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YOUR AMAZING LUNGS

by Lanny and Marilyn Johnson

Every time you breathe in and out, your wonderfully designed lungs are working to keep you alive, without you ever thinking about it. Let's take a look at one of the largest organs in your body – your amazing lungs!

Lungs are part of your body's respiratory (res-per-uh-tawr-ee) system whose job is to take in fresh air, and get rid of stale air. The respiratory system is made up of the trachea (tray-kee-uh), the lungs and the diaphragm (dy-uh-fram). You have two lungs. They are found in your chest, protected by muscles and the rib cage. The lungs are found below the trachea (the windpipe) and above the diaphragm. Your two lungs aren't exactly the same. Your left lung is divided into two lobes (parts) and is slightly smaller than the right lung to make extra space for your heart, while the right lung is divided into three lobes.

Your trachea (or windpipe) is the big tube you can feel in your throat. The trachea carries air from your nose and mouth down into the lungs, where it splits into two large tubes called main stem bronchi (brong-kee), one going into the left lung, while the other goes into the right lung. Each of these then split into smaller tubes called bronchi, which split many more times into

tiny tubes called bronchioles (brong-kee-ohls). There are about 30,000 bronchioles (about the same thickness as a hair) in each of your lungs!

At the end of each of the bronchioles are little tiny air bags called alveoli (al-vee-uh-lahy). Each lung has over 300 million alveoli - that's 600 million total in both lungs! If you stretched these alveoli out, they would cover a tennis court! Each alveolus (the word for individual alveoli) is covered with very small blood vessels called capillaries (cap-ill-er-ees). When you inhale (breathe in) the alveoli get bigger pulling in oxygen from the air. The blood in the capillaries picks up the oxygen and carries it to your heart, which then pumps the oxygen-filled blood to all the cells in your body. Your cells have to have oxygen all the time!

Once your cells use up the oxygen they need, they get rid of the carbon dioxide and other wastes they make by handing them off to the blood. The blood then returns to the lungs where it dumps the waste it is carrying (carbon dioxide) into the alveoli. When you exhale (breathe out) the alveoli get smaller, and push the carbon dioxide out of your lungs.

The diaphragm is the dome-shaped muscle that is just below your lungs. To breathe in, your

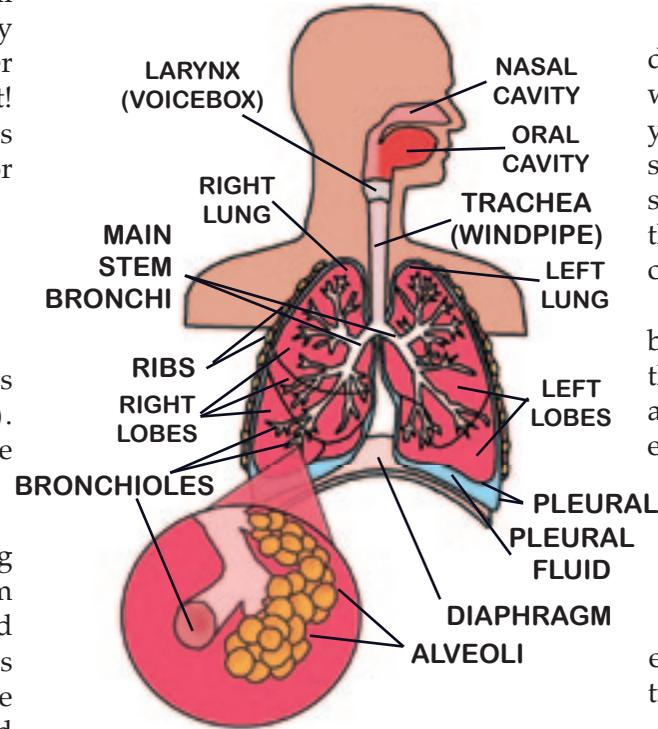
diaphragm squeezes, flattens out, and moves down, allowing more room for your lungs to grow as they fill up with air. At the same time, your rib muscles lift the ribs up and outward, giving the lungs even more space to inflate. Because the air pressure outside of your body is now higher than the air pressure inside your lungs, they will fill with air.

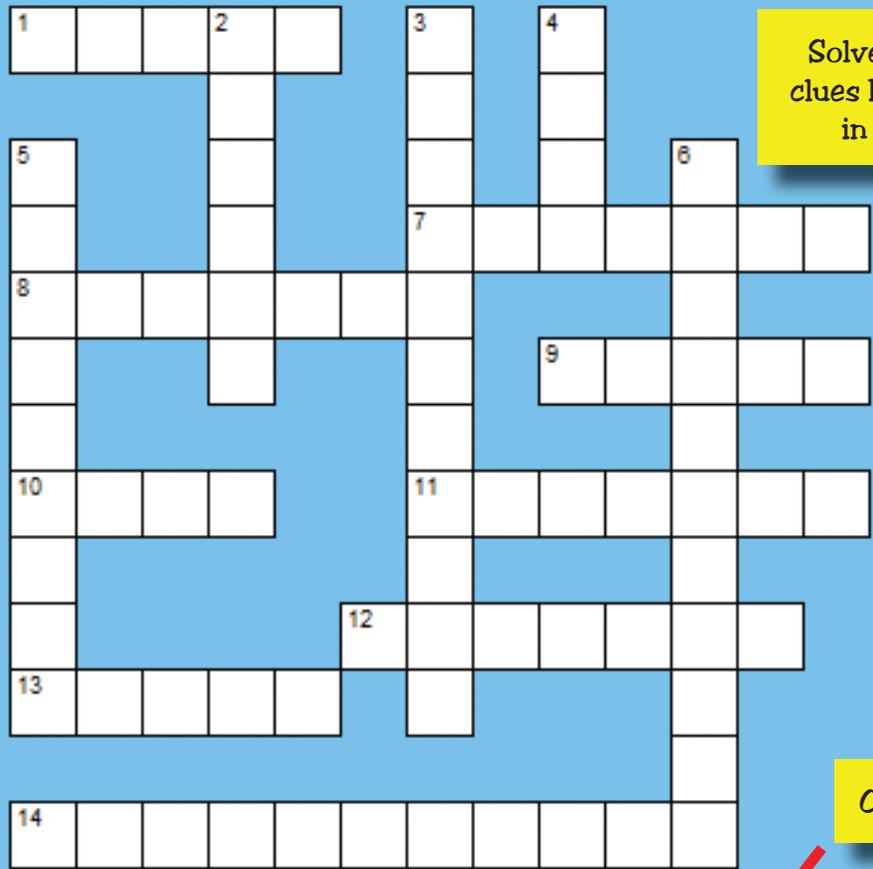
To breathe out, your diaphragm relaxes and moves up, while your rib muscles relax and your ribs move in. This makes a smaller space in your chest which squeezes the lungs, pushing the air carrying the wastes and carbon dioxide out of your lungs.

As your lungs constantly get bigger and smaller, you would think they would get stuck to all the surrounding body parts, especially the ribs! However, your lungs are covered by two really slippery layers called pleural (ploo-ral) membranes. These are kept apart by a liquid that lets them easily slip past each other every time you breathe in and out.

Your brain senses the amount of oxygen in the blood, and the amount of waste (carbon dioxide), and causes you to breathe faster or slower depending on what your body needs. This is all happening whether you are walking, running, or sleeping ... all without you having to think about it.

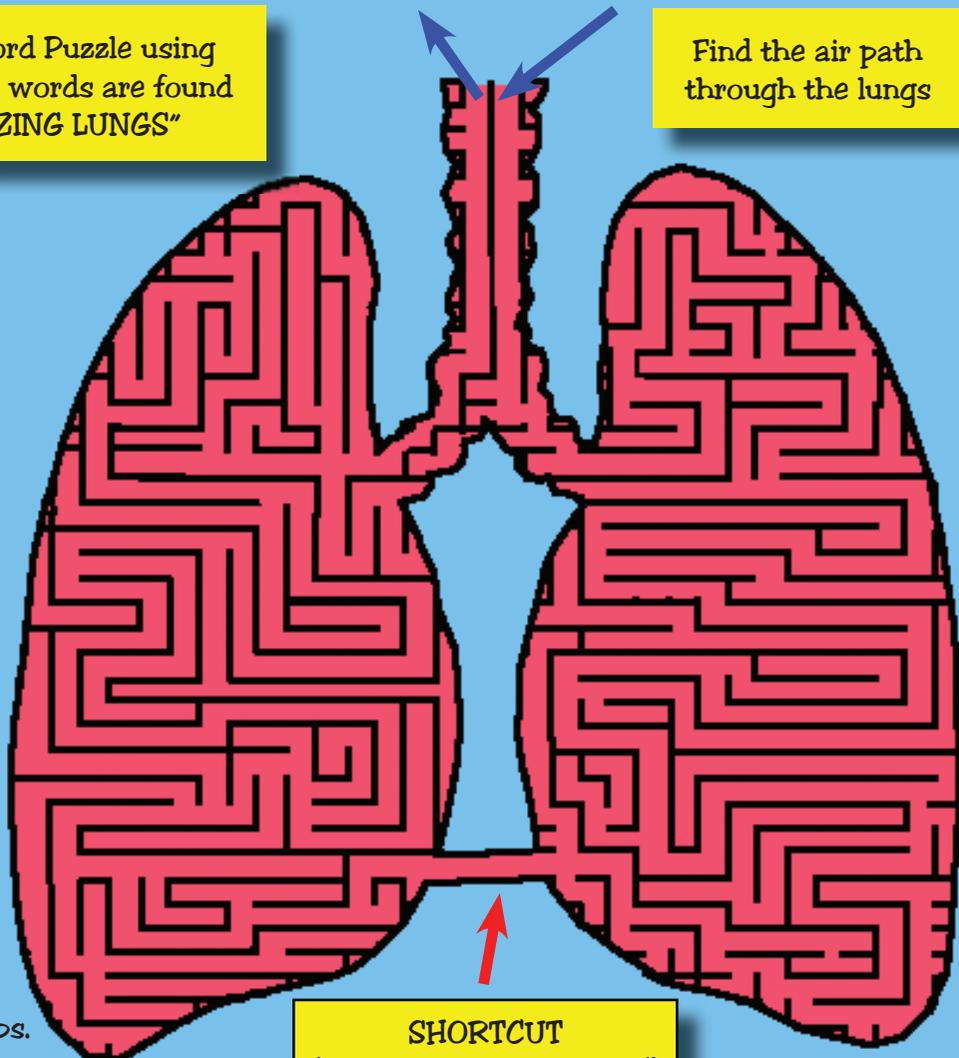
Sadly because of sin which brought harmful mutations and diseases into the world, things can go wrong with this marvelously designed system. However, it is amazing how it all works so well together almost all the time. Like everything else in your body, your lungs show evidence of a wonderful and wise Creator!





Solve the Crossword Puzzle using clues below. All the words are found in "YOUR AMAZING LUNGS"

Find the air path through the lungs



CLUES

SHORTCUT
(Not found in your body!)

ACROSS

- 1 This carries oxygen from your lungs to the cells and carries carbon dioxide away from the cells to the lungs.
- 7 Really slippery membranes that keep your lungs from sticking to your ribs.
- 8 Tiny airbags - your lungs have over 600 million of them!
- 9 The big sacks (like balloons) that have all the special parts you need to breathe.
- 10 The bones that protect your lungs and move in and out to help you breathe.
- 11 The big tube you can feel in your throat - also called your wind pipe.
- 12 Another word for God - the One that made your wonderful body!
- 13 One of the things you breathe through - and you eat with this one too!
- 14 Very small blood vessels.

DOWN

- 2 This is found in the air - your cells need this!
- 3 Your body's system whose job is to take in fresh air and get rid of stale air.
- 4 One of the things you breathe through - and you smell with this one too!
- 5 Dome shaped muscle just below your lungs.
- 6 Tiny tubes - each lung has about 30,000 of them!

FOR ANSWERS GO TO: <http://www.discovercreation.org/kids/NewsletterAnswers.htm>

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