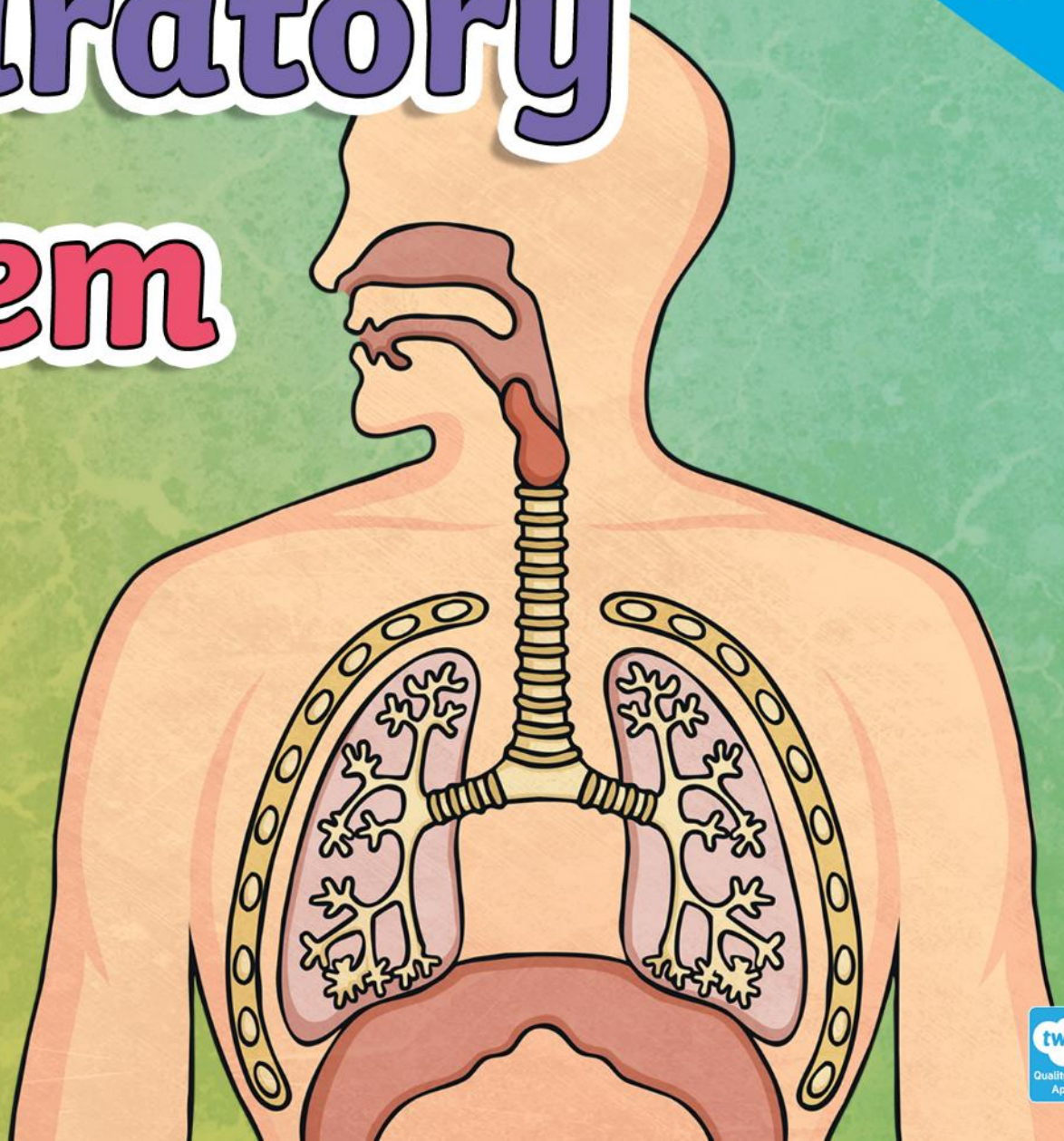
Respiratory System



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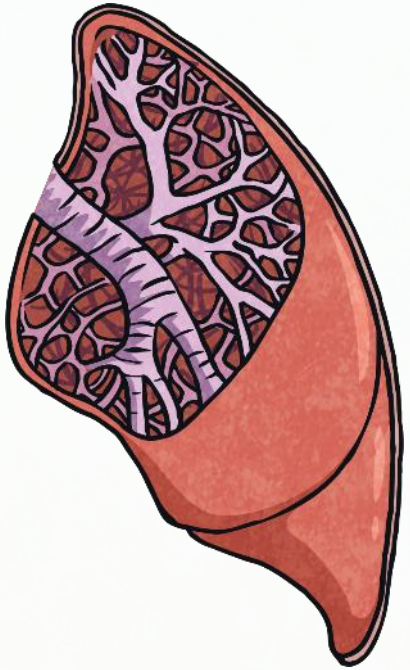
The Respiratory System

The respiratory system is responsible for breathing, which is the process of bringing oxygen into the body and removing carbon dioxide.

Breathing is essential for the survival of all living organisms as it provides oxygen for cellular respiration, the process by which cells produce energy.



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Parts of the Respiratory System

The respiratory system consists of several organs, including the nose, mouth, trachea, bronchi, and lungs.

The nose and mouth are the primary entry points for air into the respiratory system.

The trachea, or windpipe, transports air from the nose and mouth to the bronchi.

The bronchi are the passages that branch off from the trachea and lead into the lungs.

The lungs are the main organs of the respiratory system where gas exchange occurs.

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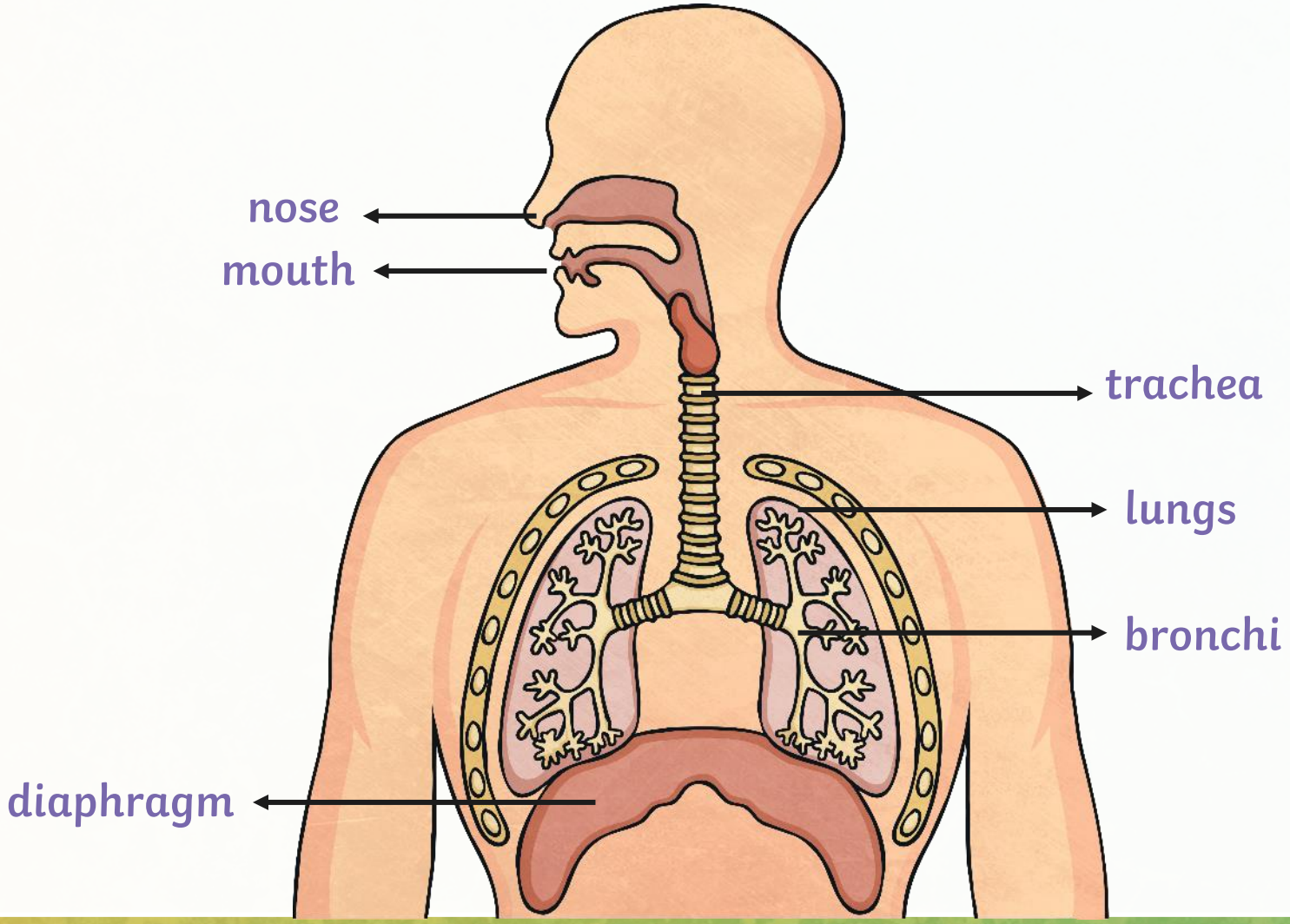
Parts of the Respiratory System



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Turn and Talk

What are the main organs of the respiratory system?

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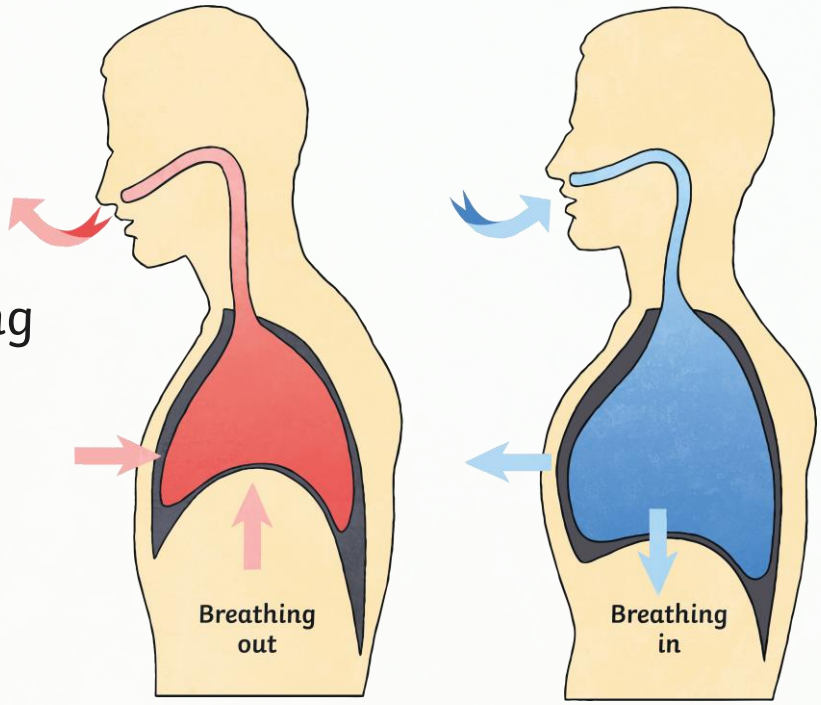
The Process of Breathing

Breathing involves two main processes: inhalation and exhalation.

During **inhalation**, the diaphragm contracts and moves downward while the muscles between the ribs contract, causing the ribcage to expand. This creates negative pressure in the chest cavity, allowing air to be drawn into the lungs.

During **exhalation**, the diaphragm and muscles relax, causing the ribcage to return to its resting position and air to be expelled from the lungs.



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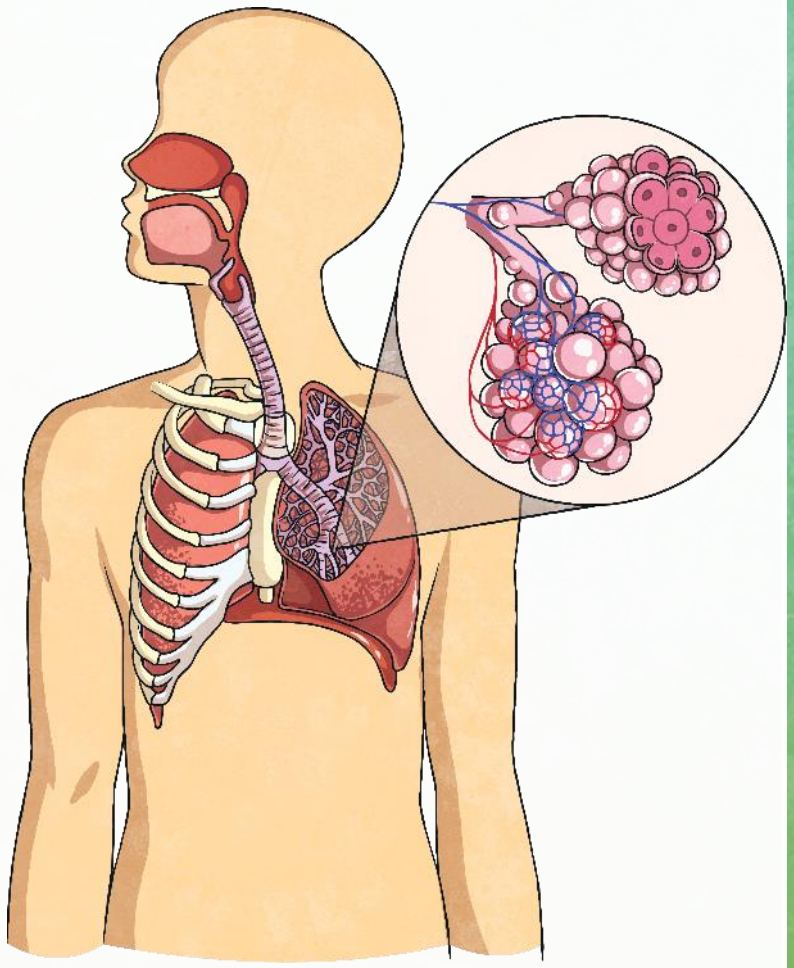
Gas Exchange in the Lungs

Gas exchange occurs in the alveoli. These are tiny air sacs in the lungs.

Oxygen from the air passes through the walls of the alveoli into the bloodstream, while carbon dioxide from the bloodstream passes into the alveoli to be exhaled.
This process is essential for providing oxygen to the body's cells and removing waste carbon dioxide.



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Turn and Talk

Where does gas exchange occur in the lungs?

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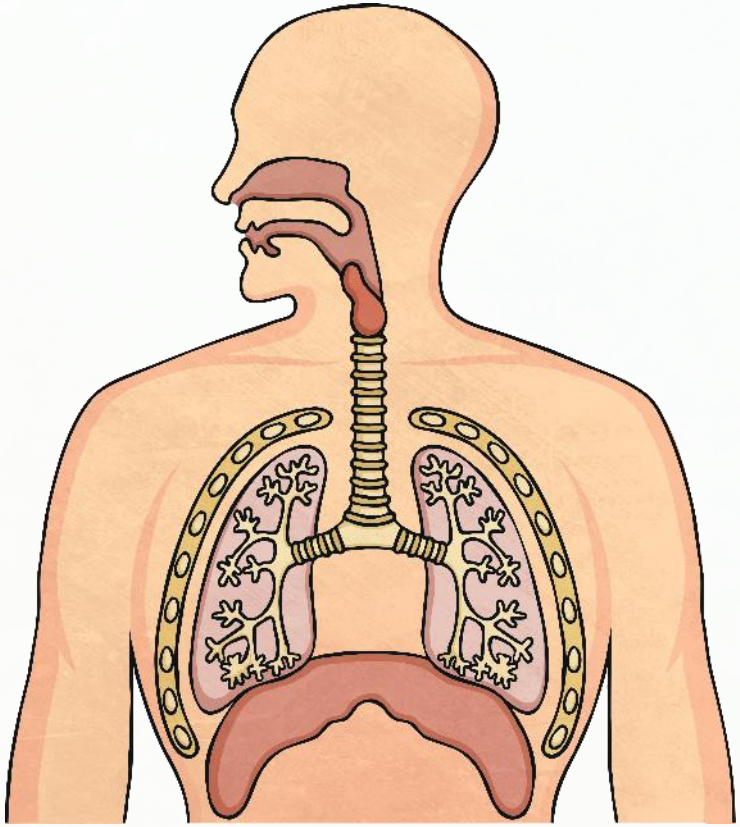
Common Respiratory Disorders

Common respiratory disorders include asthma, bronchitis, and pneumonia.

Asthma is a chronic condition characterized by inflammation and narrowing of the airways, leading to difficulty breathing.

Bronchitis is an inflammation of the bronchial tubes, often caused by viral or bacterial infections.

Pneumonia is an infection of the lungs that can cause symptoms such as fever, cough, and difficulty breathing.



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Importance of Healthy Habits for Respiratory Health

Healthy habits such as not smoking, avoiding exposure to air pollutants, and exercising regularly can help maintain respiratory health.

Quitting smoking is especially important as it is the leading cause of preventable respiratory diseases such as lung cancer and chronic obstructive pulmonary disease (COPD).

Regular exercise can improve lung function and overall respiratory health.

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Conclusion

In conclusion, the respiratory system plays a crucial role in providing oxygen to the body and removing carbon dioxide. By understanding its anatomy, function, and common disorders, we can take steps to maintain our respiratory health and overall well-being.

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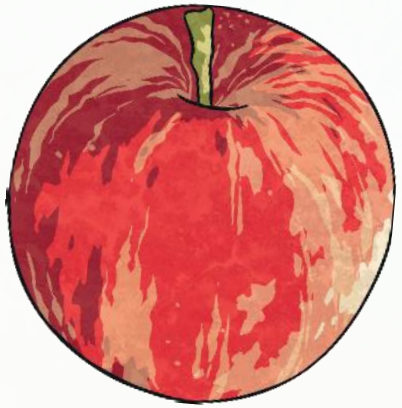
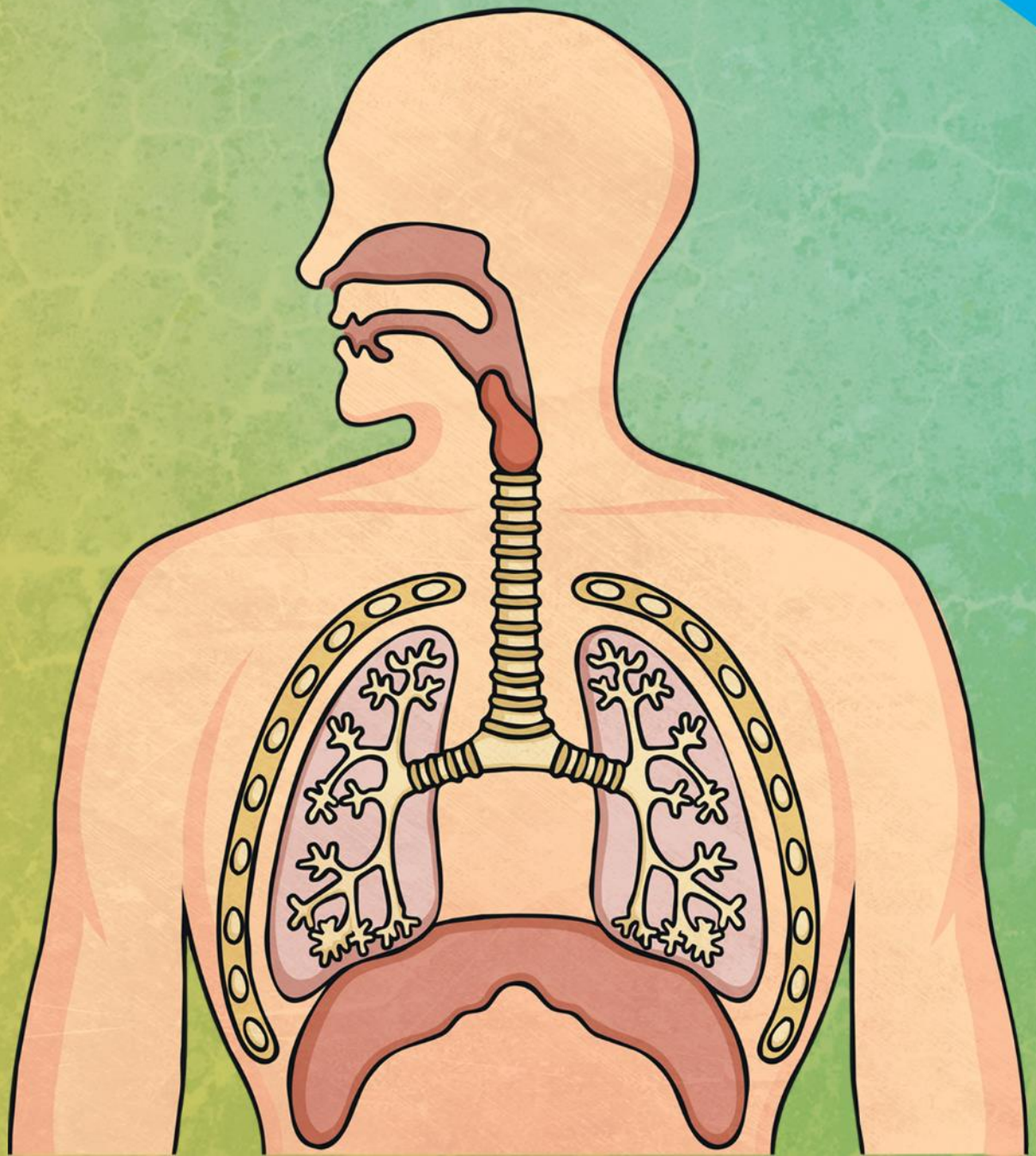
Exit Ticket

What are some healthy habits for maintaining respiratory health?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