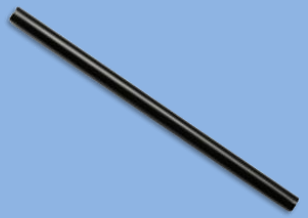
LUNG MODEL

SCIENCE Y5 - SCUOLA PRIMARIA OGGIONI - VILLASANTA

WHAT YOU'LL NEED IS:

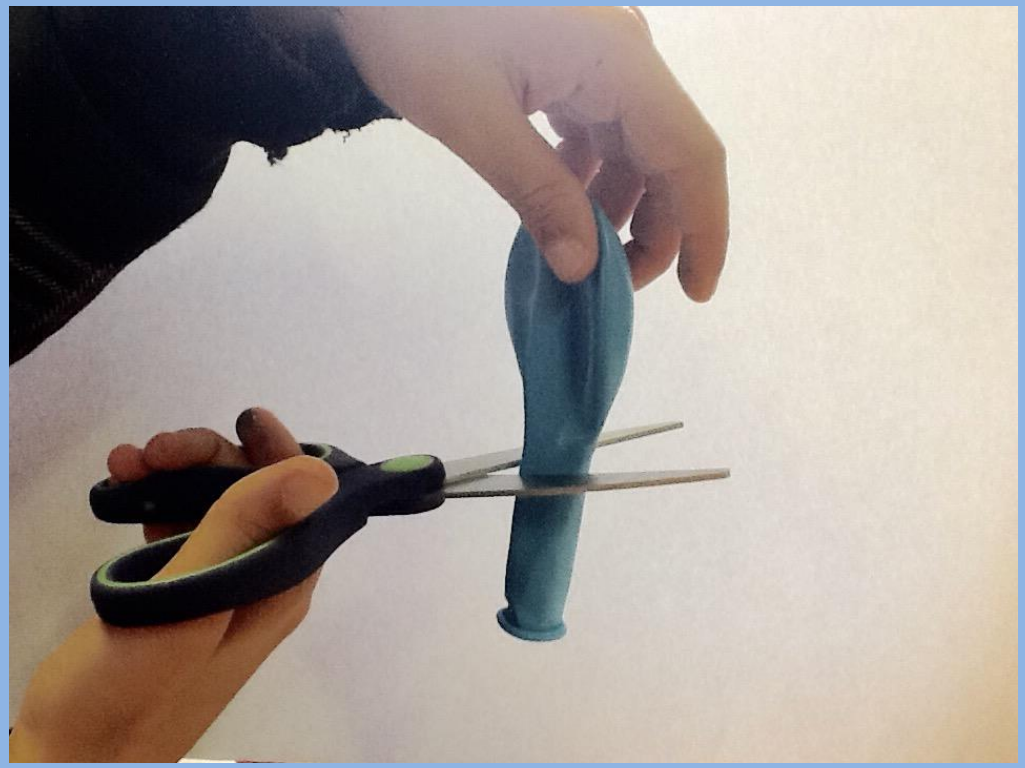
- A pair of scissors 
- Two balloons 
- A plastic bottle 
- A straw 

WHAT YOU'LL NEED IS:

- A rubber band 
- A piece of plasticine 
- A pencil 

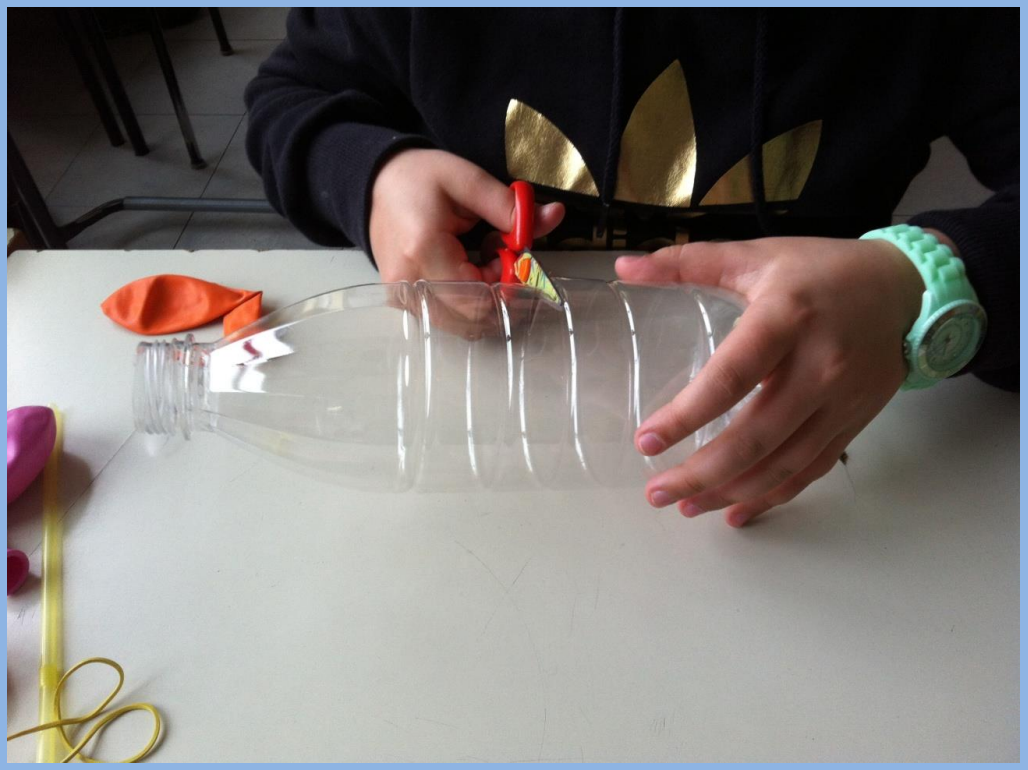
PROCEDURE:

1. Cut off the neck of a balloon.



PROCEDURE:

2. Cut off the base of the plastic bottle.

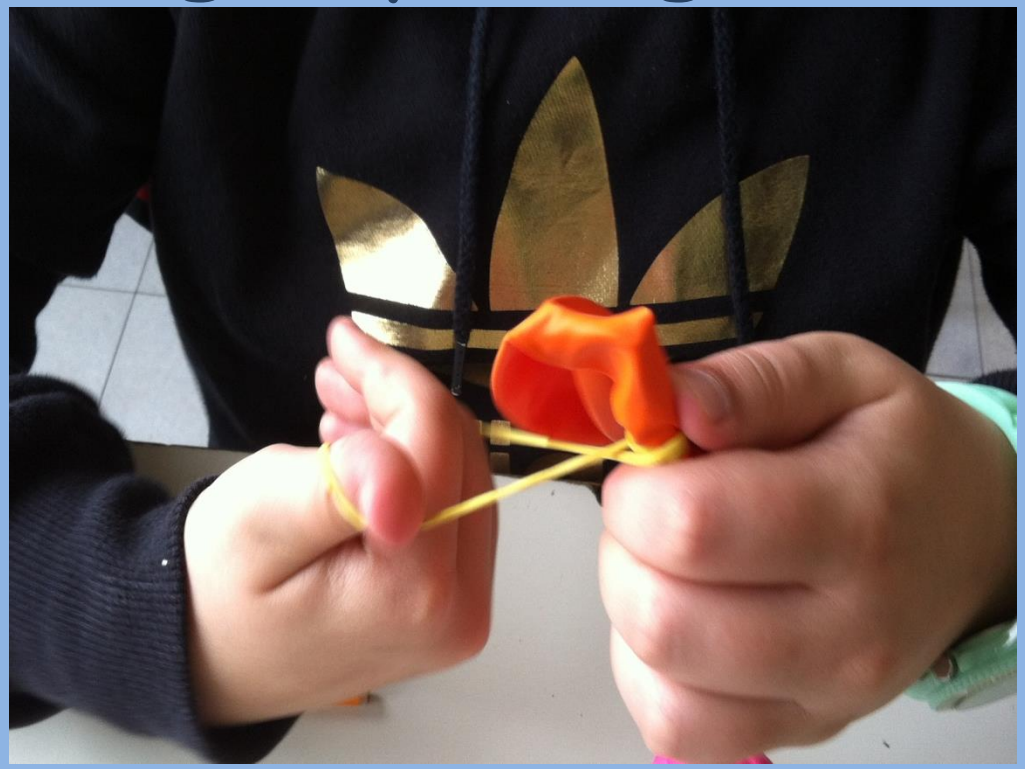


PROCEDURE:

3. Get your balloon (without neck) and stretch it very tightly over the end of your bottle.

PROCEDURE:

4. Get your other balloon and put the straw in through the neck and tie it off tightly using the rubber band.

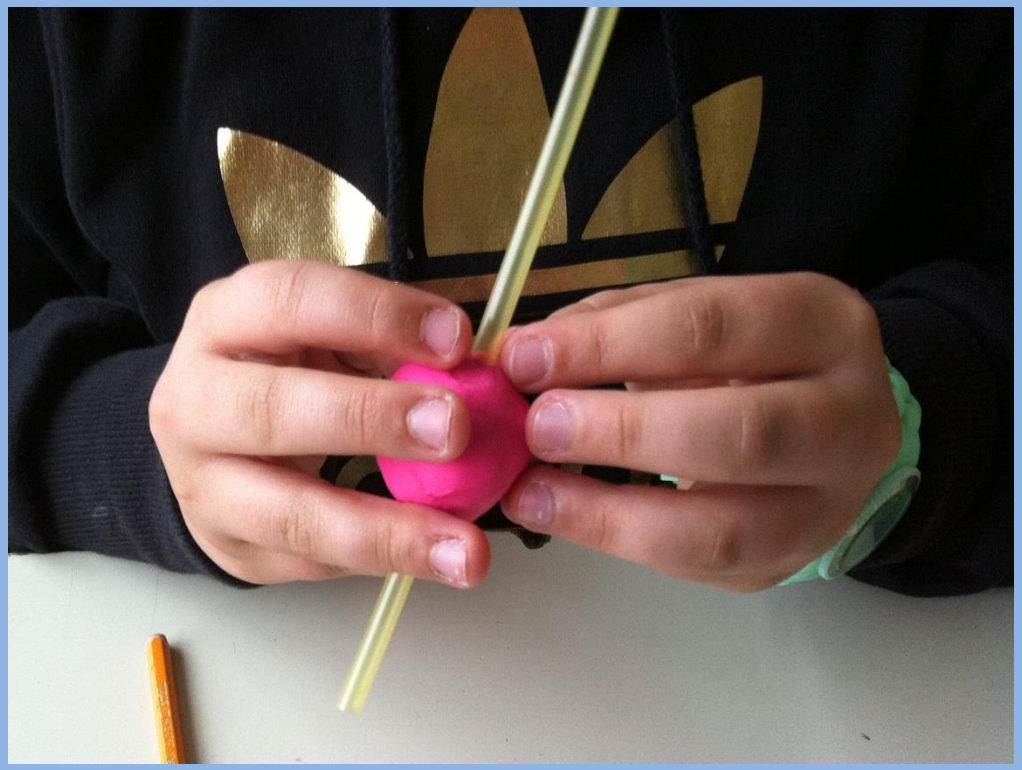


PROCEDURE:

5. Get the pencil and put it through the centre of the ball of plasticine.

PROCEDURE:

6. Get the straw and put it through the hole we've just made and pinch it off at the ends.



PROCEDURE:

7. Put the balloon into the top of the bottle. Push it all the way down.

PROCEDURE:

8. Squeeze off the side of the plasticine.

HOW IT WORKS

Pull gently on the bottom balloon (breathe in)

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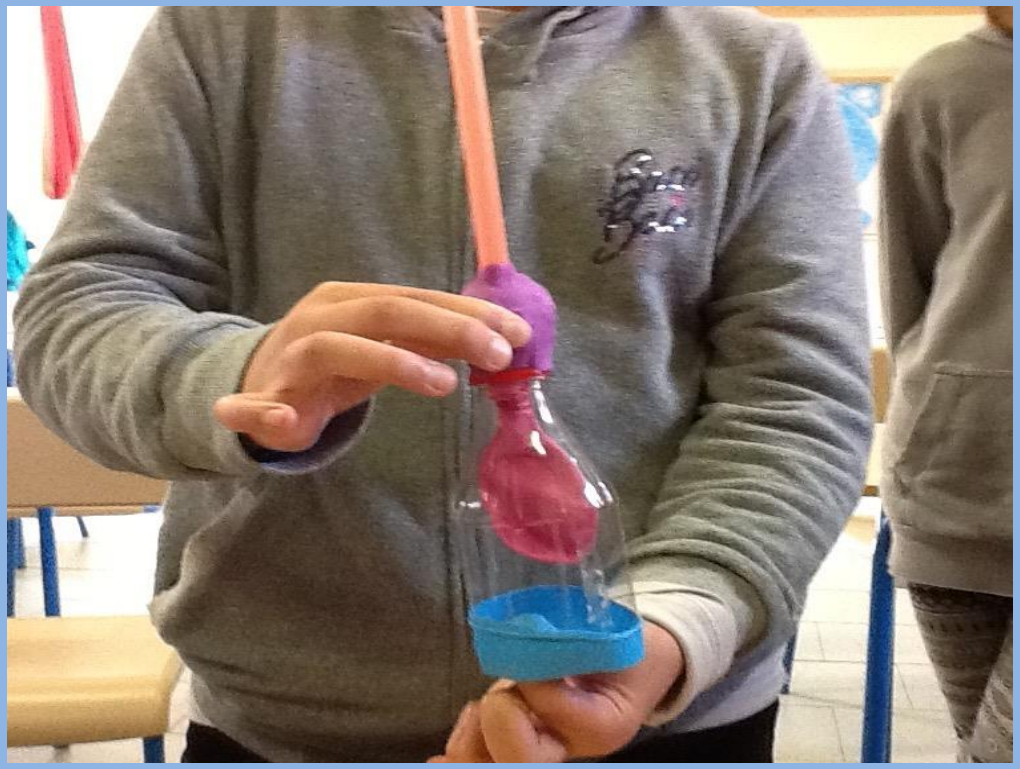
HOW IT WORKS

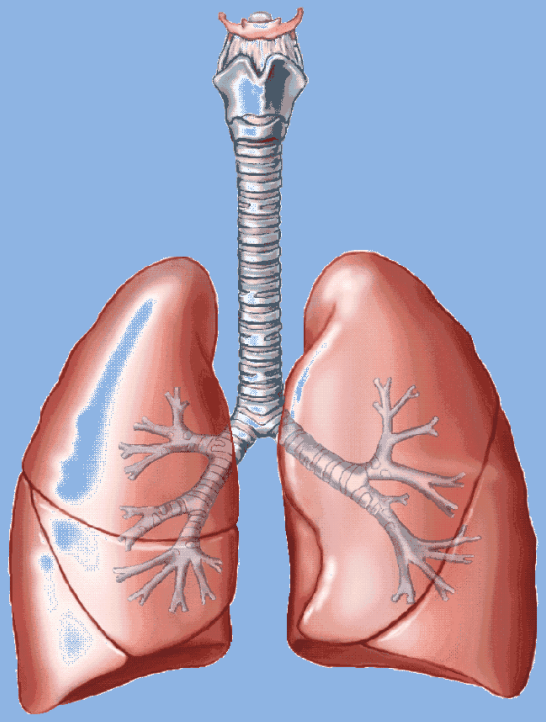
Push gently on the bottom balloon (breathe out)



The respiratory system is formed by:

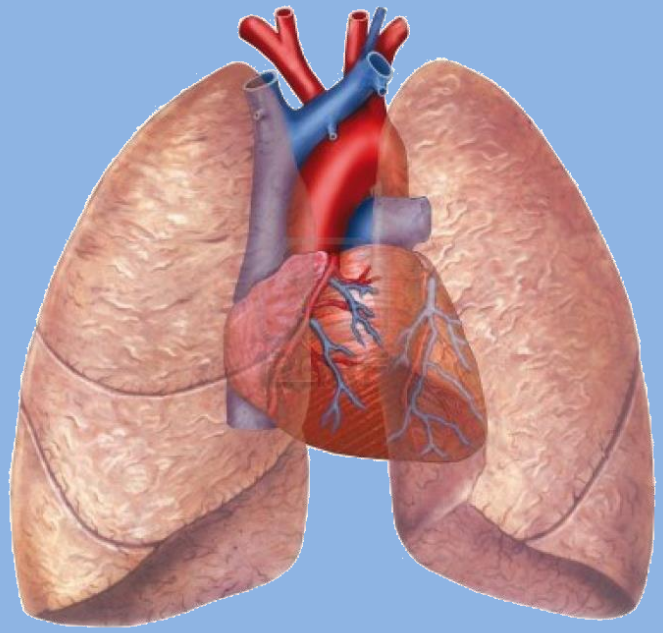
the nose,
the mouth,

the trachea,
the two bronchi
and the lungs.

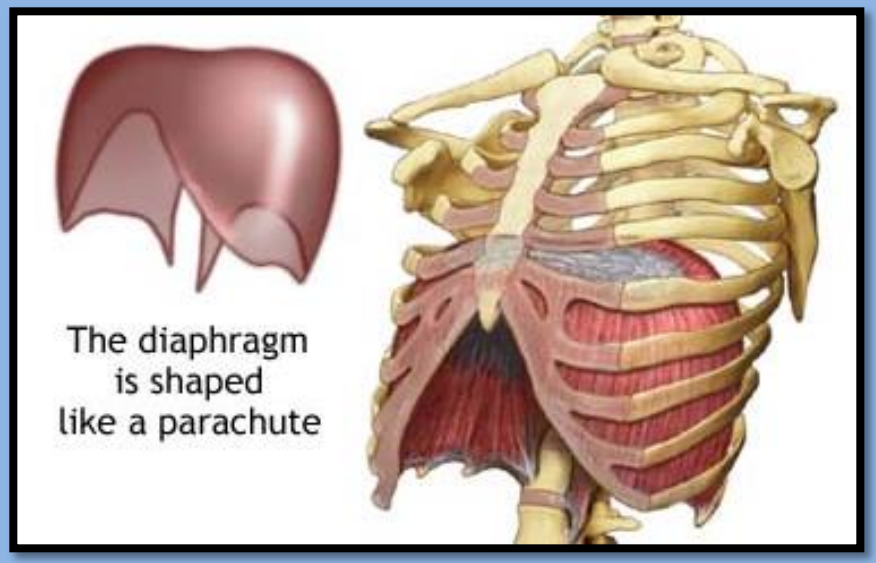


Your **lungs** make up one of the largest organs in your body, and they work with your respiratory system.
Your lungs are in your chest, and they are so large that they take up most of the space in there.

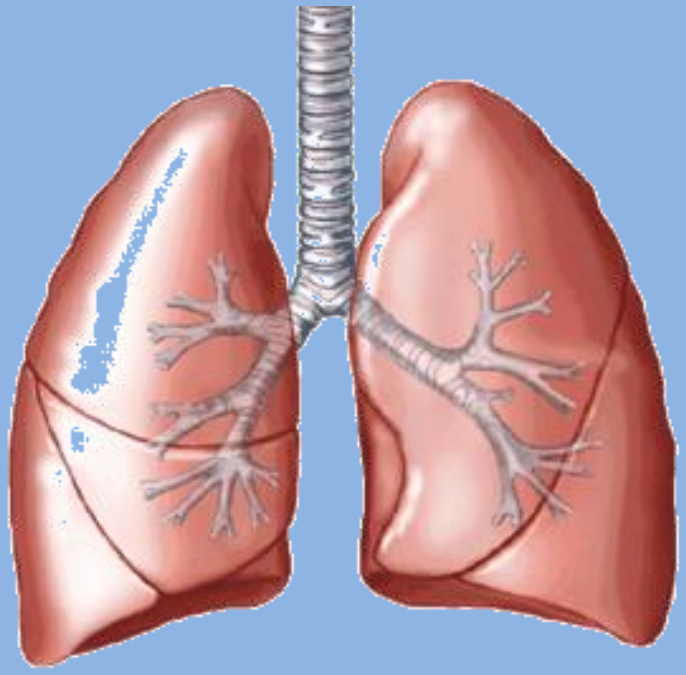
You have two lungs.
The lung on the left side of your body is a bit smaller than the lung on the right. This extra space on the left leaves room for your heart.



Your lungs are protected by your rib cage.
Beneath the lungs is the **diaphragm**, a dome-shaped muscle that works with your lungs to allow you to inhale (breathe in) and exhale (breathe out) air.

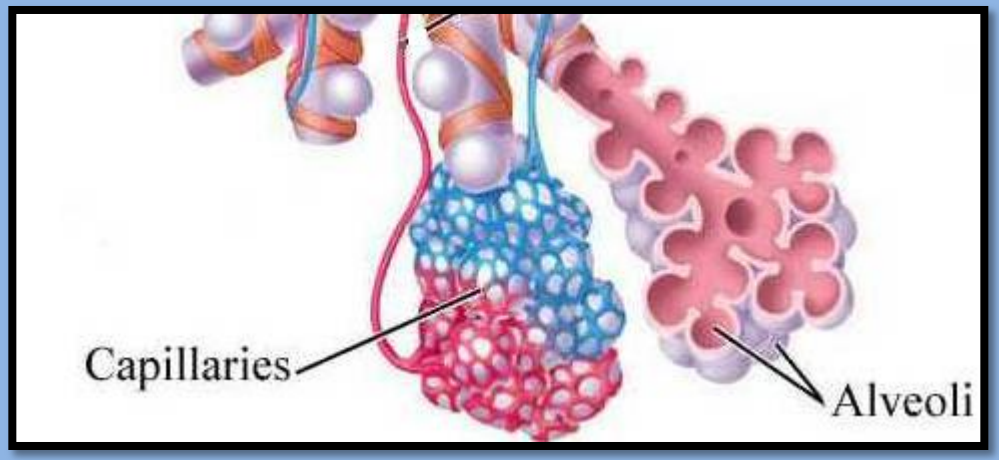


At the bottom of the trachea there are two large tubes. These tubes are called **bronchi**, and one heads left into the left lung, while the other heads right into the right lung.

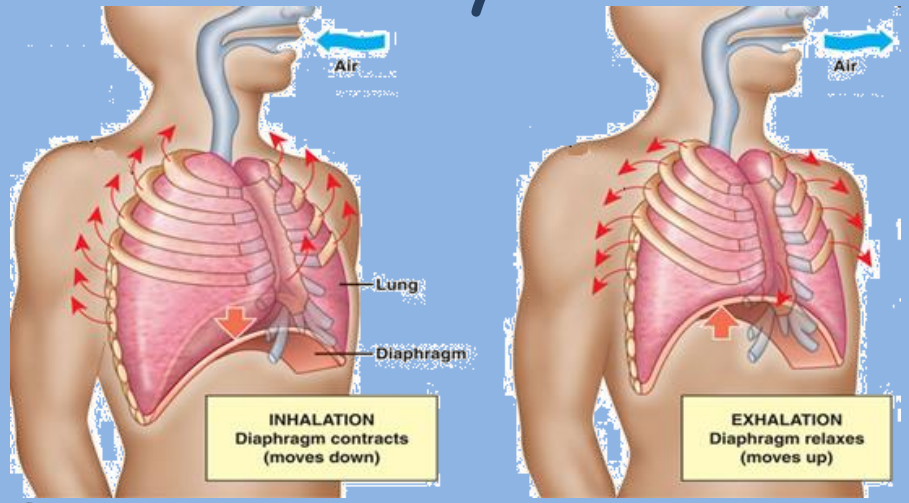


Each bronchus then branches off into tubes, that get smaller and even smaller still, like branches on a big tree. The tiniest tubes are called **bronchioles**. Each bronchiole is about the same thickness as a hair.

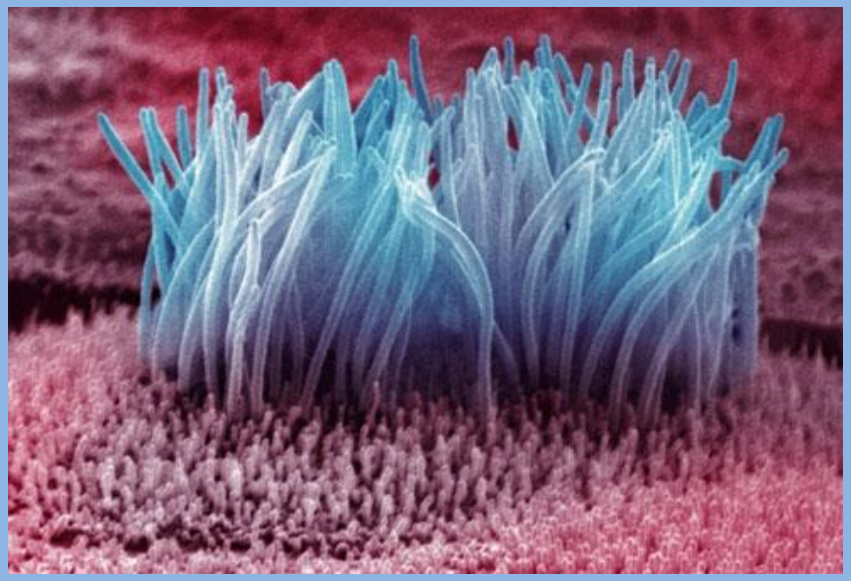
At the end of each bronchiole is a special area that leads into clumps of teeny tiny air sacs called alveoli.
Each alveolus is covered in very small blood vessels called capillaries.



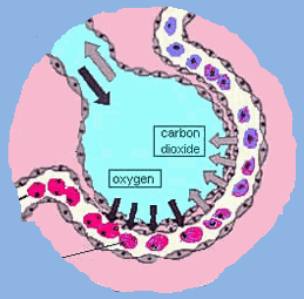
As you breathe in, your diaphragm contracts and flattens out. This allows it to move down, so your lungs have more room to grow larger as they fill up with air. At the same time, you inhale air through your mouth and nose, and the air heads down your trachea.



On the way down the trachea, tiny hairs called cilia move gently to keep mucus and dirt out of the lungs. The air then goes through the series of branches in your lungs, through the bronchi and the bronchioles.

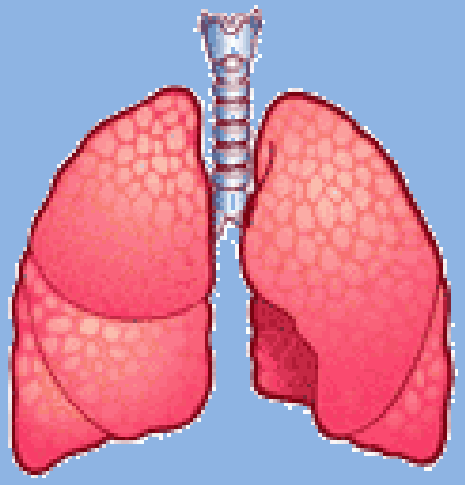


The air finally ends up in the alveoli and the lungs get bigger.
The alveoli allow oxygen from the air to pass into your blood. All the cells in the body need oxygen. Oxygen passes through each alveolus into the tiny capillaries that surround it. The oxygen enters the blood in the tiny capillaries. The heart then sends the oxygenated blood out to all the cells in the body.



When it's time to exhale (breathe out), everything happens in reverse.
Your diaphragm relaxes and moves up, pushing air out of the lungs. Your rib muscles become relaxed, and your ribs move in again, creating a smaller space in your chest.
By now your cells have used the oxygen they need, and your blood is carrying carbon dioxide and other wastes that must leave your body.

The blood comes back through the capillaries and the wastes enter the alveoli. Then you breathe them out in the reverse order of how they came in: the air goes through the bronchioles, out of the bronchi, out of the trachea, and finally out through your mouth and nose.



THANKS FOR JOINING US

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