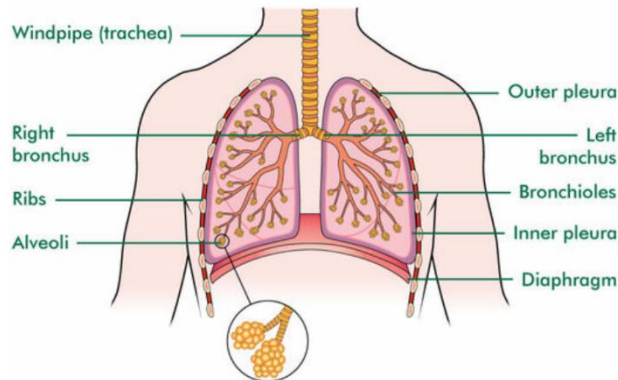


The Lungs



The Science Bit

- The lungs are the parts of the body that we use to breathe. They supply oxygen to the organs and tissues of the body.
 - The lungs are divided into areas called lobes. The right lung has three lobes and the left lung has two lobes (leaving some space for the heart).
 - The lungs are covered by a lining called the pleura, which has two layers. The inner layer covers the lungs. The outer layer lines the ribcage and a sheet of muscle called the diaphragm. The diaphragm separates the chest from the upper tummy (abdomen).
 - Your lungs are protected by your rib cage, which is made up of 12 sets of ribs. These ribs are connected to your spine in your back and go around your lungs to keep them safe. 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.
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- What happens when we breathe in?
 - **Chest muscles** move upwards and outwards. The **diaphragm** (a muscle under the lungs) moves down.
 - This makes more space for the **lungs** which fill up with air from the **mouth** and **nose**.
 - The air moves through tubes in the lungs to tiny air sacs called **alveoli**. Oxygen passes from these **into the blood**, which carries the oxygen to all the cells in the body.
 - What happens when we breathe out?
 - The alveoli **absorb carbon dioxide** from the blood.
 - When we breathe out, the chest muscles move down and inwards. The diaphragm moves up.
 - This squeeze the lungs and forces air out.

- Carbon dioxide from the alveoli flows up through the lungs and out through the mouth and nose.

• **Ideas to take it further**

Set up an experiment to measure lung capacity using plastic tubing, a large water bottle, a measuring jug, marker pen and a large container of water.

Compare lung capacities, were the results what you expected?

Fun Lung Facts

- A person usually breathes an average of 13 pints of air every minute and takes 16 breaths.
- The lungs are the only organs in the human body that are capable of floating on water.
- If the lungs were opened flat they would be so big that they would cover the size of a tennis court.
- Most people only breathe through one nostril at a time. Some people notice that which nostril being used switches at sunrise and sunset.
- Aside from breathing, lungs also play a key part in speech. Air is pushed from the lungs, through the larynx, located above the wind pipe, and converted into sound.