

Glossary

alveoli Tiny sacs in the lungs where oxygen enters the blood and carbon dioxide leaves the blood. Oxygen moves from the alveoli into the bloodstream. Carbon dioxide moves out of the bloodstream into the alveoli.

artery A blood vessel that carries blood away from the heart. In almost all arteries, the blood carries a lot of oxygen. The artery that goes from the heart to the lungs is one exception. It carries blood with little oxygen.

blood A mixture of blood cells and liquid that carries oxygen, nutrients, and other materials throughout the body. Blood is a tissue. It has blood cells and platelets floating in a liquid called plasma. The red blood cells carry oxygen to cells. White blood cells fight disease. Platelets make blood clot when you get a cut.

bronchi Two tubes that connect the trachea to the lungs. The singular of *bronchi* is *bronchus*. One bronchus leads to each lung. The bronchi are also called “bronchial tubes.”

capillary A tiny blood vessel that connects a small artery with a small vein. The capillaries are where oxygen and carbon dioxide are exchanged between the cell and the blood. A capillary is so thin that a single red blood cell can fit through it.

carbohydrate A nutrient in sugars and starches that provides energy. Plants make sugar during photosynthesis. They store extra sugar as starch. You get carbohydrates when you eat plants and plant parts.

cartilage A flexible tissue that cushions bones at joints. Pads of cartilage in joints keep the bones from rubbing against each other. You also have cartilage in your nose and ears.

cell The smallest living part of an organism. The human body has trillions of cells. A chicken egg has only one cell surrounded by food.

cellular respiration The process in cells that releases energy. Sugar is broken down during cellular respiration. Both plants and animals carry out cellular respiration.

diaphragm A sheet of muscle below the lungs. When the diaphragm contracts, your lungs breathe in air. When it relaxes, your lungs breathe out air.

esophagus The tube that leads from the mouth to the stomach. The esophagus has muscles that contract to push food along.

fat A nutrient that can be stored in animals and in some plant seeds. Fat supplies twice as many Calories as an equal amount of carbohydrates or protein. Your body needs fat for energy and to keep warm.

heart The organ that pumps blood throughout the body. The heart is made of muscle. It contracts over and over again for your entire lifetime.

involuntary muscle Muscle that contracts on its own without your thinking about it. Your heart is made of involuntary muscle. Your heart keeps beating even if you are sound asleep. Involuntary muscle also lines your stomach and intestines.

joint A place where two or more bones meet. Your body has more than 230 joints. Examples of joints are the ball-and-socket joint in your shoulder, the hinge joint in your knee, and pivot joints in your neck.

kidney The excretory organ that filters wastes from the blood. About 2,000 liters of blood pass through the kidneys each day. The wastes that are filtered out leave the body in urine.

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large intestine The digestive organ that removes extra water from wastes. The large intestine is also called the colon. It is about five feet long.

larynx The voice box in your throat. The larynx contains your vocal cords. When the vocal cords vibrate, you make sounds.

liver The digestive organ that makes bile to break down fats. Besides making bile, the liver stores sugar until the body needs it. The liver also helps the body get rid of harmful substances.

lung A respiratory organ that moves air into and out of the body. The lungs bring in air that contains oxygen. They get rid of air that contains carbon dioxide.

nutrient A substance the body needs in order to survive and grow. The six kinds of nutrients are proteins, fats, carbohydrates, vitamins, minerals, and water.

organ A group of different tissues that work together to carry out a certain function. Organs in the human body include the brain, eye, skin, tongue, kidney, liver, and lung.

organ system A group of organs that work together to carry out a certain function. The function of the digestive system is to break food down into simple chemicals that the body can use.

osmosis The diffusion of water across a membrane. Water diffuses from where it is more concentrated to where it is less concentrated. In living things, water diffuses across the cell membrane.

pancreas The digestive organ that makes chemicals to break down proteins, carbohydrates, and fats. The pancreas also helps control the amount of sugar in the blood.

photosynthesis The process of using the energy in sunlight to make food from water and carbon dioxide. Plants use carbon dioxide and give off oxygen during photosynthesis. The food that plants make is a kind of sugar called glucose.

protein A nutrient that the body needs for growth and repair of tissues. Proteins are important in your diet because cell membranes have proteins in them.

saliva The liquid that starts digestion in the mouth. Saliva contains a digestive juice that breaks down starch into sugar.

skeletal muscle Muscle that is attached to bones and moves them. The biceps and triceps in your upper arm are skeletal muscles. When your biceps contracts, your arm bends at the elbow. When your biceps relaxes and your triceps contracts, your arm straightens.

small intestine The digestive organ that finishes breaking down food and takes nutrients into the bloodstream. The small intestine is lined with tiny finger-like villi. These structures have many blood vessels for absorbing nutrients.

starch A food that is stored in plants. Potatoes, corn, and grains contain a lot of starch.

stomach The digestive organ that churns food and mixes it with digestive juices. The stomach turns food into a mushy liquid that passes into the small intestine.

sugar A food that is produced by plants during photosynthesis. A plant uses the sugar it produces for energy and growth. It stores extra sugar as starch.

sweat gland A structure in the skin that removes salt and water from the body and helps cool the body. The skin has more than two million sweat glands. The skin is your largest excretory organ.

Glossary (continued)

tissue A group of cells that work together to carry out a certain function. Blood is a tissue. Blood carries nutrients, oxygen, and water to cells through the body. It carries carbon dioxide and other wastes away from cells.

trachea The tube that connects the mouth and nose with the bronchi. The trachea is also called the windpipe. The larynx is at the beginning of the trachea.

ureter The tube that carries urine from a kidney to the urinary bladder. Your body has two ureters, one from each kidney. The ureter is 8 to 10 inches long in adults.

urethra The tube that carries urine from the urinary bladder to the outside of the body. Your body has one urethra.

urinary bladder The organ that collects and stores urine until it leaves the body. The urinary bladder can store as much as one-half liter of urine.

urine A liquid that is formed in the kidneys and contains wastes. The average adult produces one to two liters of urine each day.

vein A blood vessel that carries blood toward the heart. The blood in veins that go to the heart carries little oxygen. The vein that goes to the heart from the lungs is an exception. It has blood with a lot of oxygen.

vertebra One of the bones that form an animal's backbone. Your backbone is made of many separate bones. The backbone is also called the spinal column.

voluntary muscle Muscle that contracts when you tell it to. Skeletal muscles in your arm are voluntary muscle. You decide when to contract your biceps and triceps to bend and straighten your arm.