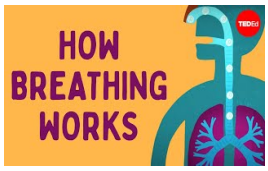

RESPIRATORY SYSTEM

eslvideo.com Quiz by: Kary Pedroza Vargas

1. What do we depend on for our life?

- ○ a.) Carbon dioxide
- ○ b.) Nitrogen
- ○ c.) Oxygen

2. Where does the air enter our body?

- ○ a.) Through the ears
- ○ b.) Through the nose and mouth
- ○ c.) Through the skin

3. What are the small air sacs in the lungs called?

- ○ a.) Bronchi
- ○ b.) Alveoli
- ○ c.) Pharynx

4. What helps move oxygen into the blood?

- ○ a.) The heart
- ○ b.) The diaphragm and intercostal muscles
- ○ c.) The stomach

5. How does breathing affect our energy level?

- ○ a.) It has no effect
- ○ b.) It decreases energy
- ○ c.) It can increase or decrease energy

6. What happens to our breath when we are nervous?

- ○ a.) It slows down
- ○ b.) It speeds up
- ○ c.) It stops

7. What do our muscles require during physical activity?

- ○ a.) More energy and oxygen
- ○ b.) Less energy and oxygen
- ○ c.) Only energy

8. What can happen if our cells do not get enough oxygen?

- ○ a.) They become stronger
- ○ b.) Toxins build up in the blood
- ○ c.) They grow faster

9. What is a hypoxic environment?

- ○ a.) An oxygen-rich environment
- ○ b.) An oxygen-poor environment
- ○ c.) A normal environment

10. Who has studied the science of breathing for thousands of years?

- ○ a.) Doctors only
- ○ b.) Ancient yogis and respiratory therapists
- ○ c.) Only scientists

11. What happens when we let out a big sigh?

- ○ a.) We breathe less
- ○ b.) We increase air pressure
- ○ c.) We increase oxygen intake

12. What does alternate nostril breathing help with?

- ○ a.) Increasing stress
- ○ b.) Slowing down the breath
- ○ c.) Making breathing harder

13. What does panting help dogs do?

○ a.) Increase energy

○ b.) Cool down

○ c.) Sleep better

14. What does the medulla center of the brain do at night?

○ a.) Stops breathing

○ b.) Makes sure we keep breathing

○ c.) Increases breathing rate

15. Why is it important to pay attention to our breathing?

○ a.) To ignore stress

○ b.) To improve oxygen intake

○ c.) To breathe less

16. What can monitoring our breath lower?

○ a.) Stress

○ b.) Energy

○ c.) Oxygen

17. What does taking a deep breath do?

○ a.) Increases stress

○ b.) Lowers energy

○ c.) Increases oxygen

18. What is one way to alter breathing?

○ a.) Changing air pressure

○ b.) Ignoring breath

○ c.) Breathing less

19. What do we use when we exhale forcefully?

○ a.) Our legs

○ b.) Our stomach muscles

○ c.) Our arms

20. What can we control more than we realize?

○ a.) Our thoughts

○ b.) Our breath

○ c.) Our emotions

Transcript

Transcriber: tom carter
Reviewer: Bedirhan Cinar We take a breath every few seconds. Our life depends upon inhaling oxygen, but we never think about how we breathe. It just seems to happen automatically. How can something that seems so simple be the key to keeping us alive? Breathing starts with the environment around us. The air we breathe in, or inspire, has a mixture of gases including nitrogen, carbon dioxide and oxygen, which is the most important for our survival. It enters our body through the nose and mouth, moves down into the pharynx, trachea and bronchial tubes, and ultimately reaches the alveoli air sacs in the lungs. The alveoli use pressure to move oxygen and nutrients into the blood. The diaphragm and intercostal muscles are a pumping system that facilitates this air exchange. How you breathe affects your energy level, especially when you are under physical or emotional stress. Think back to the last difficult test you had to take. It's likely that as you became more nervous, the tension in your body increased, and your breathing quickly sped up. The shallower our breath, the less oxygen that reaches our brain, and the harder it is to focus. What's our response to physical stress, like a fast-paced game of field hockey after school? As we exert pressure on our bodies, the muscles require a great deal of energy and demand additional oxygen. Our panting breath starts to kick in, which creates pressure to draw in more air and oxygen to the body, and regulates body temperature by allowing it to cool down naturally. These aren't the only times our breathing is affected or altered. Think about the last time you got angry or emotional. Anger creates a metabolic reaction in the body, which stresses it out and heats up our internal temperature. Have you ever seen anyone lose their cool? Ultimately, if we're breathing under stress over long periods of time, there are consequences. When the cells of a body aren't getting the oxygen they need, the nutrients available to the body decrease and toxins build up in the blood. It is thought that a hypoxic, or oxygen-poor environment, can increase cancerous cells. The good news is that we can control our breath much more than we realize. This means we can increase both the quality and quantity of the breath. The science of breathing has been around for thousands of years, from ancient yogis in India to respiratory therapists working with patients today. Both would tell you that there are specific techniques that will help you improve your breathing. Breathing is all about moving air from a higher-pressure to a lower-pressure environment. More breath means more oxygen, and ultimately a greater amount of nutrients that's available for our cells and blood. We naturally do this when we let out a big sigh. Changing the air pressure going into the

lungs is one of the main ways to alter breathing. Our body automatically does this when we cough, sneeze, or have the hiccups. Here's a simple experiment. Close off your right nostril with your right thumb. Breathe in and out just through the left nostril. Notice how much harder it is to get the breath in. You have to focus your attention, and use your diaphragm and muscles much more than normal. By decreasing the surface area of the airways, you're increasing the pressure of oxygen moving from the alveoli to the blood. Yogis often practice alternate nostril breathing to slow down the breath, increase oxygen, and activate the body's parasympathetic nervous system, which deals with the body's operations when it's at rest. Let's try another exercise. Visualize the way a dog pants when it breathes. Now try doing the same type of panting, first with your tongue out, then with your mouth closed. You will find yourself using your stomach muscles to push the air out as you exhale. Place your hand under your nose, and you'll feel the strength of the breath coming out. Breathing this way is hard because it requires an active movement of our diaphragm and intercostal muscles. Our body temperature changes quickly during this exercise from the amount of pressure we are exerting on our breath. It's no surprise that you'll find dogs doing this breath often to cool down on a hot day. When we sleep at night, the medulla center of the brain makes sure that we keep breathing. Lucky for us we don't have to think about it. During the day, our breath is much more vulnerable, especially under stressful or difficult situations. That's why it's helpful to pay attention to your breathing. If you can monitor and change your breath, you can improve both the quality and quantity of oxygen that enters your body. This lowers stress, increases energy, and strengthens your immune system. So the next time someone tells you to relax and take a deep breath, you'll know exactly why.