

Respiratory System – How Do Lungs Work?

Emma Bryce, *How do lungs work*, TED-Ed, YouTube 24.11.2014 [dostęp: 30.09.2023], online: https://www.youtube.com/watch?v=8NUxvJS-_0k.

In the video entitled *How do lungs work* Emma Bryce wonders how humans accomplish the crucial and complex task of breathing without even thinking about it.

I. Before watching the video study the terms below and give their Polish equivalents:

| English | Polish |
|--------------------------|--------|
| *alveolus | |
| autonomic nervous system | |
| bloodstream | |
| body | |
| brain | |
| *bronchus | |
| bronchiole | |
| capillary | |
| chest cavity | |
| diaphragm | |
| intercostal muscle | |
| lung | |
| mouth | |
| muscle | |
| nose | |
| parenchyma tissue | |
| red blood cell | |
| rib | |
| sac | |
| trachea | |

*irregular plural forms:

alveolus – alveoli

bronchus – bronchi

II. Complete the text with the terms from task I. above – some words can be used more than once, some need a plural form:

To get this machine moving we need the 1./ _____ – our 2./ _____'s unconscious control centre for the vital functions. As the 3./ _____ prepares to take in oxygen-rich air, this system sends a signal to the 4./ _____ around your 5./ _____, flapping the 6./ _____ and contracting the 7./ _____ between your 8./ _____ to create more space for the 9./ _____ to expand. Air then whooshes into your 10./ _____ and 11./ _____, through your 12./ _____ and into your 13./ _____ that split at the 14./ _____'s base with one entering each 15./ _____. Like tree branches these small tubes divide into thousands of tinier passages called 16./ _____. It's tempting to think of the 17./ _____ as huge balloons but instead of being hollow they are actually spongy inside with the 18./ _____ running throughout the 19./ _____. At the end of each 20./ _____ is a little air sac called an 21./ _____ wrapped in 22./ _____ full of 23./ _____ containing special proteins called haemoglobin. The air you breathe in fills these sacs causing the 24./ _____ to inflate. Here is where the vital exchange occurs. At this point, the 25./ _____ are packed with carbon dioxide and the air 26./ _____ are full of oxygen. But due to the basic process of diffusion, the molecules of each gas want to move to a place where there is a lower concentration of their kind, so as oxygen crosses over to the 27./ _____, the haemoglobin grabs it up while the carbon dioxide is unloaded into the 28./ _____. The oxygen-rich haemoglobin is then transported throughout the 29./ _____ via the 30./ _____. But what do our 31./ _____ do with all that carbon dioxide? Exhale it of course. The 32./ _____ kicks in again causing the 33./ _____ to ball up and the 34./ _____ to relax making the 35./ _____ smaller and forcing the 36./ _____ to compress. The carbon dioxide-rich air is expelled and the cycle begins again.

So that's how these spongy organs in our body efficiently supply it with air. Lungs inhale and exhale between 15 and 25 times a day, which amounts to an incredible 10,000 litres of air each day. That's a lot of work, but don't sweat it!– your lungs and your autonomic nervous system have got it covered.

III. Watch the video by Emma Bryce at: https://www.youtube.com/watch?v=8NUxvJS-_ok and check your answers in the task above.

IV. Work in pairs – take turns describing the path of air through the respiratory system. The person who can use more terms from task I. above is the winner!

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