

Highlight important
vocabulary words.

Science Shorts -7

Systems Working Together

Your body is an amazing machine. A machine has many parts that work together to make it run. In much the same way, a human has body systems that work together to keep a person going. One system is not more important than another. All are necessary in order for the body to live. Two of these systems include the circulatory system and the respiratory system.

The circulatory system moves blood throughout the body. Your cells need a constant supply of fresh blood. Blood has red blood cells, white blood cells and platelets. The red blood cells carry oxygen from the lungs to the rest of the body. They also bring back carbon dioxide and waste. White blood cells attack germs to keep the body healthy. Platelets stop bleeding by forming a clot. Without platelets, you could bleed to death from a small cut!

Your heart is about the size of your fist. This muscle pumps blood through blood vessels. Actually the heart has two pumps. The heart's left pump gets blood from the lungs. This blood has oxygen. The heart pumps it to cells all over the body. The heart's right pump gets the blood returning from the cells. This blood has carbon dioxide in it. The right pump moves this blood to the lungs. There the carbon dioxide is taken out of the blood and oxygen added.

As you can see, the respiratory system gives the body oxygen and gets rid of carbon dioxide. When you inhale, your lungs get bigger. Oxygen rushes into them. When you exhale, your chest gets smaller, pushing carbon dioxide out. Air enters through the nose or mouth. Inside your nose are millions of tiny hairs. These hairs trap dust and dirt so that only clean air goes down the trachea, or windpipe, to the lungs. Right above the lungs, the windpipe splits into two tubes. One tube enters each lung. Inside the lungs these tubes branch into many smaller tubes. These smaller tubes have millions of air sacs.

Carbon dioxide and oxygen are exchanged in these air sacs. Carbon dioxide leaves the blood and goes into the air sacs. Carbon dioxide leaves the blood and goes into the air sacs. Then oxygen moves through the air sacs into the blood. This oxygen-filled blood goes to the heart. Where it is pumped to all the cells. The carbon dioxide leaves the lungs with the next exhale.

1. How many air sacs are in your lungs?

- (a) dozens
- (b) hundreds
- (c) thousands
- (d) millions

2. What happens last?

- (a) John cuts his knee.
- (b) The platelets in his blood rush to the cut.
- (c) John's knee stops bleeding.
- (d) John's knee bleeds.

3. Which is true?

- (a) The air around us has only oxygen in it.
- (b) We use all of the elements in the air that we breathe.
- (c) We breathe in oxygen and exhale carbon dioxide.
- (d) We breathe in carbon dioxide and exhale oxygen.

4. The word *respiratory* means

- (a) eating.
- (b) pumping.
- (c) smelling.
- (d) breathing.

5. When someone is choking, something is blocking their

- (a) trachea.
- (b) platelets.
- (c) heart.
- (d) veins.

6. Picture a person with a deep cut on her leg. Which body system is affected?

- (a) digestive
- (b) circulatory
- (c) skeleton
- (d) respiratory

7. Explain how the circulatory system and the respiratory system work together to keep you alive.
