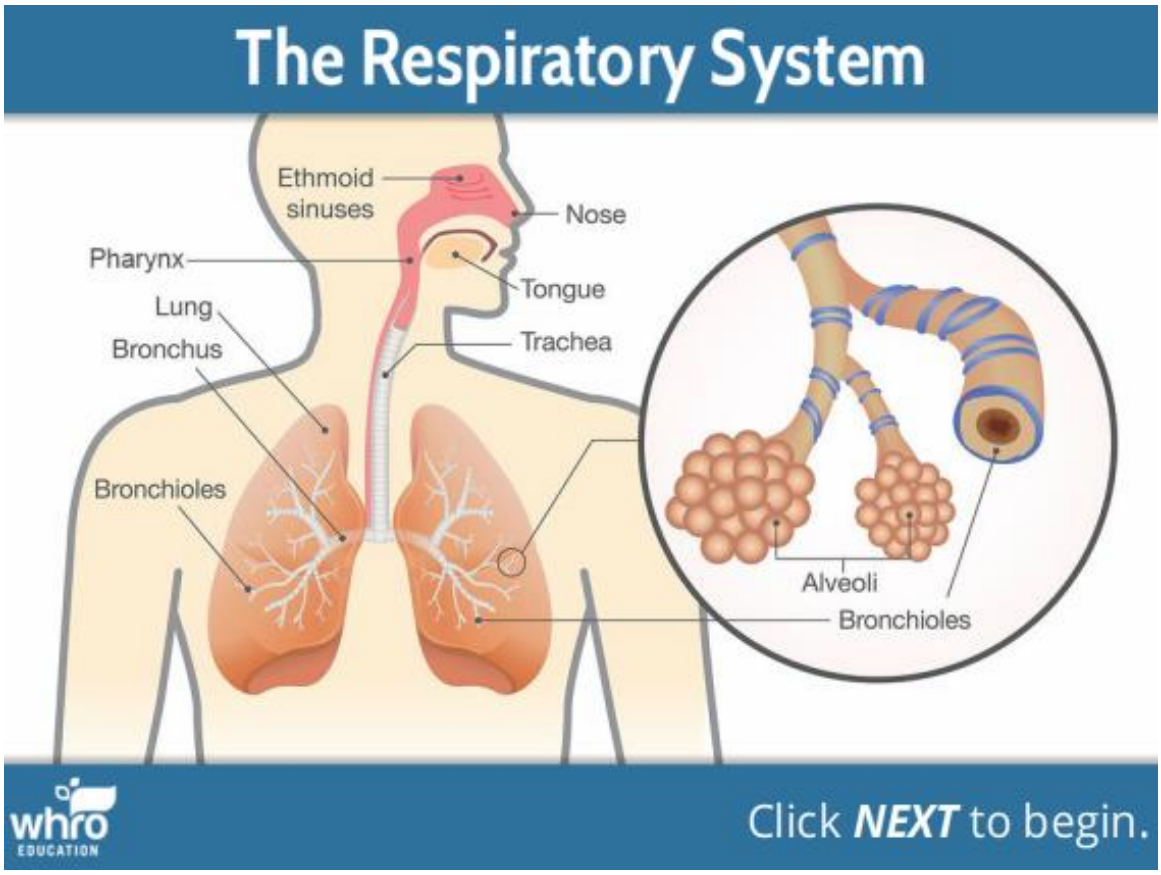
Module 7: Organ Systems and Homeostasis
Topic 1 Content: The Respiratory System Notes

The Respiratory System



The Respiratory System. Click ***NEXT*** to begin.

Catching Your Breath

Have you ever had a hard time catching your breath after running or taking the stairs? Your heart was beating faster than usual during these activities, and it needed to get oxygenated blood to your muscles to fuel movement. The human respiratory system is made up of organs and tissues that help you do just that.

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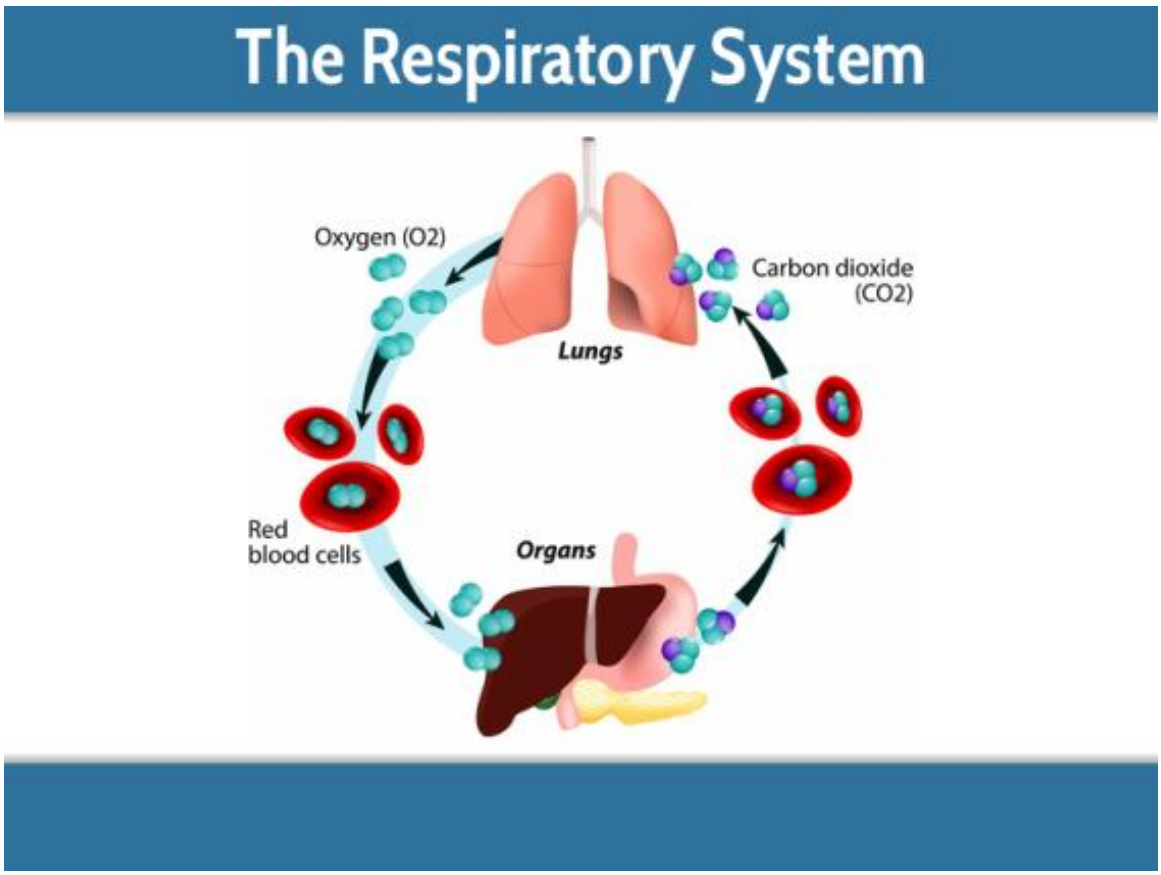
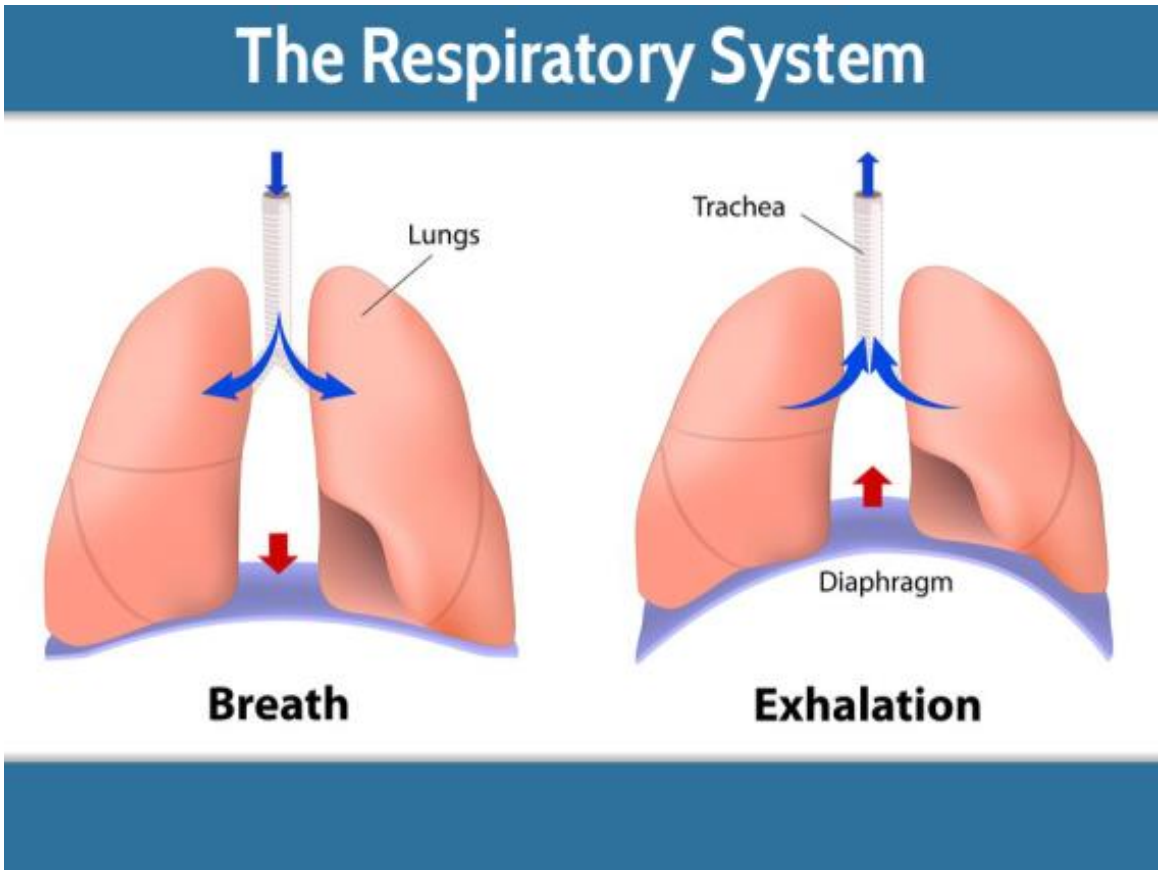
The Purpose of the Respiratory System



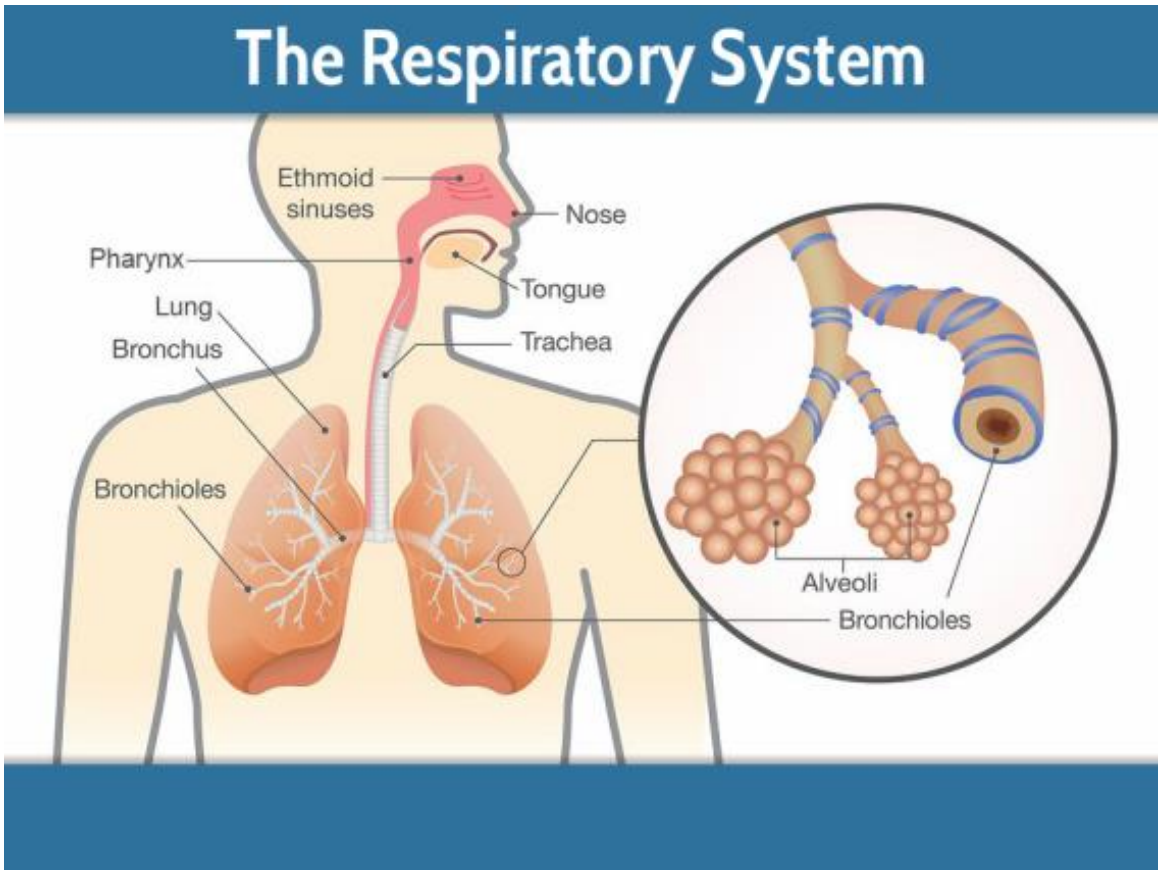
The respiratory system includes the airways and lungs, along with blood vessels and the muscles that enable breathing. The sole responsibility of the respiratory system is to exchange oxygen and carbon dioxide between the blood, lungs, and body tissues.

The Diaphragm



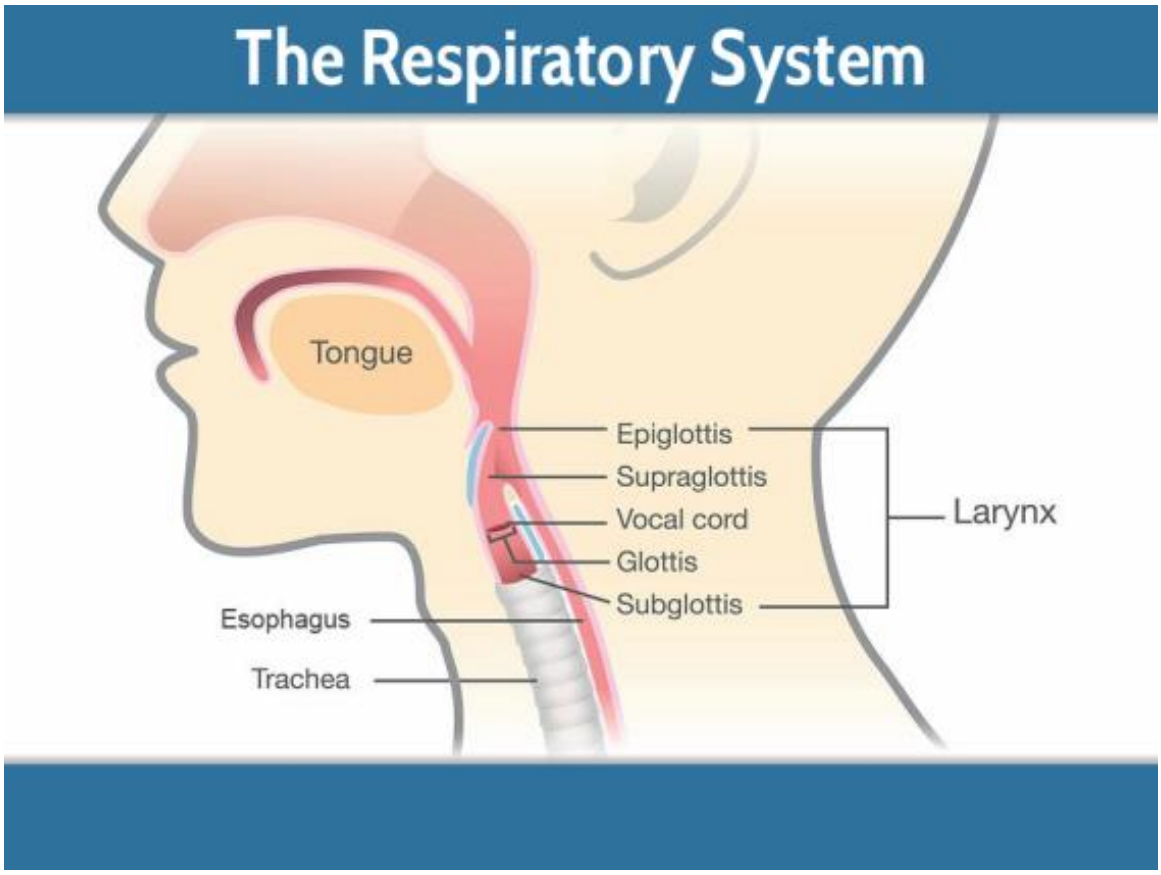
Take a deep breath… you just used your diaphragm, a tissue that relies on air pressure to contract and create a vacuum.

The Pharynx



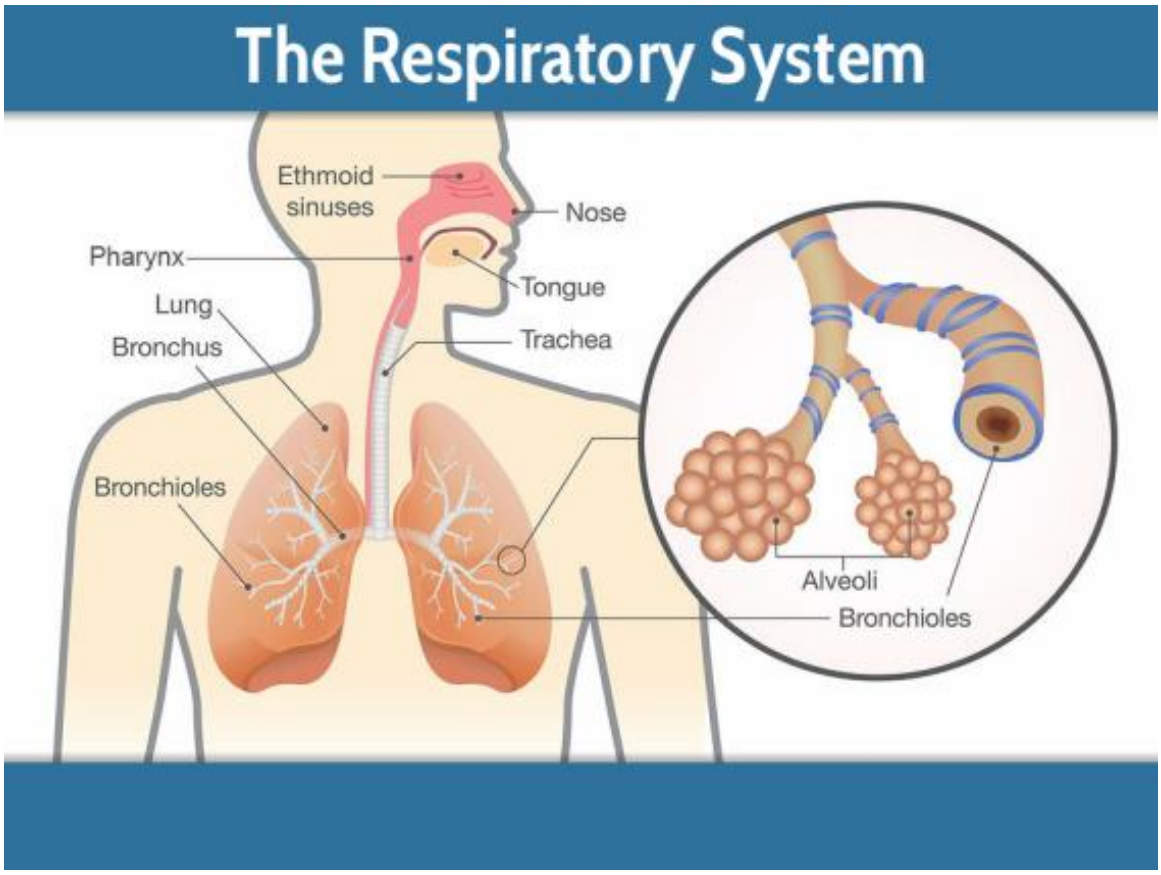
The air that you inhaled has just traveled through your nose and mouth into the pharynx, also known as your throat. If the air is dusty, nasal hairs and mucous help trap the particles, protecting your delicate body tissues.

The Epiglottis, Trachea, and Larynx



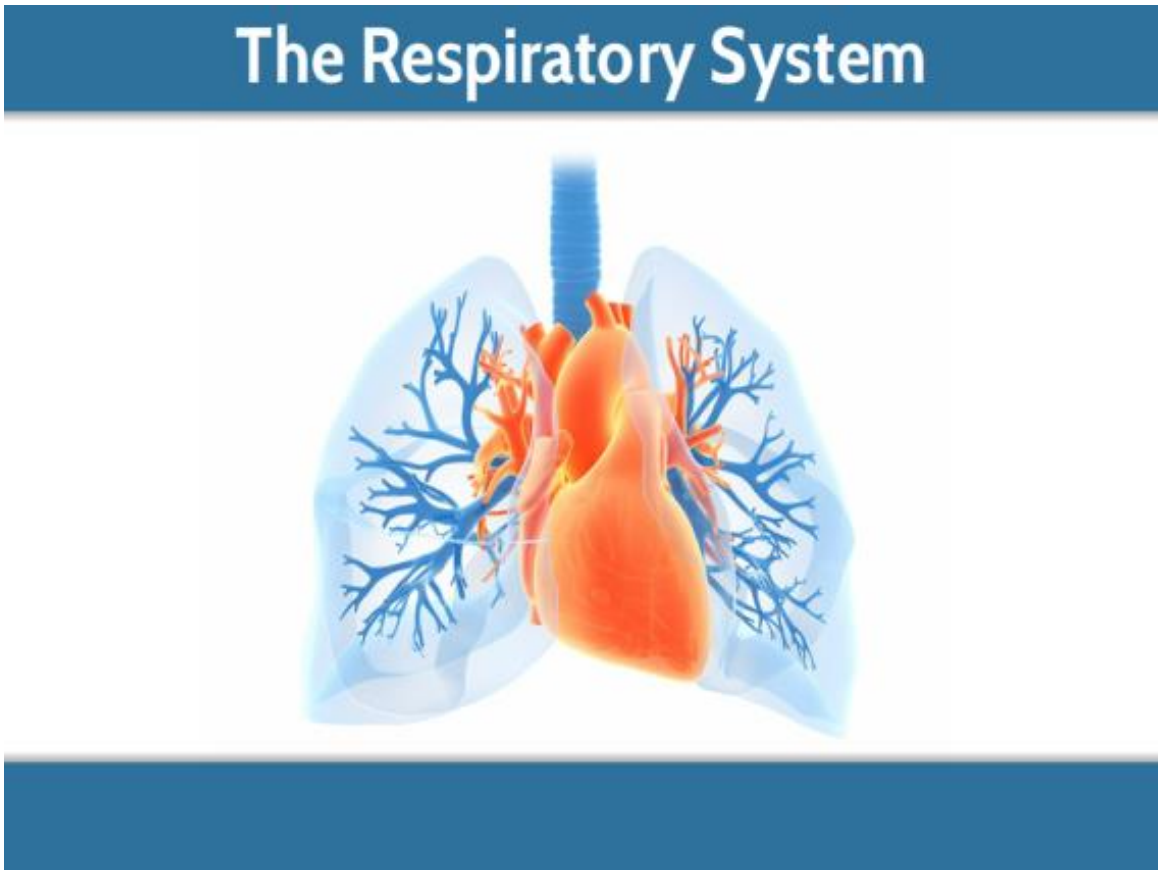
If you are eating food or drinking water, those substances take one pathway and air takes another. Solids and liquids are diverted by the epiglottis, a thin tissue that protects you from inhaling your food. The epiglottis allows air to go through the trachea, commonly known as the windpipe. The air sweeps past your vocal cords, known as the larynx. The larynx is what allows you to speak, shout, and even sing.

The Lungs



After passing the larynx, the air reaches two large branches, known as the bronchi. Each bronchus leads to a lung. The lungs are made up of specialized cells that function as tiny air sacs called alveoli. Each lung contains millions of these specialized cells, which are the center for gas exchange. Carbon dioxide from the blood and oxygen within the lung diffuse across the membrane of the cells.

The Heart



Hemoglobin, a protein in the blood, binds to oxygen to carry it to areas of the body that require it to function. The blood will return to the heart where it will be pumped to different areas of the body. Once this process is complete, the circulatory system and respiratory system will have worked together to fuel the oxygen-needy cells.