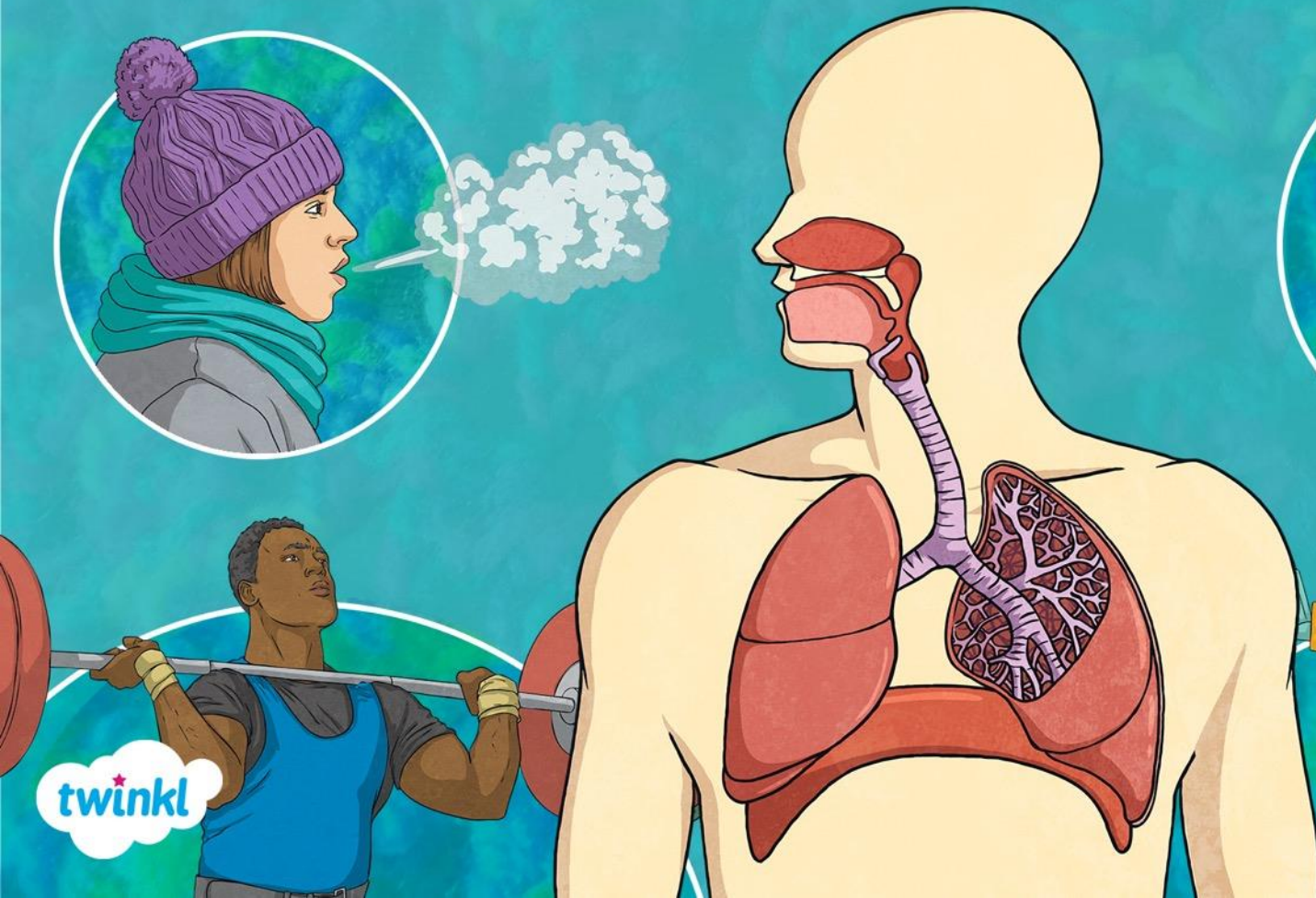
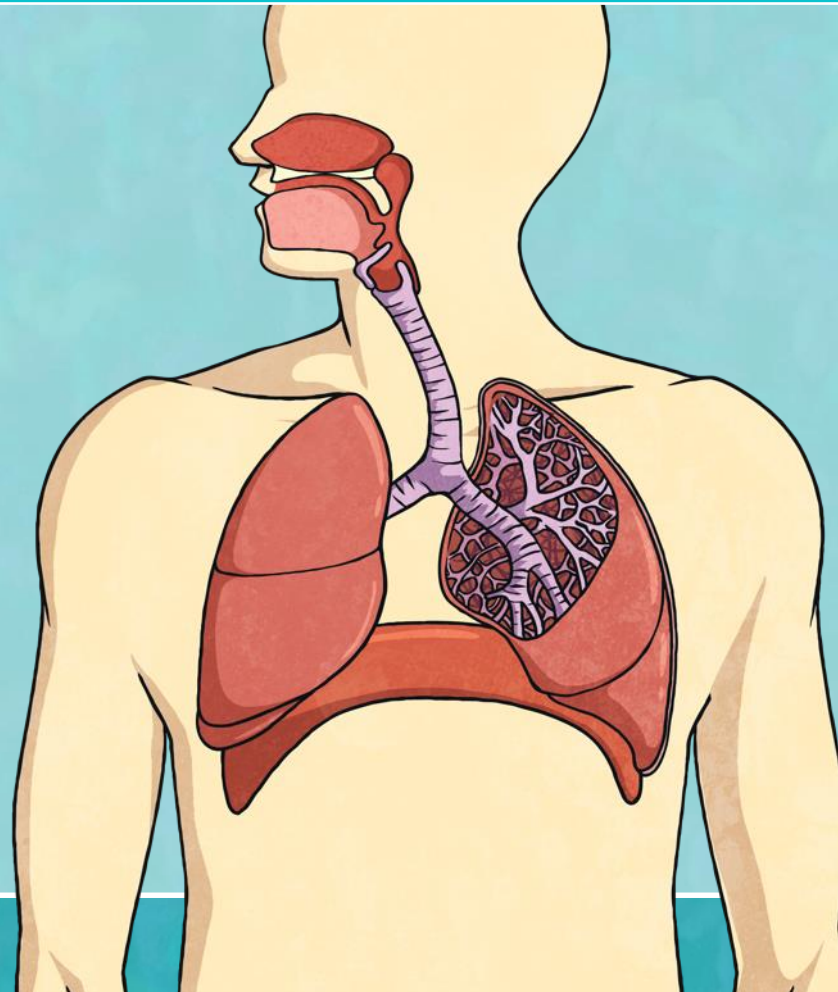


Breathing and the Lungs



Respiratory System

The respiratory system is a large group of tissues and organs in your body that work together to allow you to breathe.



Oxygen

Your body needs a constant supply of oxygen. Oxygen is one of the main gases that make up air, and animals and plants need it to survive.

Our bodies get this oxygen by breathing.

We inhale, or breathe in air.



Inhalation

We inhale, or breathe in, air through our nose and mouth.

When we inhale, the diaphragm, which is a muscle that separates our lungs from our abdomen, moves downwards. This causes our lungs to expand, or become larger.



The muscles between the ribs also help to expand the chest when we breathe in.

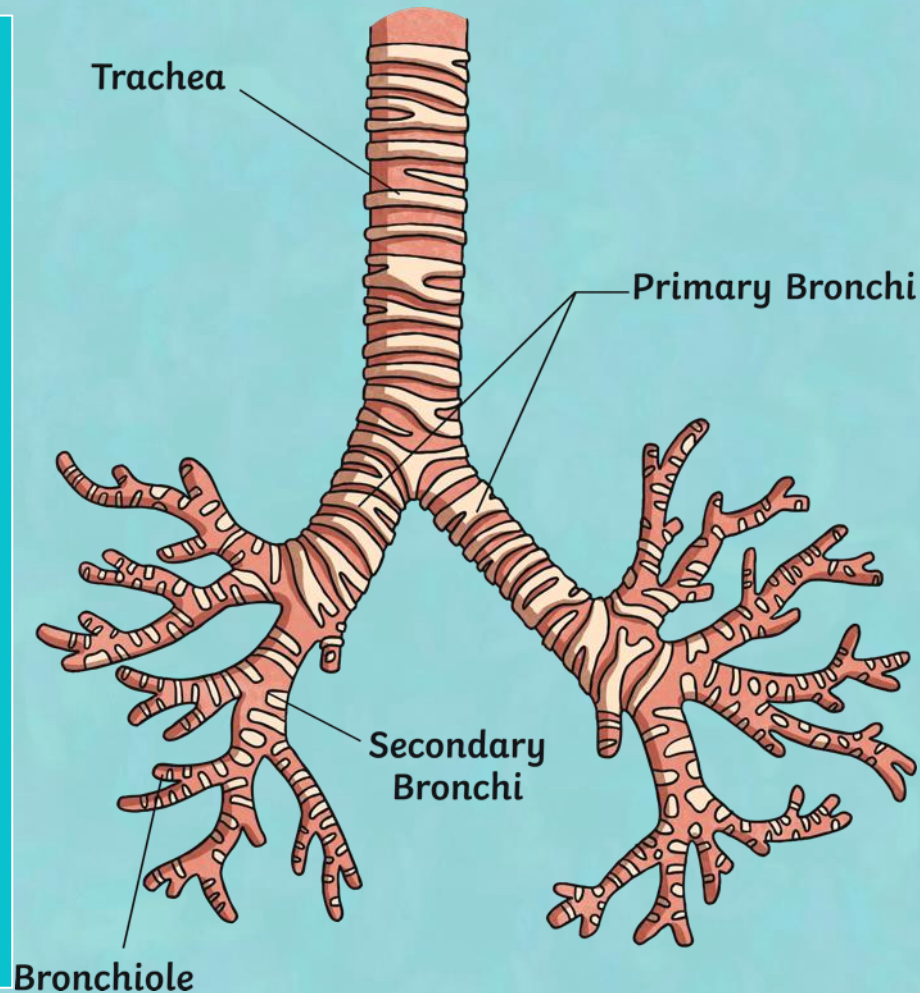
This causes air to flow into the lungs.

How do we breathe?

When you breathe in, air travels through your nose and mouth. This warms the air which helps to stop it from irritating your lungs.

The air travels down your windpipe, or trachea.

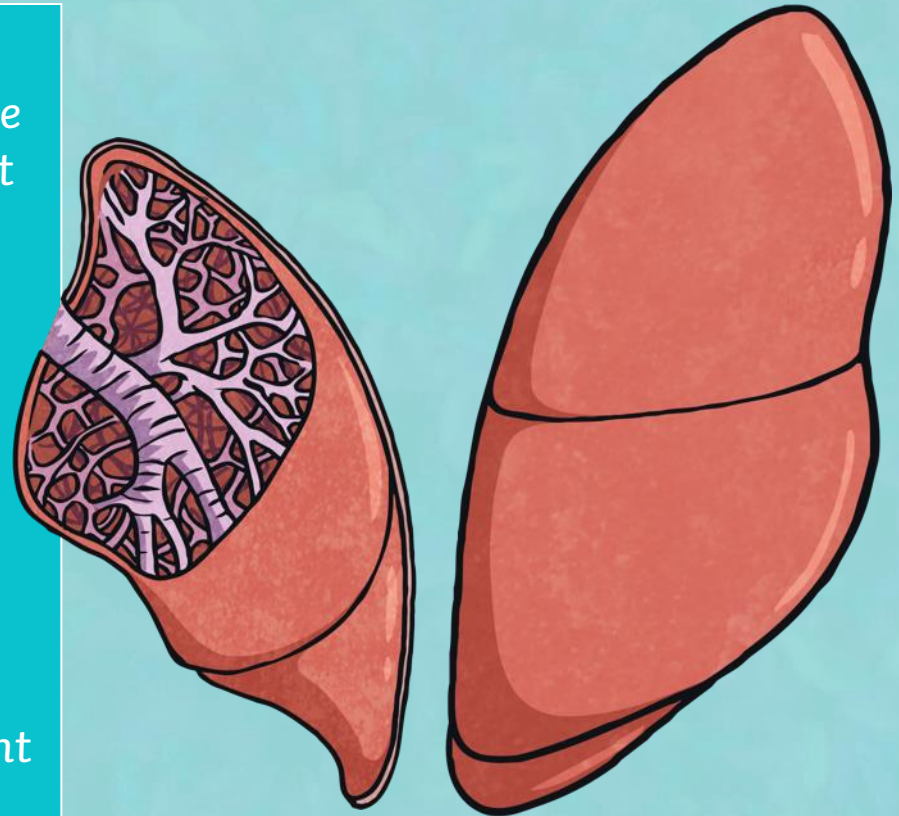
The trachea splits into two wide tubes called the left and right bronchus. One bronchus goes into the left lung and the other goes into the right lung.



Let's Look Inside the Lungs

The bronchus branches off into smaller tubes inside the lungs, like to the roots of a tree. The smallest of these are called bronchioles.

At the end of the bronchioles are air sacs, called alveoli. These alveoli are covered in blood vessels. These blood vessels pick up the oxygen from the alveoli. They transport the oxygen in the blood and carry it around the body to be used by all the different cells in the body.

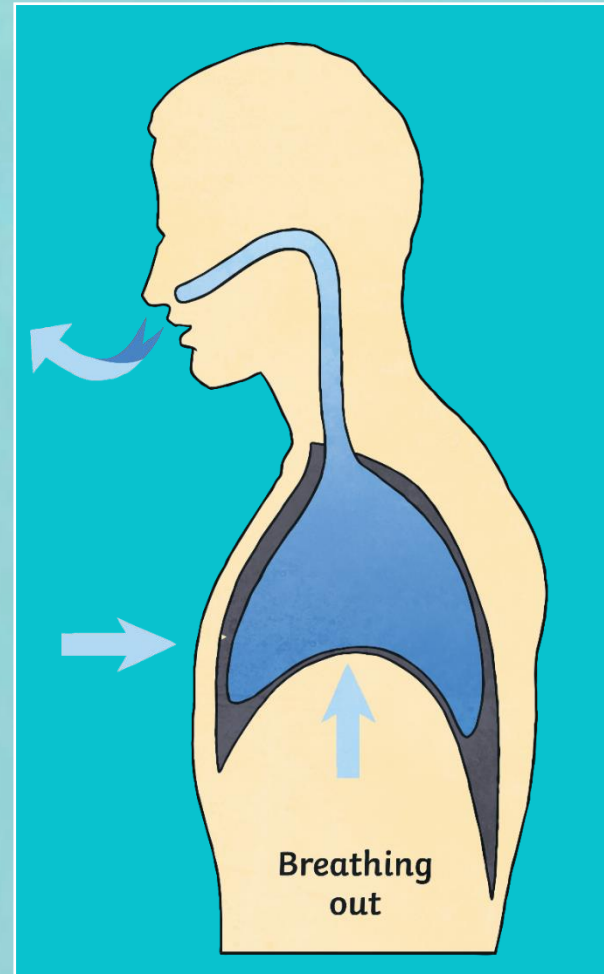


Exhalation

Exhalation, or breathing out, is when air is released from the lungs.

The diaphragm relaxes and moves up which pushes air out of the lungs.

Your rib muscles also relax, which makes the space in your chest smaller, pushing air out of the lungs.

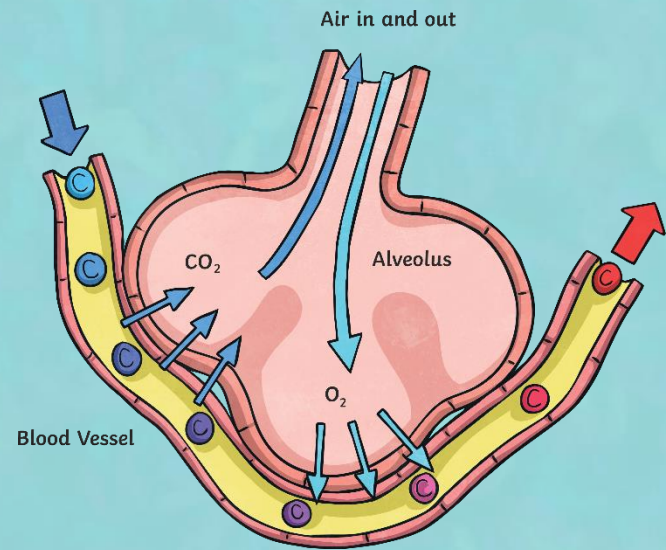


Exhalation

After your body has used up all the oxygen from the blood, the blood is carrying carbon dioxide, which it needs to get rid of.

The carbon dioxide is carried in the blood vessels to the lungs. It moves from the blood vessels to the alveoli, where it can be breathed out.

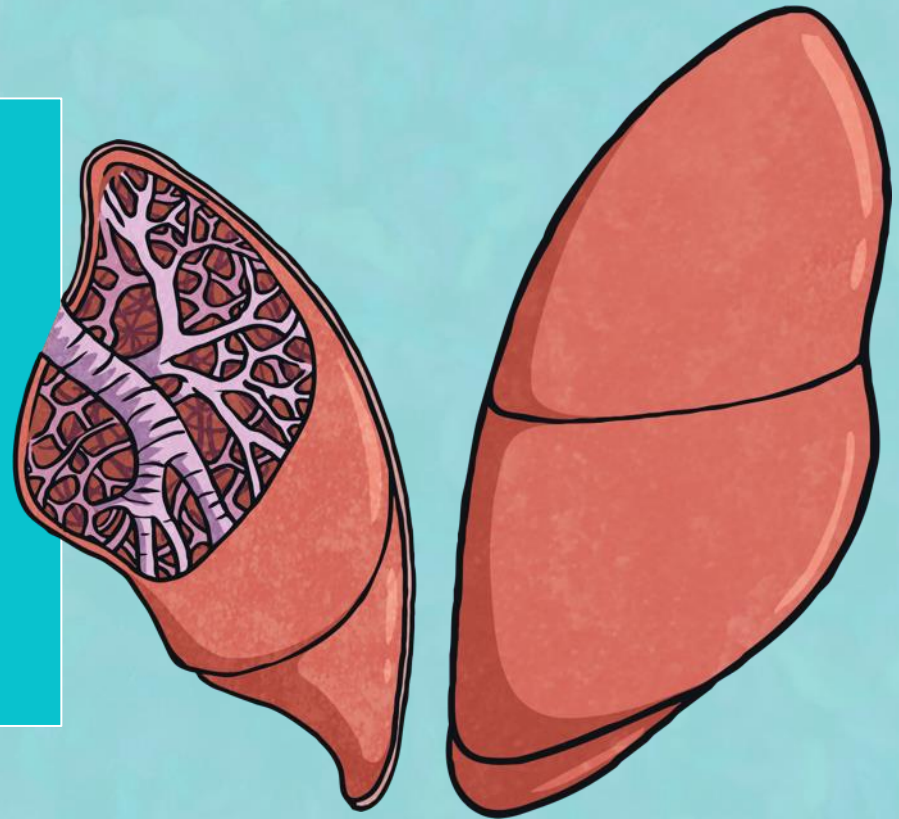
You breathe out in the reverse order that the air came in.



Fun Facts about Lungs

Your lungs are located in your chest, inside your ribs. We have two lungs, but they are not the same size, like the way your eyes or ears are equal in size.

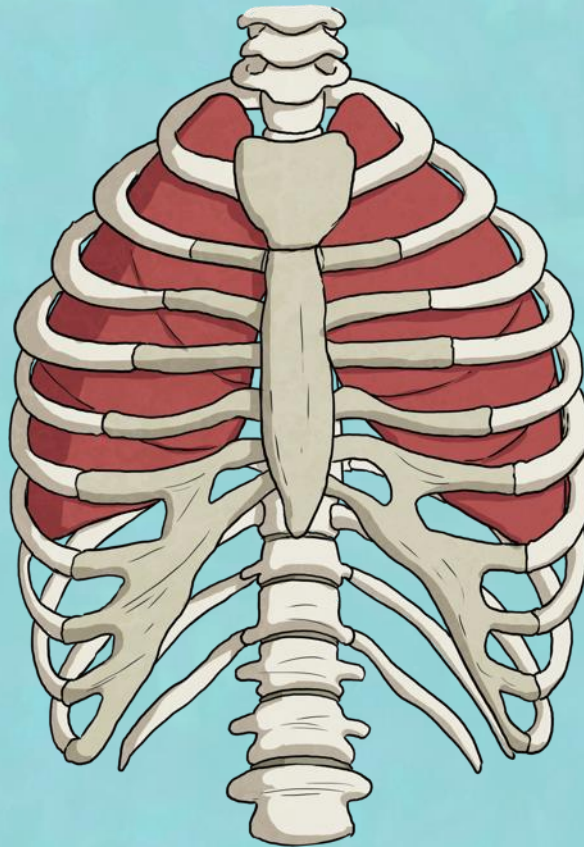
Your left lung is smaller than your right lung. This allows room for your heart, which is on the left side of the body.



Your Ribcage

Your lungs are protected by the ribcage. Your ribcage is made of 12 sets of ribs, which connect to the spine at the back and go around your lungs to protect them.

You cannot see your lungs, but you can feel them expanding if you put your hands on your ribcage. Try it!



Place both hands on your ribcage and inhale deeply. Did you feel your ribcage expand? Now exhale and you should feel your ribcage becoming smaller.

Your Lungs Are Very Important

Our lungs allow us to breathe.

Keeping your lungs healthy is very important. The best way to do this is not to smoke. Smoking damages many parts of the body, but especially the lungs.



How quickly do we breathe?

Adults need to breathe around 15 times a minute at rest.

Children need to breathe more frequently than adults, usually around 20 times per minute.

We breathe more quickly when we are exercising. That is because your muscles work much harder when we exercise and your body uses more oxygen. To cope with this extra demand, your breathing increases.



