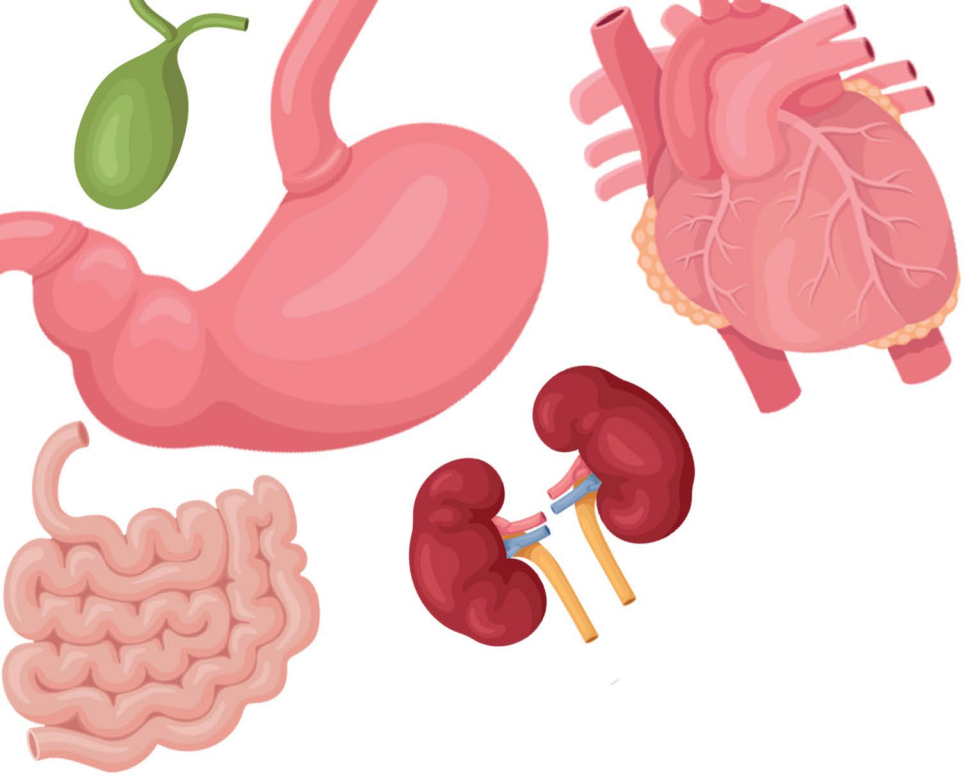
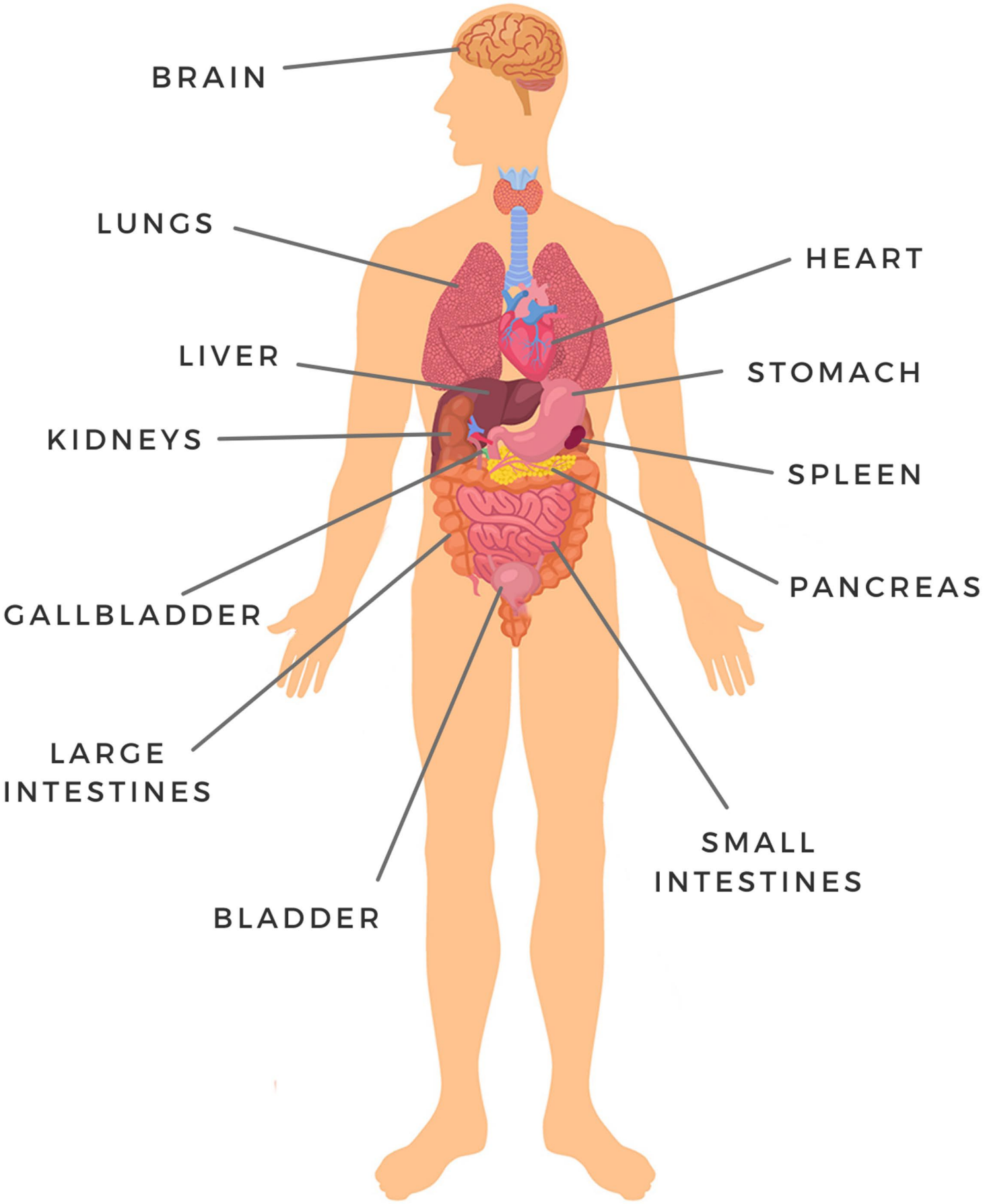


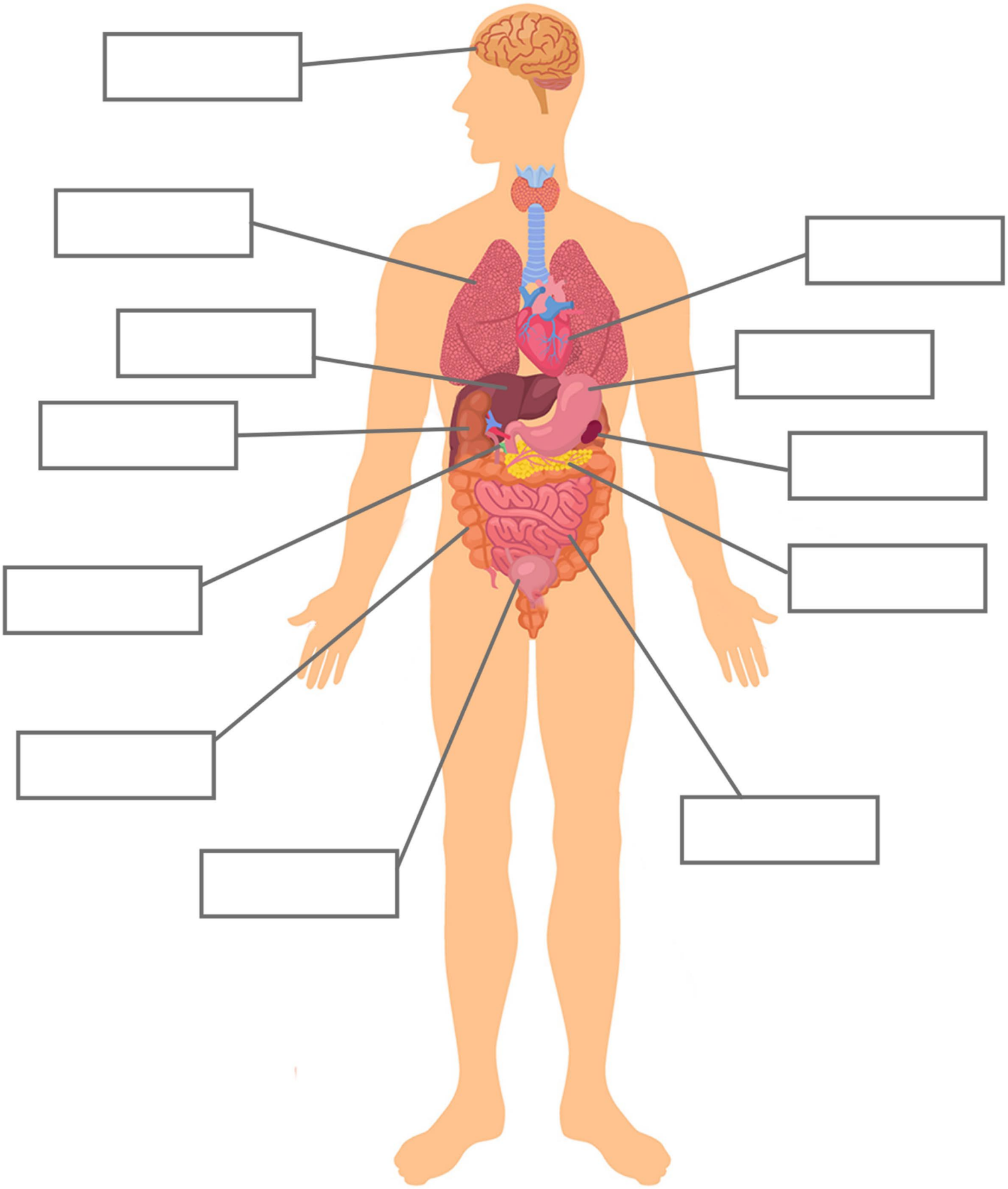
HUMAN ANATOMY PRINTABLE PACK

THE HOMESCHOOL COMPASS

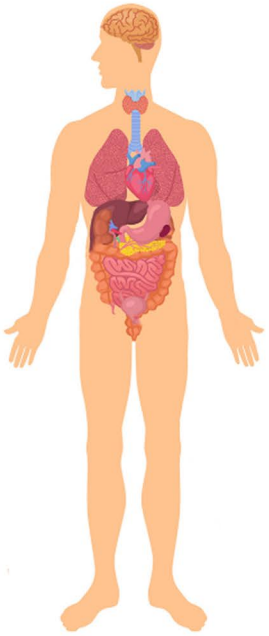
ORGANS OF THE HUMAN BODY



ORGANS OF THE HUMAN BODY



ORGANS OF THE HUMAN BODY



BRAIN - The brain is the command center of the body. It communicates with every other part of the body by sending and receiving messages through the nervous system. These messages control thoughts, actions, the five senses, memory, movement, and the function of all our body systems.

HEART - The heart is a muscle that pumps blood throughout the body. As the main organ in the circulatory system, the heart supplies every cell in the body with a steady stream of oxygen and nutrients.

LUNGS - The lungs take in oxygen as part of the respiratory system. The lungs work with together with the circulatory system to distribute needed oxygen to every part of the body and remove harmful carbon dioxide.

LIVER - The liver helps break down food so that nutrients can be extracted and delivered to the cells of the body. It also helps the body filter out toxic chemicals and fights infection by removing bacteria from the bloodstream.

GALLBLADDER - The gallbladder collects a thick, yellow-brown substance called bile that is manufactured by the liver. The gallbladder then releases the bile to help the body digest fats.

SPLEEN - The spleen filters blood by removing old or damaged red blood cells. It also helps fight infection by identifying unwelcome bacteria or viruses in the blood and deploying white blood cells to trap and destroy them.

ORGANS OF THE HUMAN BODY

STOMACH - The stomach is a major part of the digestive system. It is the place where food begins to be broken down before moving on to the intestines.

SMALL INTESTINES - From the stomach, food moves to the small intestines where it is broken down into tiny particles, and nutrients from the food are absorbed into the blood stream.

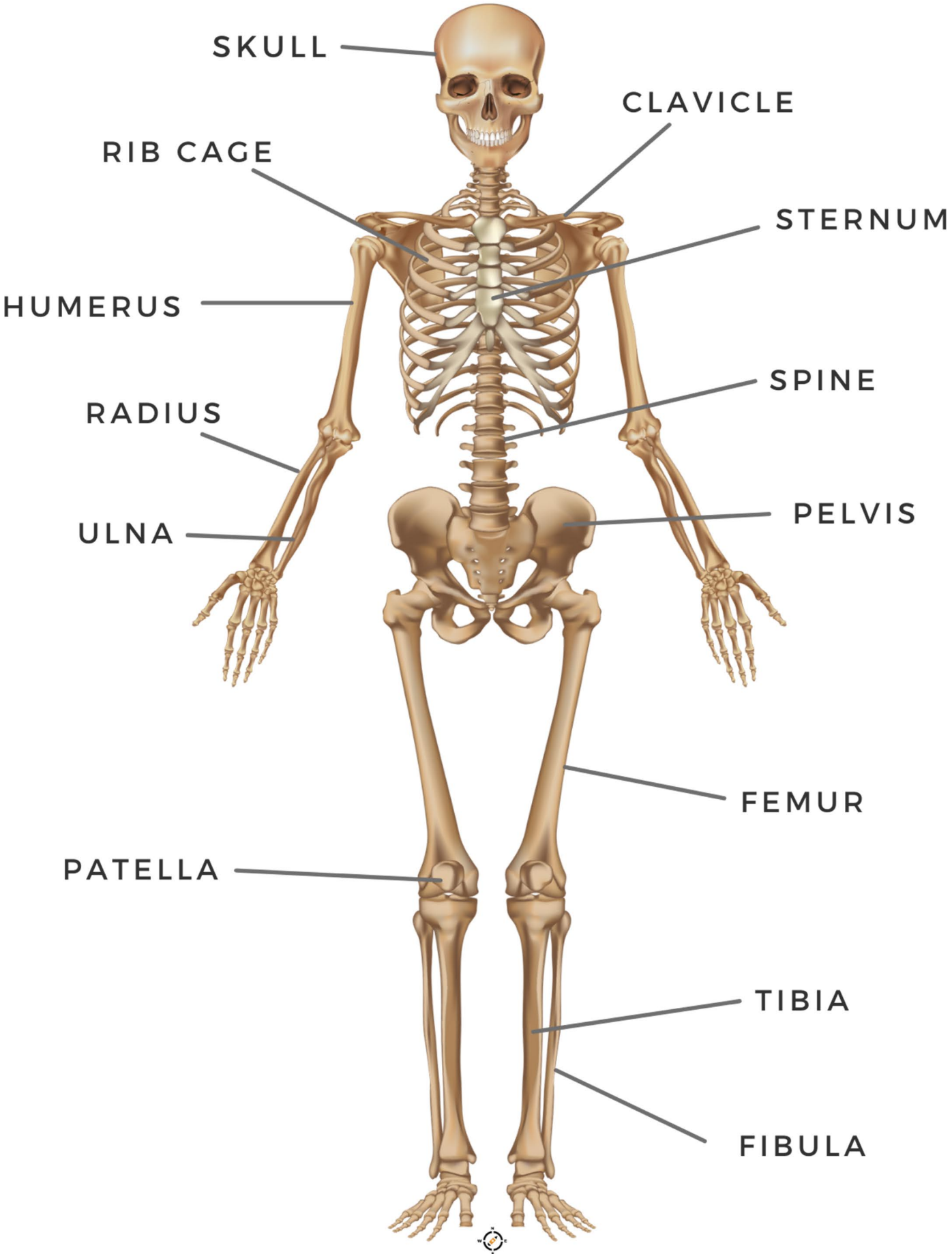
LARGE INTESTINES - The large intestines receive any remaining undigested food and prepare it to leave the body.

PANCREAS - The pancreas produces enzymes that help the body break down food. It also produces insulin which allows the body to extract glucose from the blood and convert it into energy.

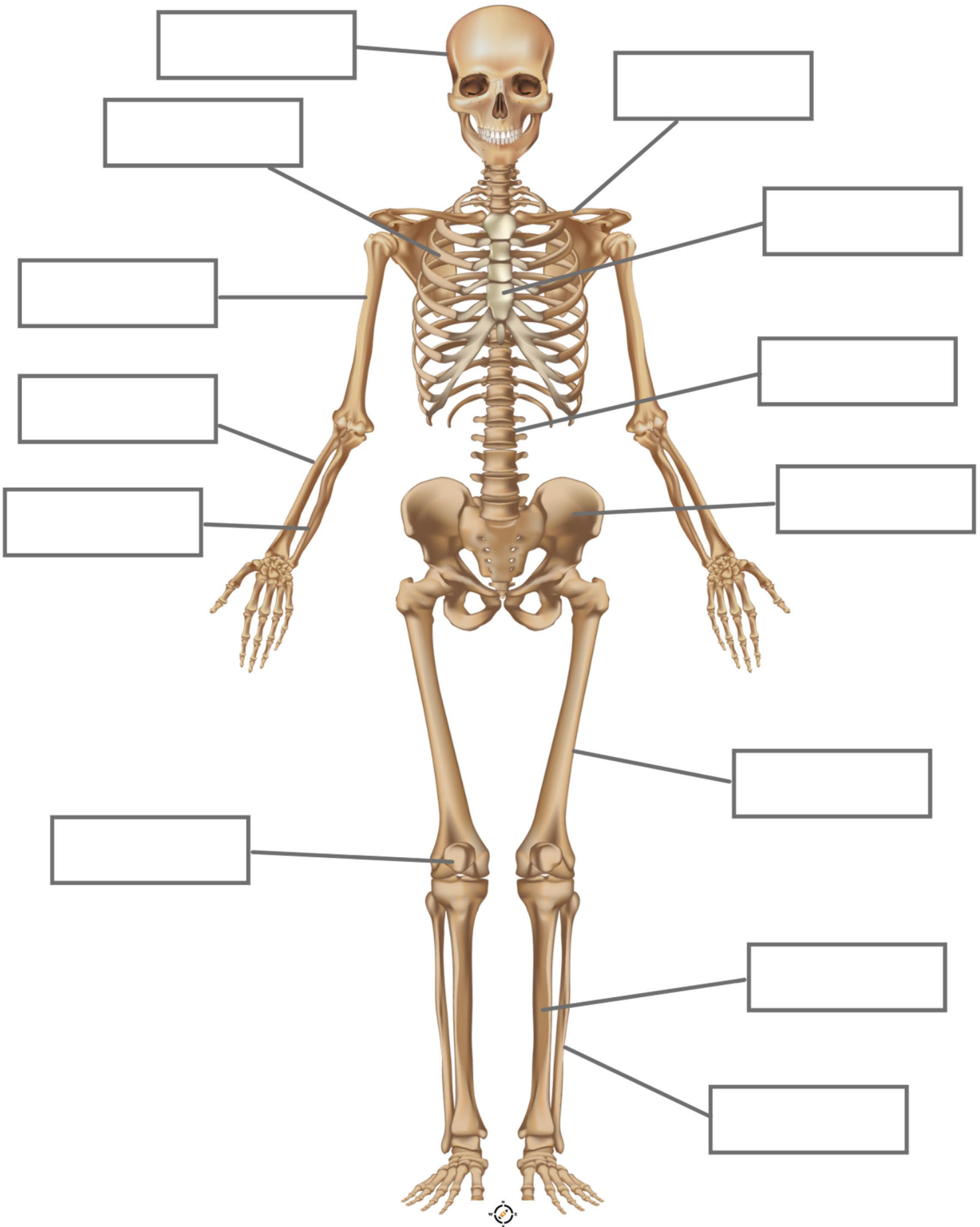
KIDNEYS - The kidneys filter waste from the blood and create urine.

BLADDER - The bladder receives urine from the kidneys and stores it until it is eliminated from the body.

THE SKELETAL SYSTEM



THE SKELETAL SYSTEM



THE SKELETAL SYSTEM

The skeletal system is a network of bones, joints, ligaments, and cartilage.

THE SKELETAL SYSTEM HAS FIVE MAIN FUNCTIONS:

1. It gives the body structure and support.
2. It protects the organs inside the body such as the heart, lungs, and brain.
3. It allows your body to move.
4. It helps make blood.
5. It stores minerals and fat.

HERE ARE SOME OF THE MAJOR PARTS OF THE SKELETAL SYSTEM:

BONES - Bones are the strong, hard body tissues that make up the skeleton.

JOINTS - Joints are the connection point where two parts of the skeleton fit together. Some joints are fixed such as those connecting the bones of the skull; these joints do not move. Other joints allow for movement such as the hinge joint of the elbow and the ball-and-socket joint of the hip.

LIGAMENTS - Ligaments are the flexible, fibrous tissues that connect two bones and help stabilize the joints.

CARTILAGE - Cartilage is a soft connective tissue that provides cushioning for the joints where two bones come together. Cartilage can also be found on the tip of the nose and at the edges of the outer ears.

SKULL - The skull is composed of 22 bones that work together to make up the head of the skeleton. The skull provides protection for the brain.

THE SKELETAL SYSTEM

CLAVICLE - The clavicle is a curved bone at the front of the base of the neck. It provides support for the shoulder.

RIB CAGE - The rib cage is made up of 24 individual rib bones that protect the heart and lungs.

STERNUM - The sternum is a flat bone at the center of the chest that connects the clavicle and the rib cage.

HUMERUS - The humerus is the long bone of the upper arm that extends from the shoulder to the elbow.

RADIUS - The radius is one of two bones that makes up the lower arm. It stretches from the elbow to the thumb.

ULNA - The ulna is the second of the long bones that makes up the lower arm. It stretches from the elbow to the smallest finger.

PELVIS - The pelvis is a basin-shaped group of bones that connects the upper body with the legs.

FEMUR - The femur is the long bone of the upper leg. It is the longest and strongest bone in the body.

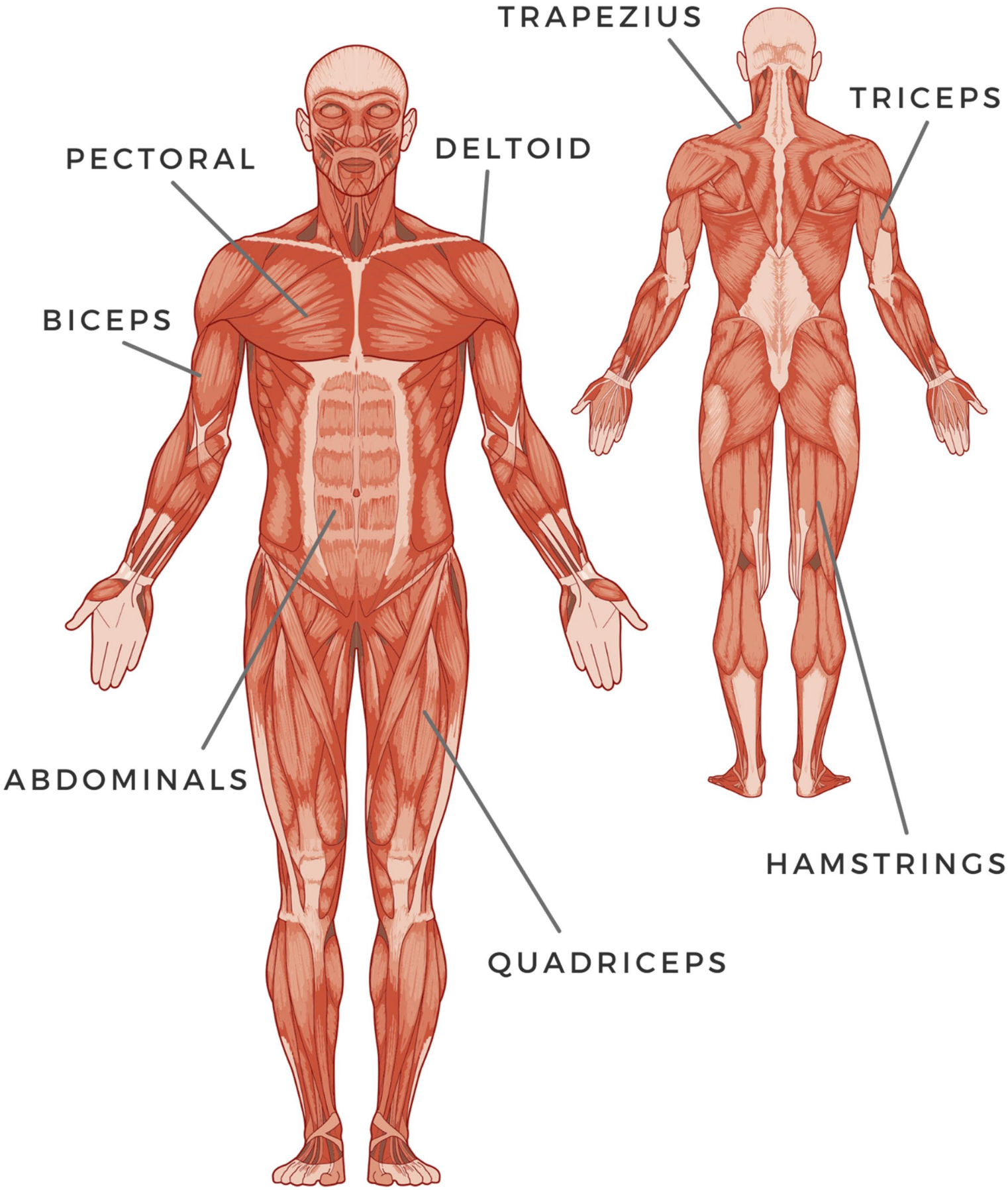
PATELLA - The patella is a rounded, triangular bone that covers and protects the knee joint.

TIBIA - The tibia is one of two bones that makes up the lower leg. It stretches from the knee to the ankle and runs along the front of the leg.

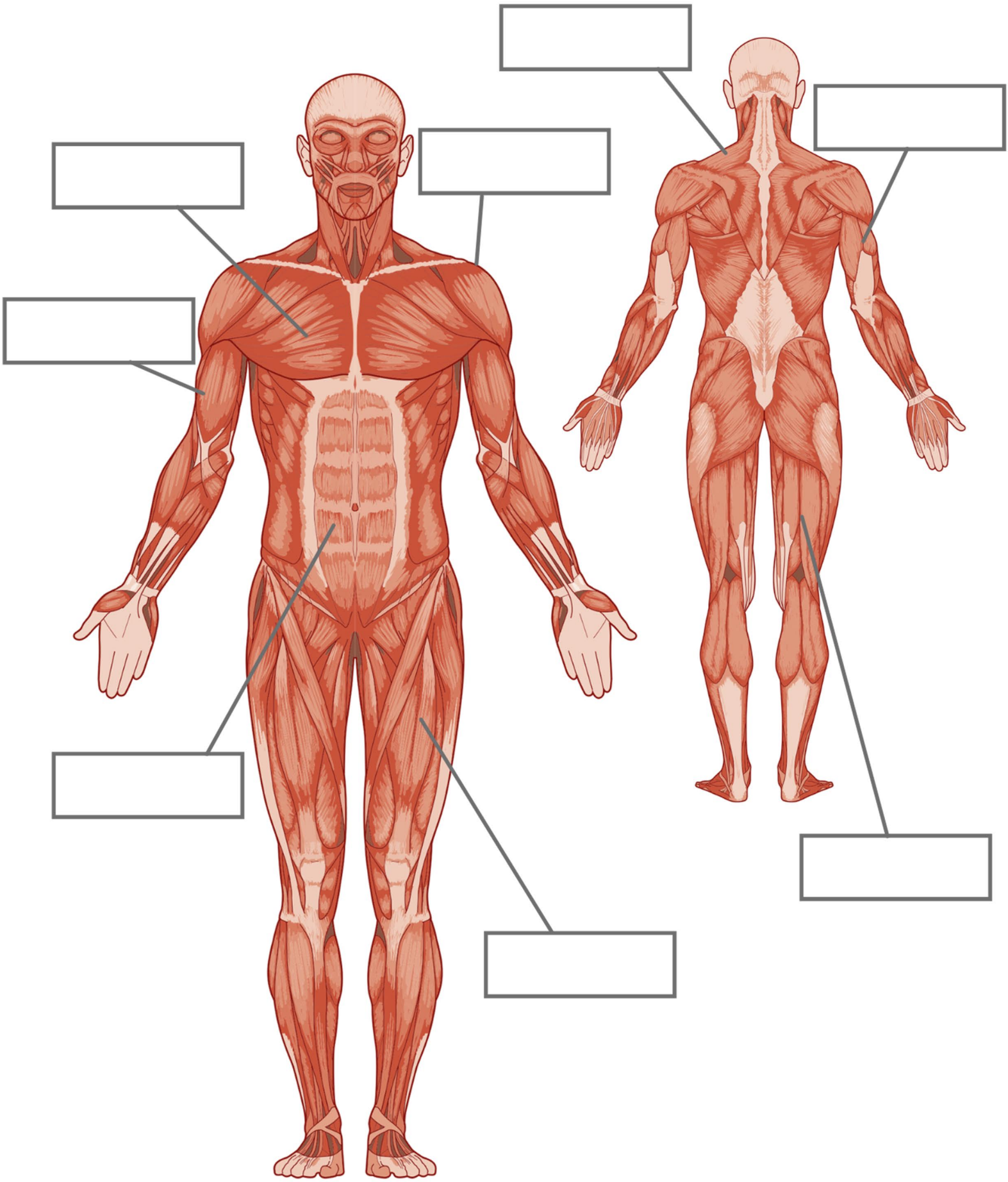
FIBULA - The fibula is the second of two bones that makes up the lower leg. It stretches from the knee to the ankle and runs along the outer edge of the leg.

SPINE - The spine is a column of 33 small bones called vertebrae. The spine extends from the skull to the lower back and encloses the spinal cord.

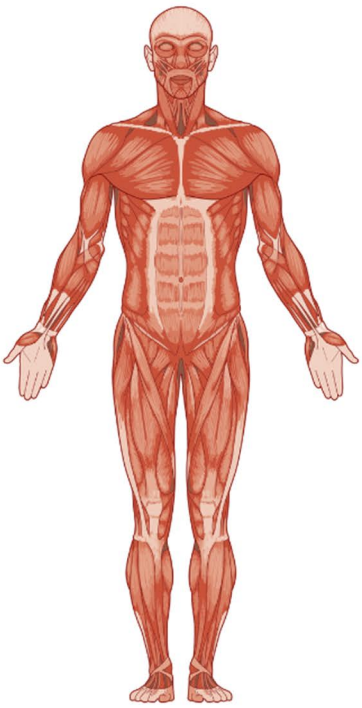
THE MUSCULAR SYSTEM



THE MUSCULAR SYSTEM



THE MUSCULAR SYSTEM



The muscular system is made up of about 600 different muscles that cover internal organs and bones.

THE MUSCULAR SYSTEM HAS TWO MAIN FUNCTIONS:

1. It allows your body to move.
2. It assists in the functioning of your internal organs. For example, muscles around your digestive system help food move through your body.

MUSCLES CAN BE EITHER VOLUNTARY, INVOLUNTARY, OR BOTH.

VOLUNTARY MUSCLE - A voluntary muscle is a muscle that is under a person's conscious control. It contracts and relaxes when the person tells it to.

INVOLUNTARY MUSCLE - An involuntary muscle contracts and relaxes naturally without a person having to think about it. The brain is constantly sending signals to these muscles to direct them to do their work whether a person is asleep or awake.

THERE ARE THREE MAJOR TYPES OF MUSCLES:

1. **Skeletal muscles** – Skeletal muscles attach to bones and allow for movement. These are voluntary muscles.
2. **Smooth muscles** – Smooth muscles are involuntary muscles found all over the body that help organs to function.
3. **Cardiac muscles** – Cardiac muscles are involuntary muscles that make up the heart. They contract and relax to make the heart beat and send blood throughout the body.

THE MUSCULAR SYSTEM

HERE ARE SOME OF THE MAJOR PARTS OF THE MUSCULAR SYSTEM:

PECTORAL - These muscles at the front of the chest assist in the movement of the upper arms.

DELTOID - The main muscle of the shoulder, the deltoids are responsible for the stability and movement of the shoulders and the upper arms.

TRAPEZIUS - This diamond shaped muscle connects the neck, shoulders, and spine. It is responsible for movements like tilting the head and neck, shrugging the shoulders, or twisting the arms.

BICEPS - The biceps are the large muscles of the front of the upper arms. They are responsible for the flexing movement of the forearm from the elbow joint.

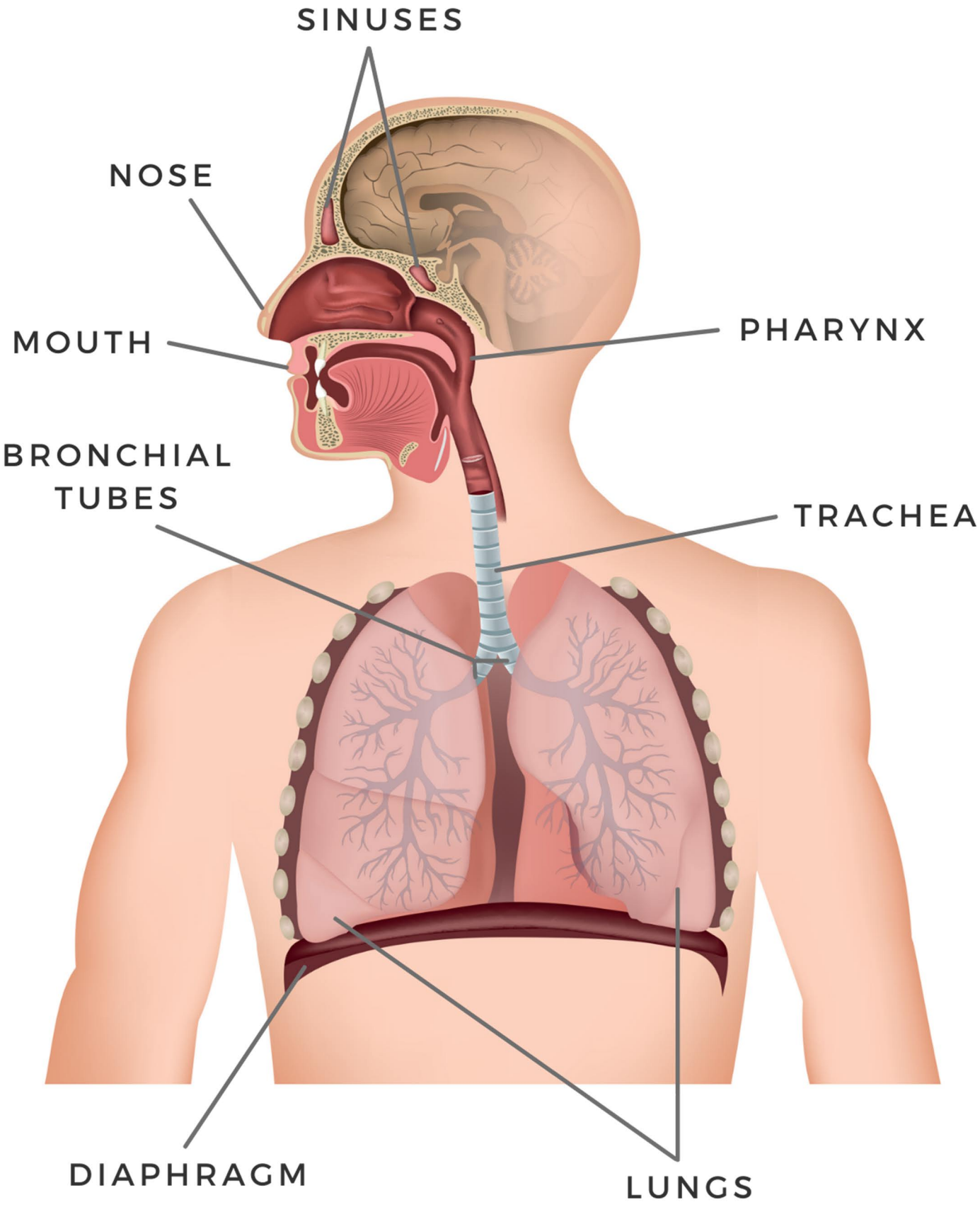
TRICEPS - The triceps are the large muscles on the back of the upper arms, responsible for the extending movement of the forearm from the elbow joint.

ABDOMINALS - These core muscles support the trunk, assist in movement and hold internal organs in place.

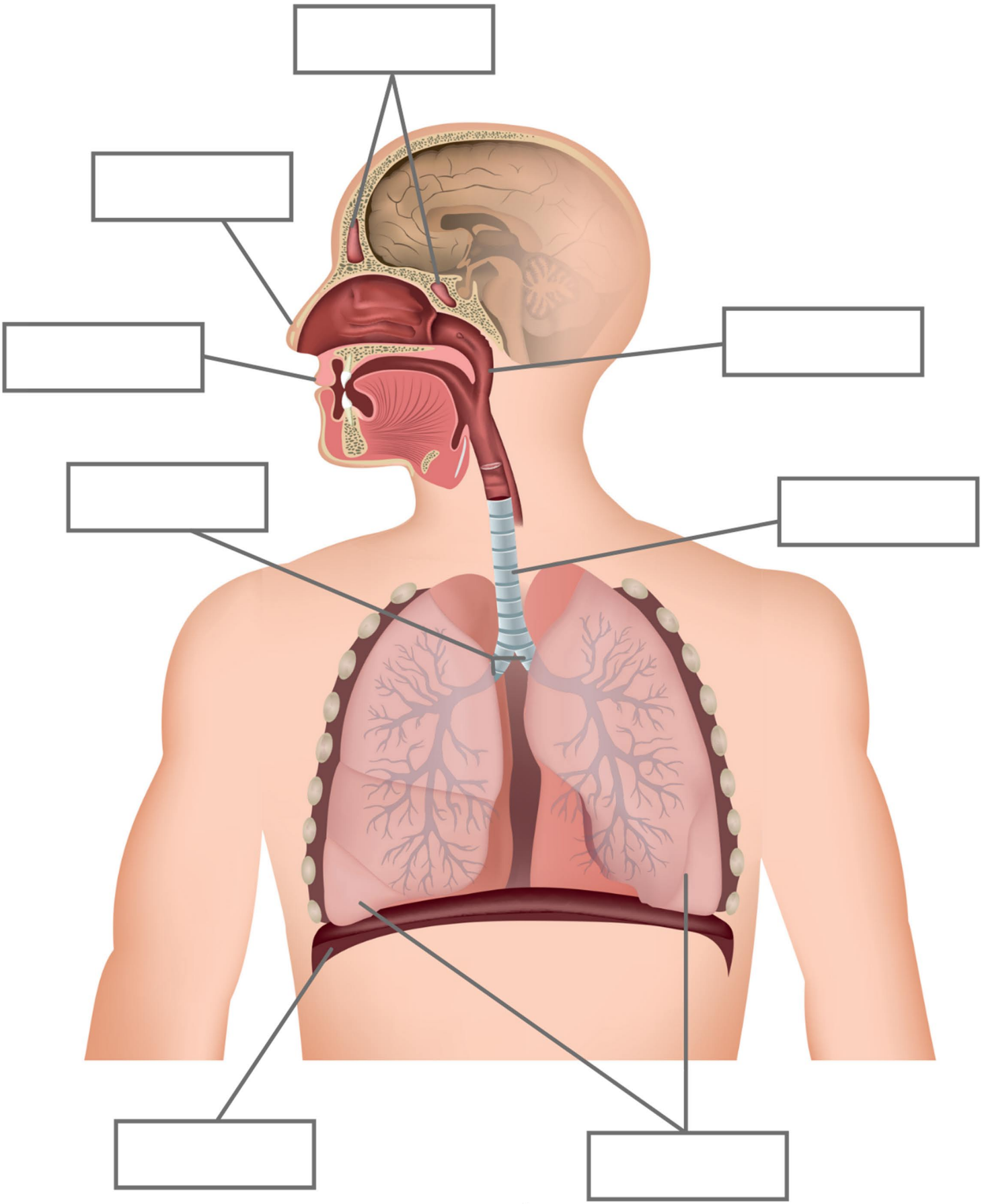
QUADRICEPS - These are the large leg muscles located at the front of the thigh used in standing, walking, and running. They also help stabilize the knee cap.

HAMSTRINGS - The hamstrings are the muscles at the back of the upper leg. They help the upper leg to extend and the knee to flex.

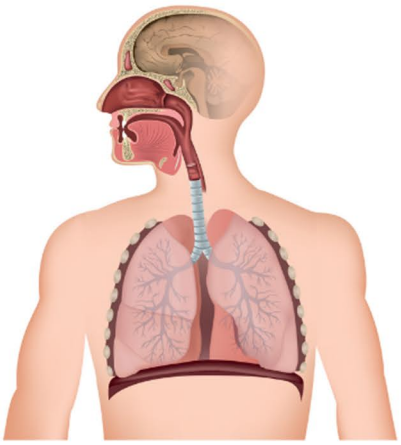
THE RESPIRATORY SYSTEM



THE RESPIRATORY SYSTEM



THE RESPIRATORY SYSTEM



The respiratory system is composed of the organs, muscles, air passages, and vessels that work together to provide the body with a continuous supply of oxygen.

THE RESPIRATORY SYSTEM HAS FOUR MAIN FUNCTIONS:

1. It is responsible for pulmonary ventilation (or breathing). It collects oxygen from the air, distributes it throughout the body, and expels the resulting carbon dioxide.
2. It is essential to the sense of smell.
3. It works with the vocal cords to make sounds like speaking and singing.
4. It protects the airways by filtering out harmful substances and irritants.

THESE ARE SOME OF THE MAJOR PARTS OF THE RESPIRATORY SYSTEM:

NOSE AND MOUTH - These openings draw in air from outside the body.

SINUSES - The sinuses are hollow areas between the bones in your skull. They help regulate the temperature of air that is breathed in and bring it to the proper humidity level.

PHARYNX - The pharynx delivers air from the mouth and nose to the trachea.

THE RESPIRATORY SYSTEM

TRACHEA - The trachea is a long tube that connects the pharanyx to the lungs.

BRONCHIAL TUBES - The bronchial tubes are the two tubes at the base of the trachea that connect it to each lung.

LUNGS - These two balloon-like organs extract oxygen from the air and transfer it to the blood so that the circulatory system can deliver this oxygen to other organs and tissues.

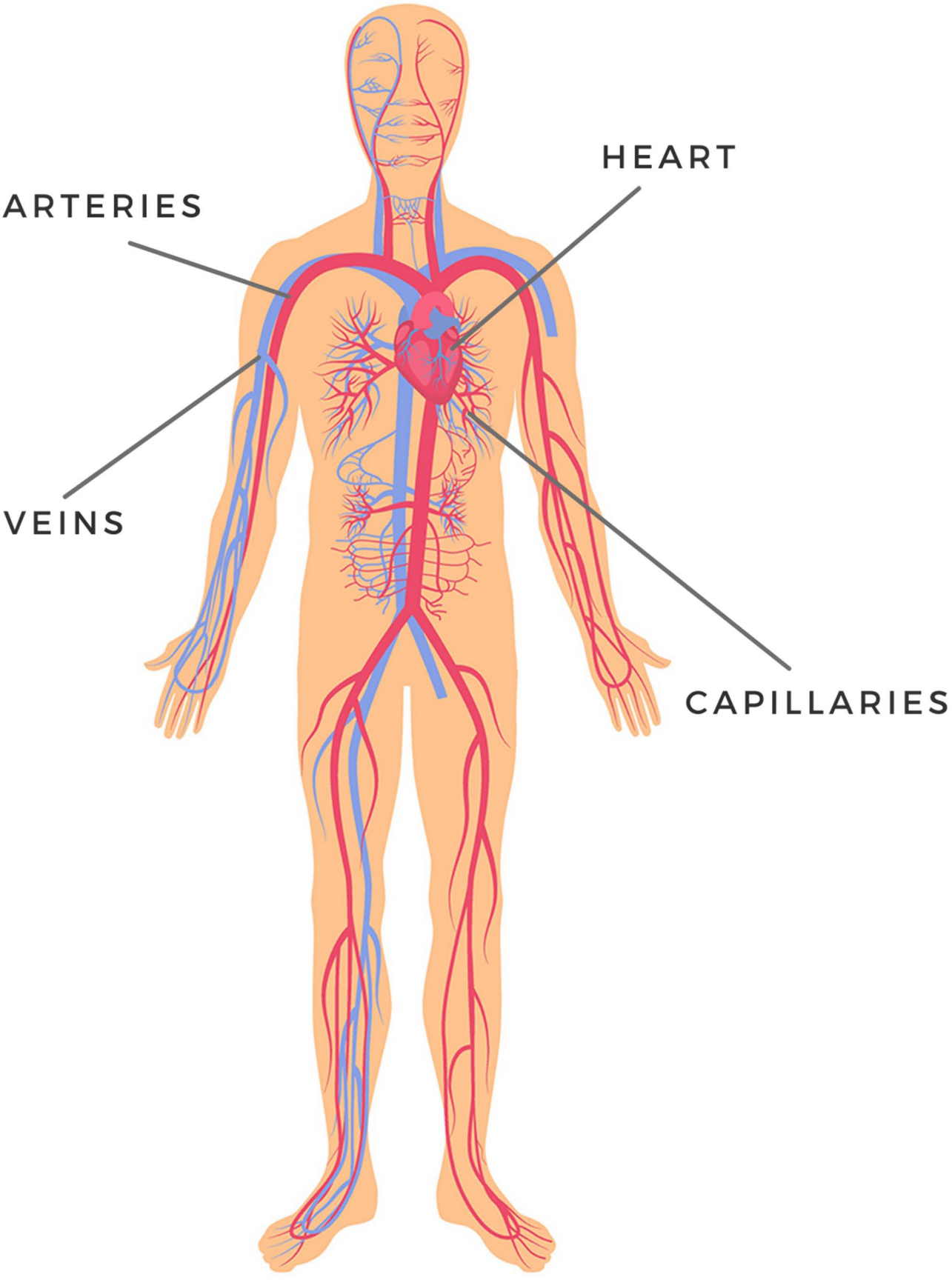
DIAPHRAGM - The diaphragm is a muscle below the lungs that helps the lungs draw in air and push it out.

These are some of the smaller parts of the respiratory system that help move oxygen and carbon dioxide between the lungs and the blood:

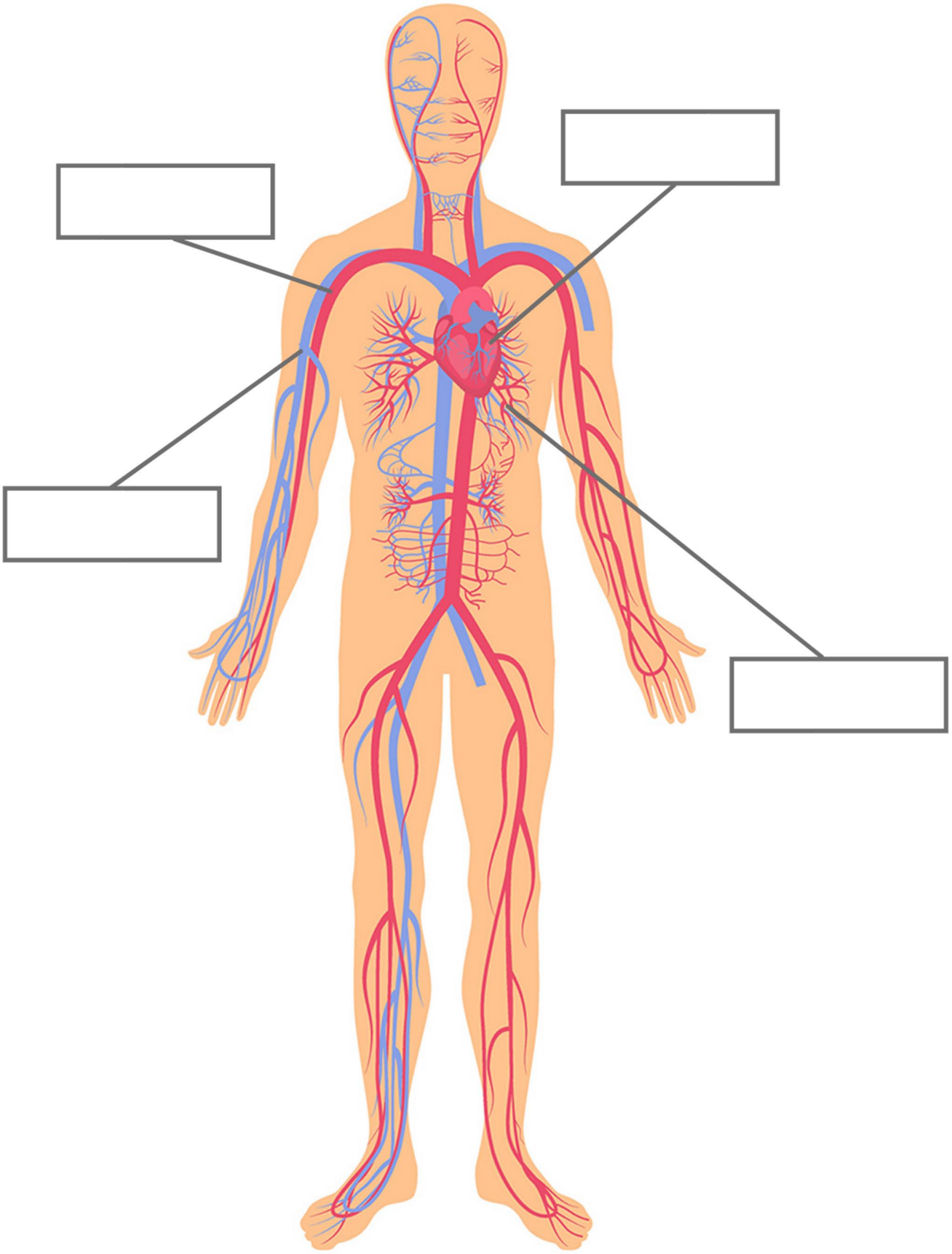
BRONCHIOLES - These small branches at the ends of the bronchial tubes connect to the alveoli.

ALVEOLI - Alveoli are clusters of tiny air sacs on the lungs where oxygen and carbon dioxide are exchanged.

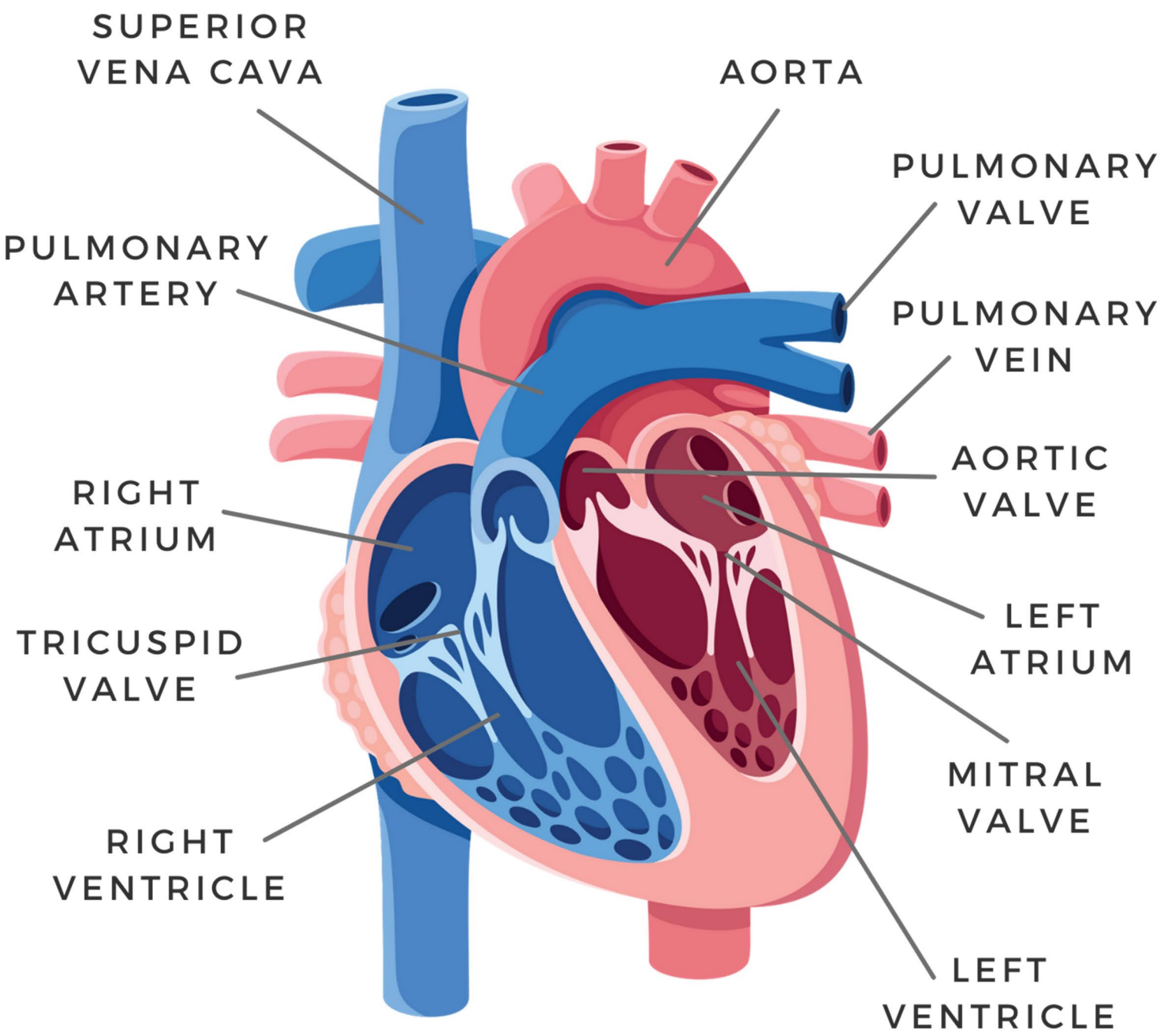
THE CIRCULATORY SYSTEM



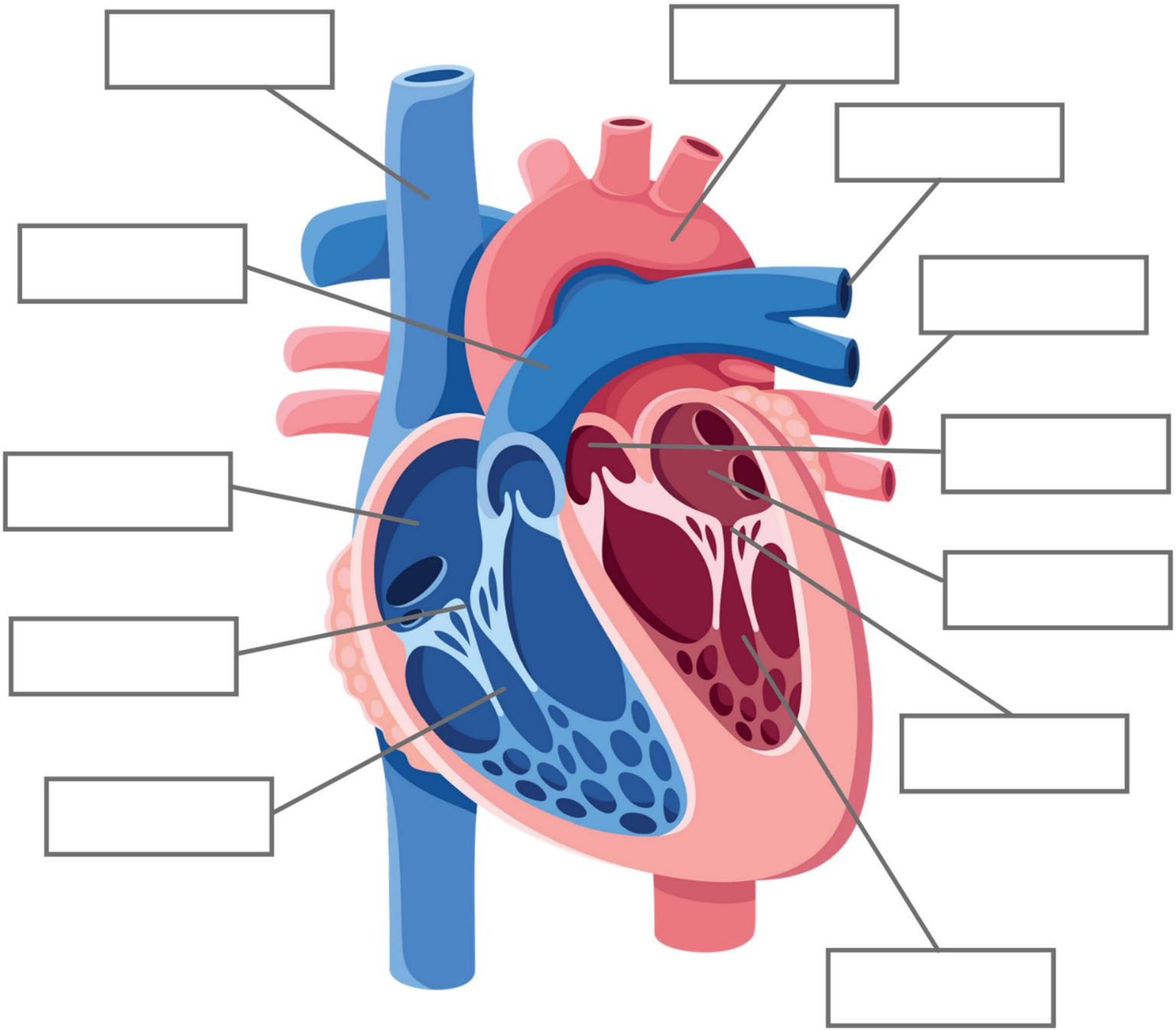
THE CIRCULATORY SYSTEM



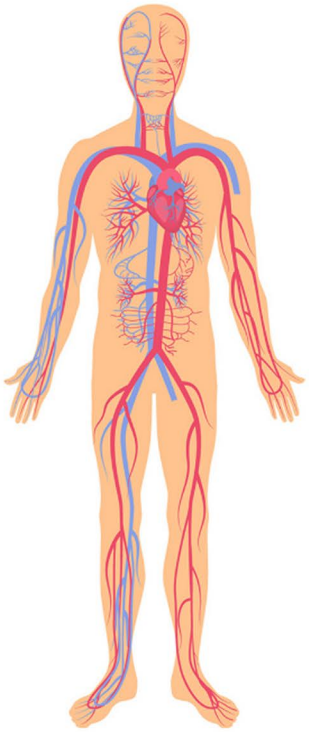
THE CIRCULATORY SYSTEM



THE CIRCULATORY SYSTEM



THE CIRCULATORY SYSTEM



The circulatory system transports blood throughout the body and delivers oxygen to all the organs and tissues that need it.

THE CIRCULATORY SYSTEM HAS THREE MAIN FUNCTIONS:

1. It carries oxygen throughout the body.
2. It transports carbon dioxide back to the lungs where it can be expelled as waste.
3. It delivers nutrients from food to the parts of the body that need it.

THESE ARE SOME OF THE MAJOR PARTS OF THE CIRCULATORY SYSTEM:

HEART - The heart is the organ that pumps blood throughout the body through a network of blood vessels.

THERE ARE THREE TYPES OF BLOOD VESSELS:

1. **Arteries** – Arteries carry oxygen-rich blood away from the heart and out to the rest of the body. They branch out many times, becoming smaller and smaller as they get farther away from the heart.
2. **Capillaries** – Capillaries connect with arteries at their smallest, thinnest point and join them to veins. The thin walls of the capillaries are where the transfer of oxygen and carbon dioxide takes place.
3. **Veins** – Veins carry oxygen-poor blood from the various parts of the body back to the heart. They get larger and larger as they get closer to the heart.

This vast network of blood vessels in a single human body is over 60,000 miles long! That's long enough to go around the entire globe more than twice.

THE CIRCULATORY SYSTEM

BLOOD - Blood is vital to the functioning of the circulatory system. Blood is composed of red blood cells (erythrocytes), white blood cells (leukocytes), and platelets (thrombocytes). These three types of blood cells are suspended in a liquid called plasma.

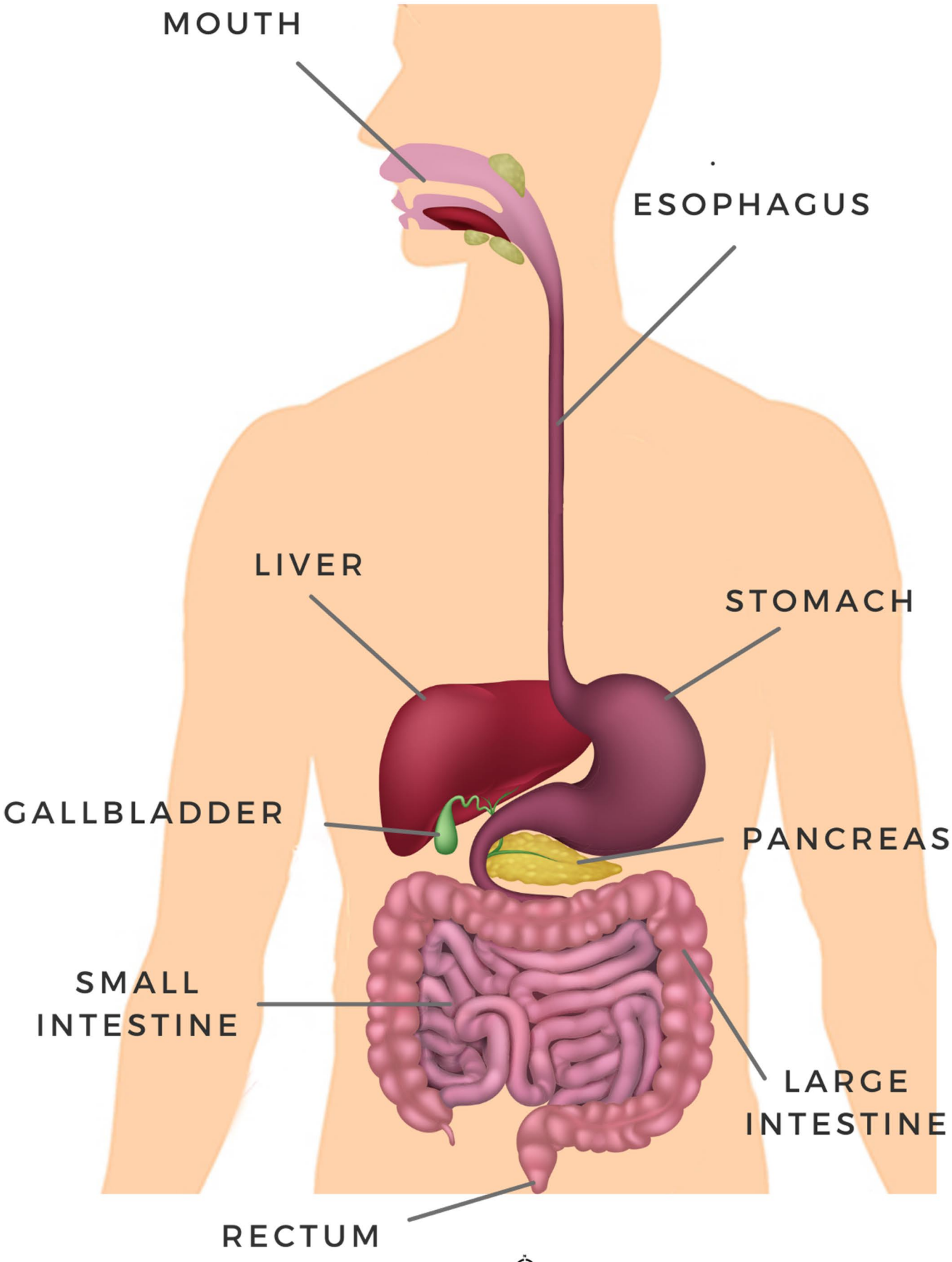
Red Blood Cells – Red blood cells (or erythrocytes) are the most abundant type of cell in the blood. They carry oxygen from the lungs to the rest of the body and transport carbon dioxide back to the lungs. They are quite small compared to other human cells. This allows them to squeeze through the narrow capillaries.

White Blood Cells - White blood cells (or leukocytes) are vital to the immune system. They protect the body against disease by destroying germs and other particles that do not belong in the blood stream.

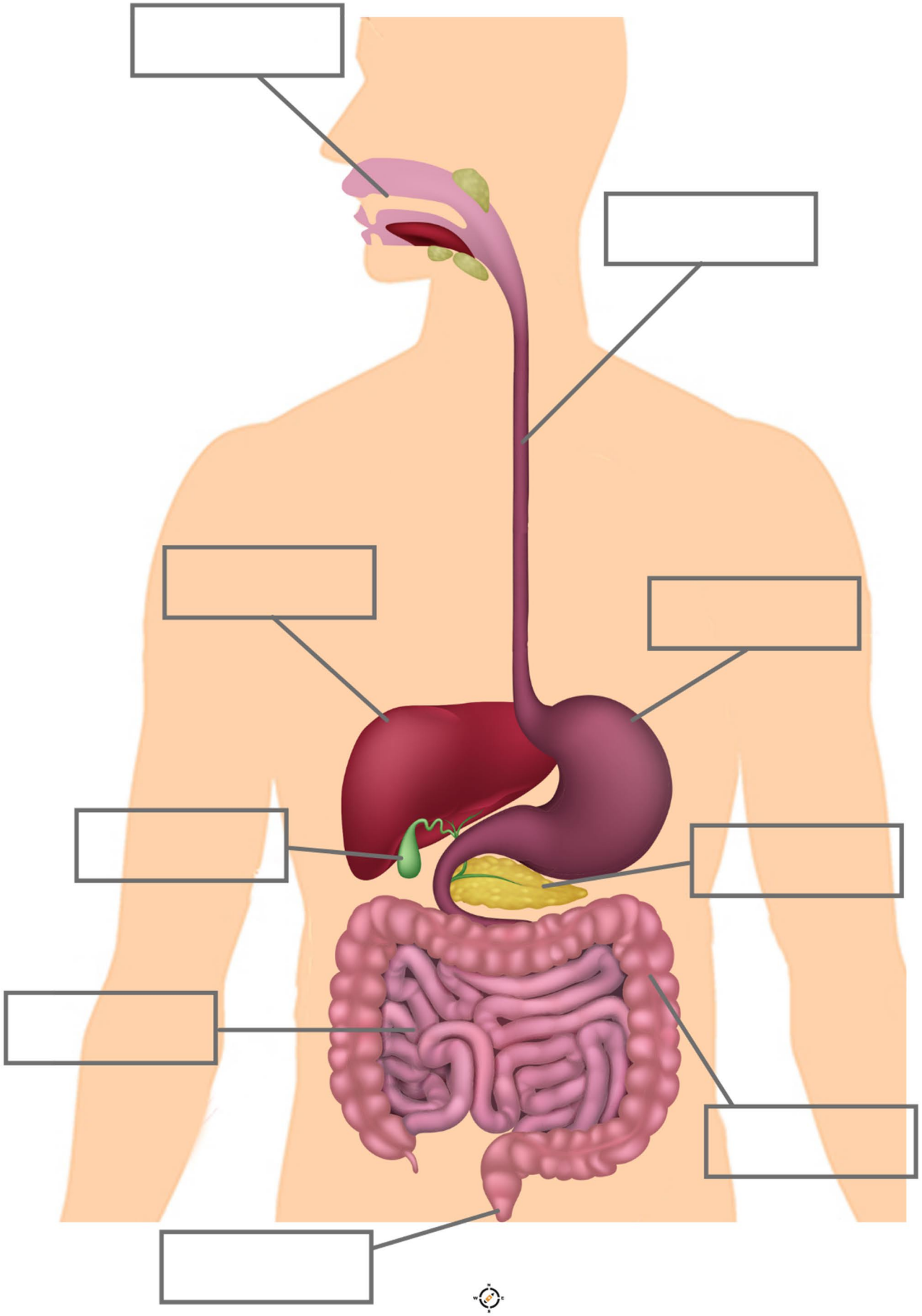
Platelets - Platelets (or thrombocytes) are cell fragments that help form clots or scabs. When there is an injury that damages a blood vessel like a cut or a wound, platelets immediately begin to attach to the edges of the cut and to each other. Then they release thread-like fibers that bind together to repair the blood vessel wall.

Plasma - Plasma is a yellowish liquid that holds the different types of blood cells in suspension and allows them to flow through the body. It makes up about 55% of the body's total blood volume (with red blood cells, white blood cells, and platelets together making up the remaining 45%).

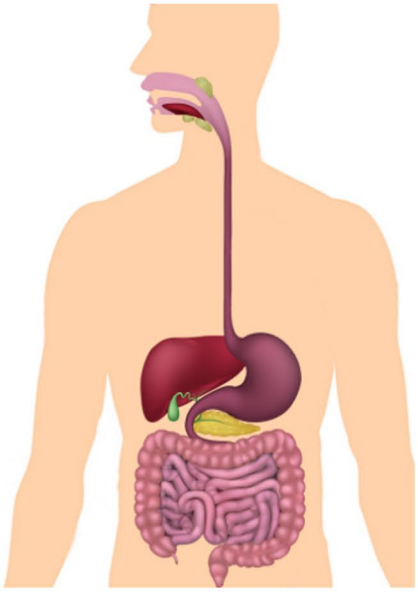
THE DIGESTIVE SYSTEM



THE DIGESTIVE SYSTEM



THE DIGESTIVE SYSTEM



The digestive system takes food and turns it into nutrients that the body can use for energy.

THE DIGESTIVE SYSTEM HAS FOUR MAIN FUNCTIONS:

1. It breaks down food.
2. It moves food and nutrients throughout the body.
3. It absorbs nutrients.
4. It packages waste leftover from the digestive process and eliminates it from the body.

THESE ARE SOME OF THE MAJOR PARTS OF THE DIGESTIVE SYSTEM:

MOUTH - Food enters the body through the mouth. As you chew, food begins to break down. Saliva moistens the food and breaks it down further into a form that the body can use.

ESOPHAGUS - When you swallow, food moves from the mouth to the esophagus, a narrow tube that leads from the mouth to the stomach.

STOMACH - The stomach provides a container to hold food while it is mixed and processed. The walls of the stomach secrete enzymes that break food down even further. When the stomach's contents are sufficiently processed, they are moved into the small intestine.

LIVER - The liver aids in digestion by releasing bile which is needed to digest fat and certain vitamins. It also helps process nutrients absorbed through the small intestine.

THE DIGESTIVE SYSTEM

SMALL INTESTINE - The small intestine is a long muscular tube where food continues to be broken down using enzymes from the pancreas and bile from the liver. As food moves through the 22 foot long small intestine, nutrients begin to be absorbed. At the end of the small intestine, any leftover residue passes to the large intestine.

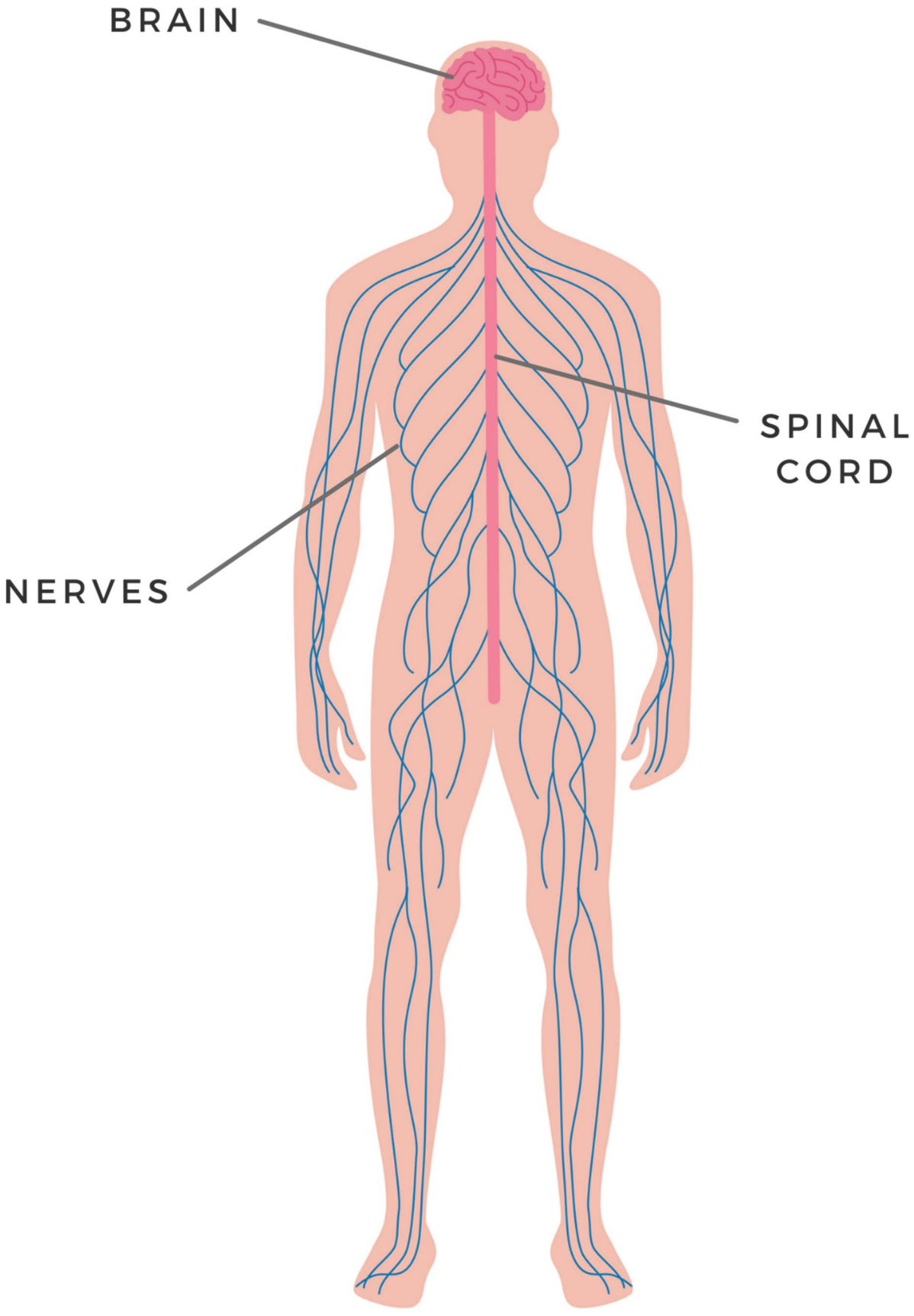
GALLBLADDER - The gallbladder stores bile from the liver, concentrates it, and then releases it into the small intestine where it helps digest and absorb fats.

PANCREAS - The pancreas releases digestive enzymes which help break down protein, fats, and carbohydrates. It also produces insulin which passes into the bloodstream and allows the body to metabolize sugars.

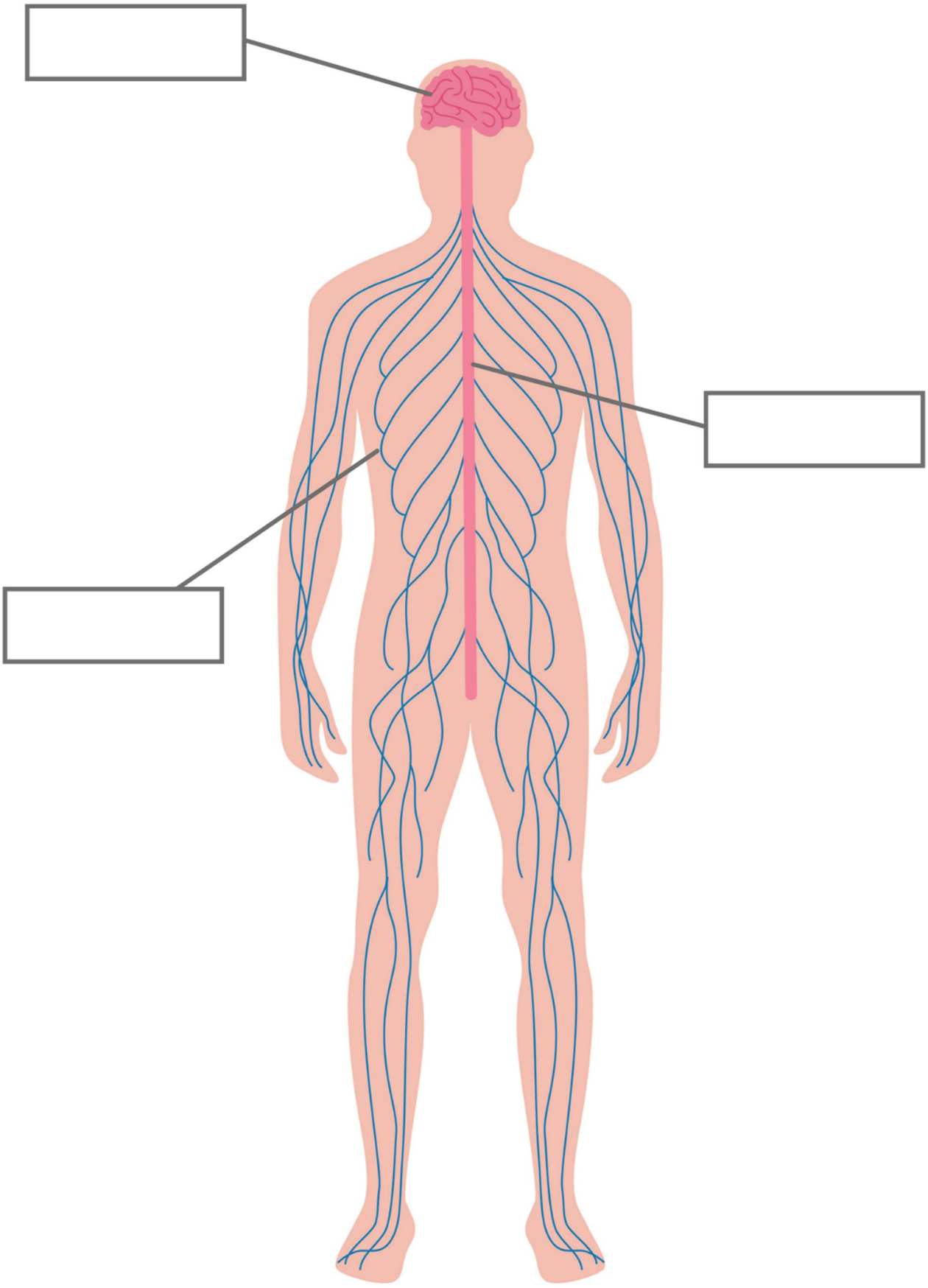
LARGE INTESTINE - Also known as the colon, the large intestine handles the waste produced through the digestive process and packages it in a form that can easily be expelled from the body.

RECTUM - The rectum collects waste from the large intestine and holds it until it is ready to pass from the body.

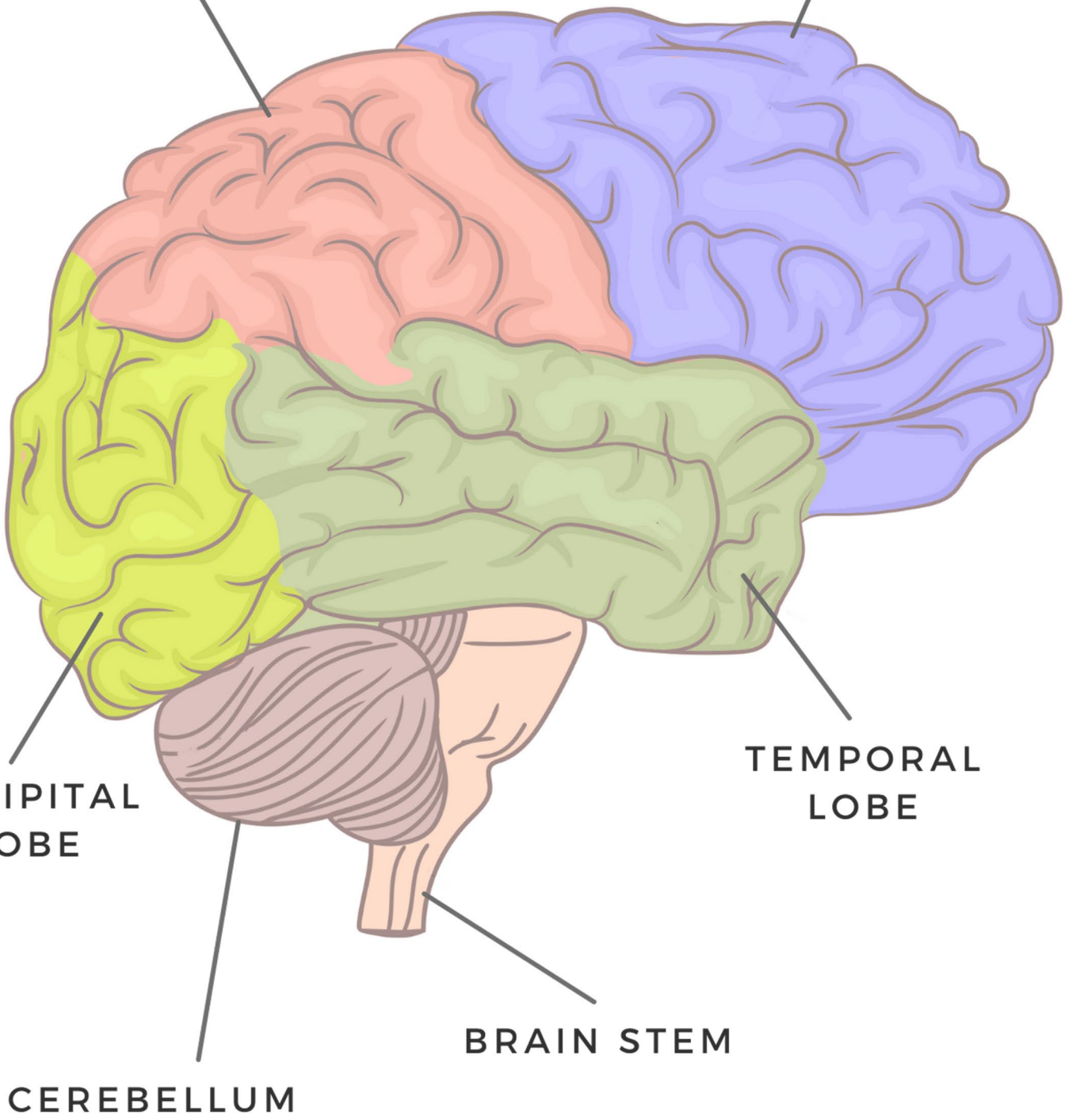
THE NERVOUS SYSTEM



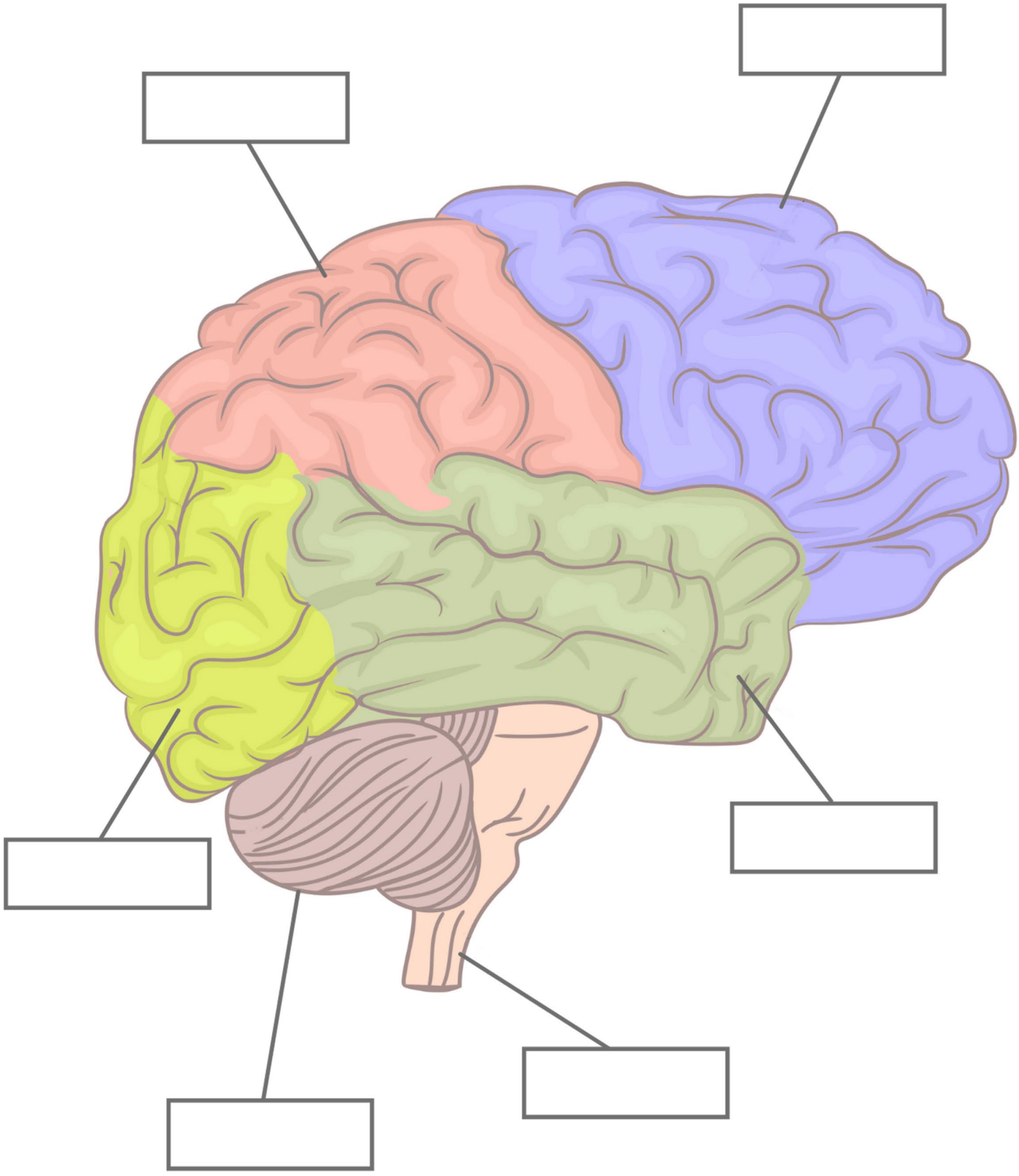
THE NERVOUS SYSTEM



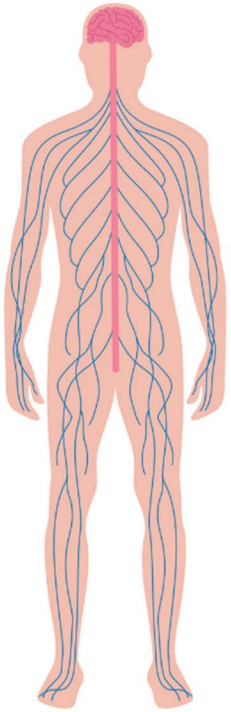
THE NERVOUS SYSTEM



THE NERVOUS SYSTEM



THE NERVOUS SYSTEM



The nervous system sends messages back and forth between the brain and every other part of the body. These messages direct almost everything you think, say, do and feel. They also perform essential functions that your body does without even thinking such as breathing and blinking.

THE NERVOUS SYSTEM HAS MANY IMPORTANT FUNCTIONS:

- Regulating other body processes like respiration, circulation, and digestion
- Interpreting information taken in through your five senses
- Controlling your body's reflexes and responses to stress
- Allowing memory and learning
- Directing thoughts and feelings
- Coordinating movement and balance

THE NERVOUS SYSTEM HAS THREE MAJOR PARTS:

BRAIN - The brain is the command center of the body. It communicates with every other part of the body by sending and receiving messages through the nervous system.

The brain has three sections each with a different function:

1. **Brain Stem** – The brain stem controls the flow of messages to other parts of the body, as well as basic bodily functions like breathing, swallowing, heart rate, blood pressure, and sleep.
2. **Cerebellum** – The cerebellum controls posture, balance, and equilibrium.
3. **Cerebrum** – The cerebrum controls the senses, thoughts, and movements.

THE NERVOUS SYSTEM

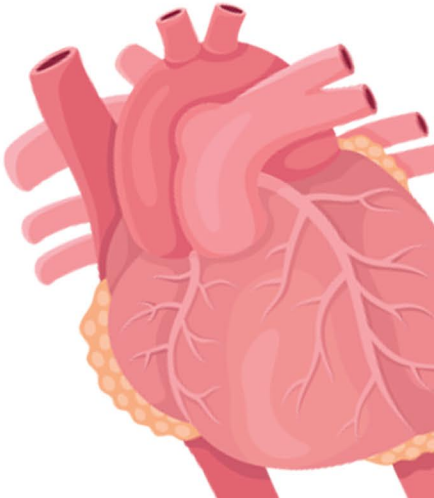
The cerebrum has four lobes. Each lobe has a different function:

1. The occipital lobe is responsible for vision.
2. The parietal lobe processes sensory input like touch, heat or cold, and pain. It is also involved in awareness of where the body is in space and in relation to other things.
3. The frontal lobe deals with planning, problem solving, memory, personality, emotional regulation, and voluntary movements.
4. The temporal lobe is responsible for hearing, language, speech, and memory.

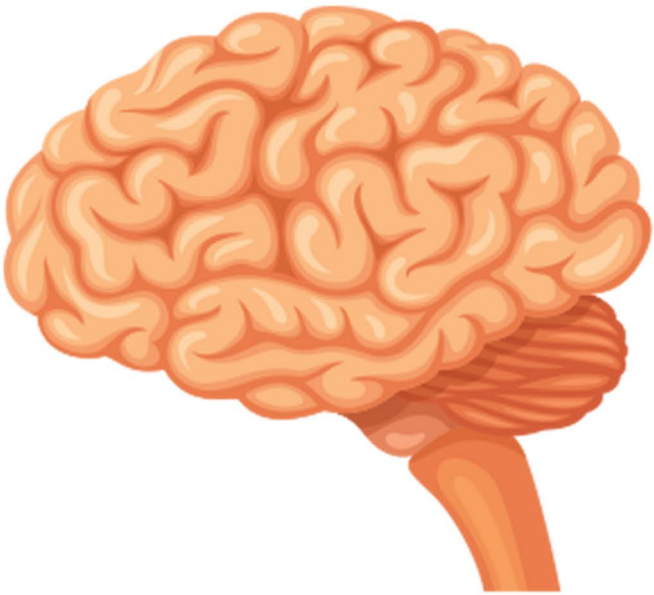
SPINAL CORD - The spinal cord is the pathway for messages to travel back and forth between the body and the brain.

NERVES - Nerves are bundles of fibers that send and receive messages throughout the body using electrical impulses.

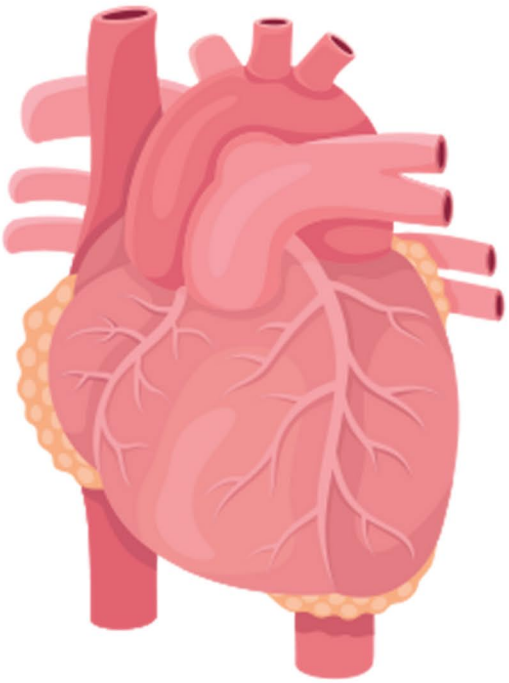
HUMAN ANATOMY FLASHCARDS



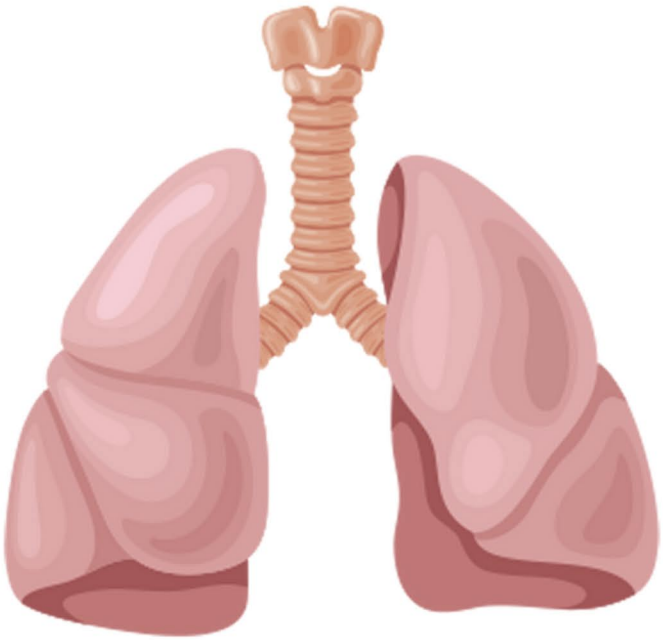
THE HOMESCHOOL COMPASS



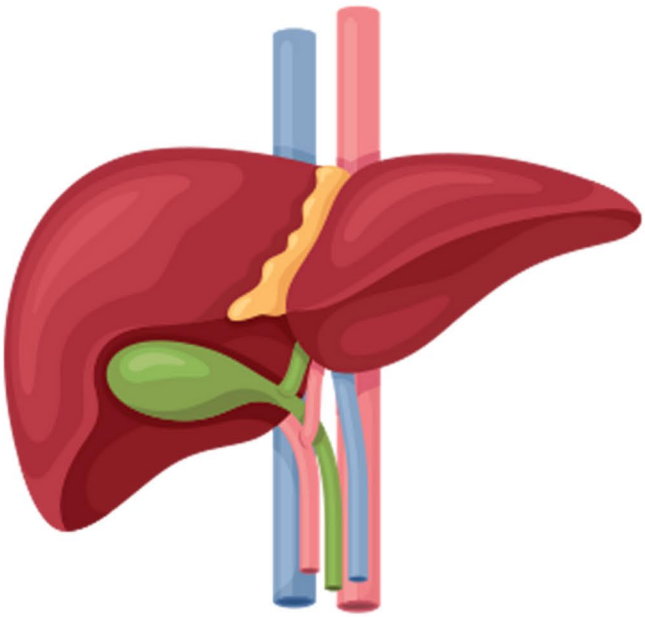
BRAIN



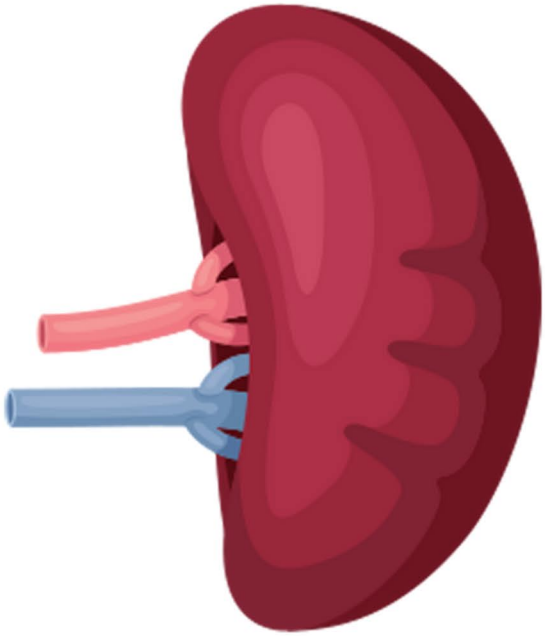
HEART



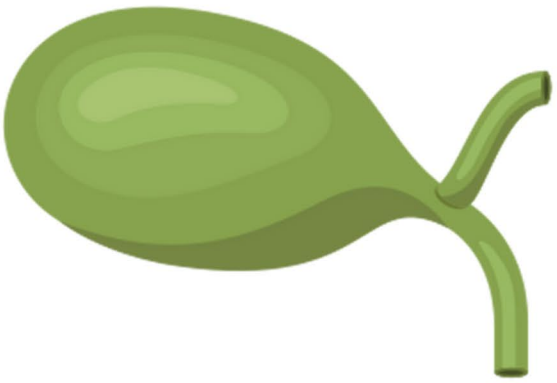
LUNGS



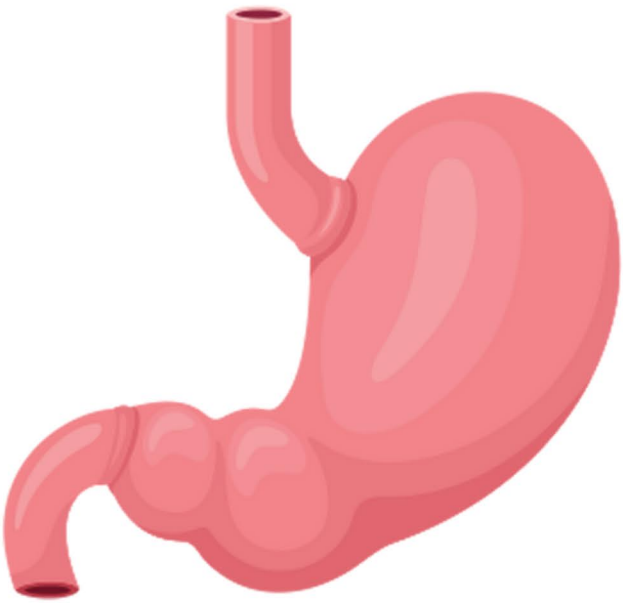
LIVER



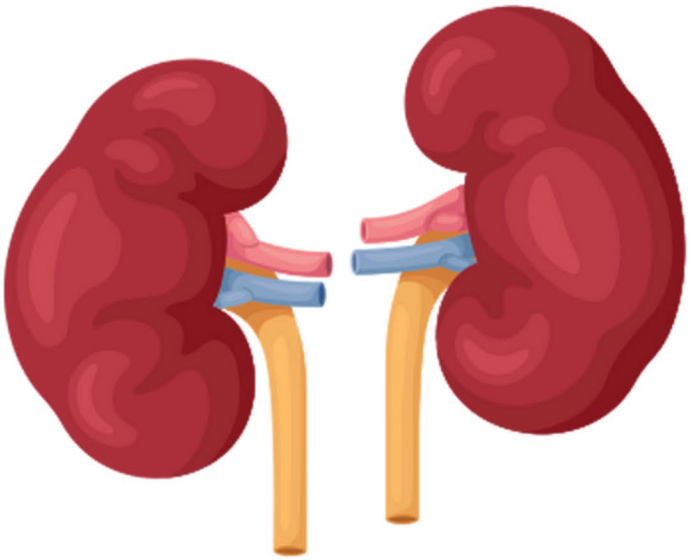
SPLEEN



GALLBLADDER



STOMACH



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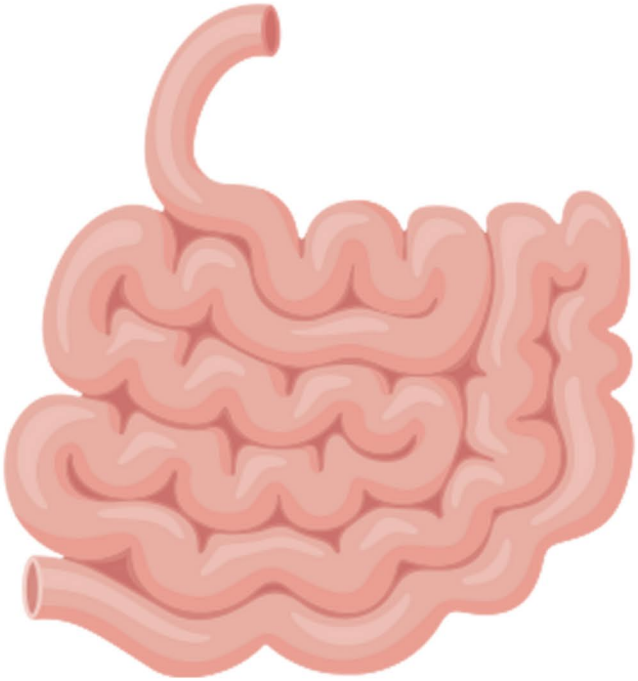
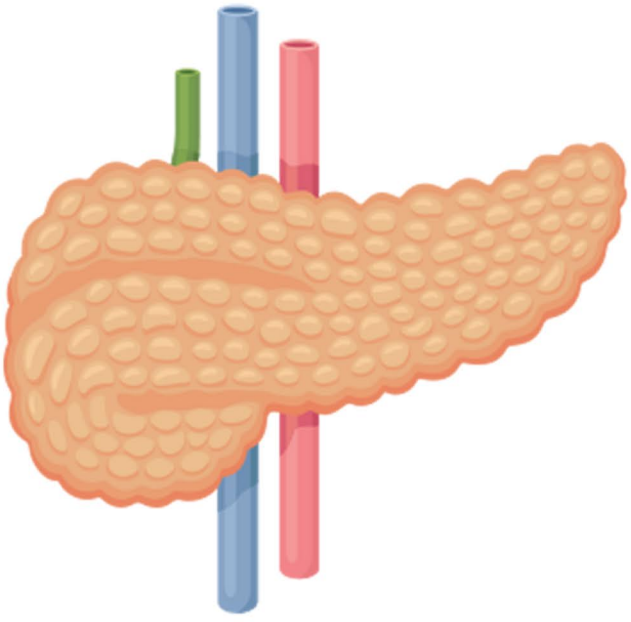


SMALL INTESTINE

LARGE INTESTINE

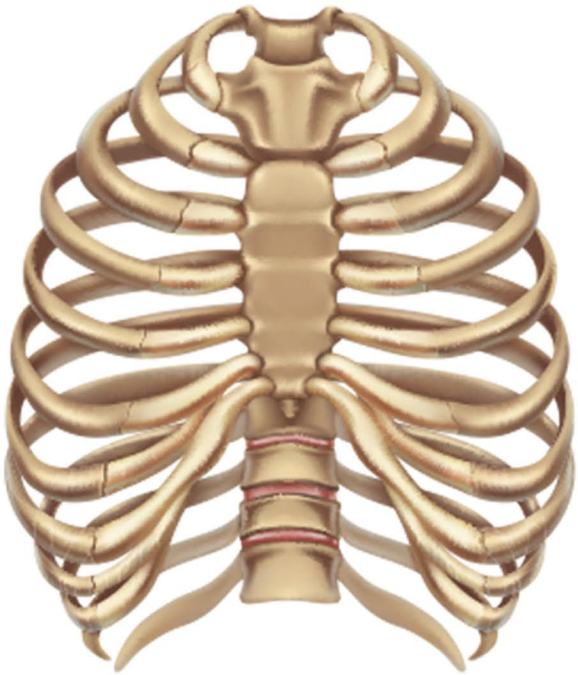


PANCREAS

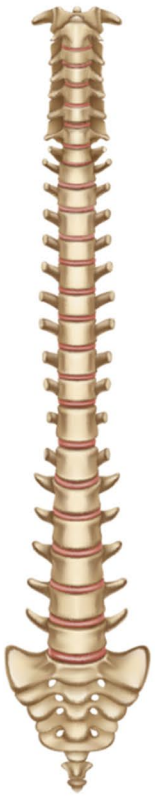
BLADDER

SKULL

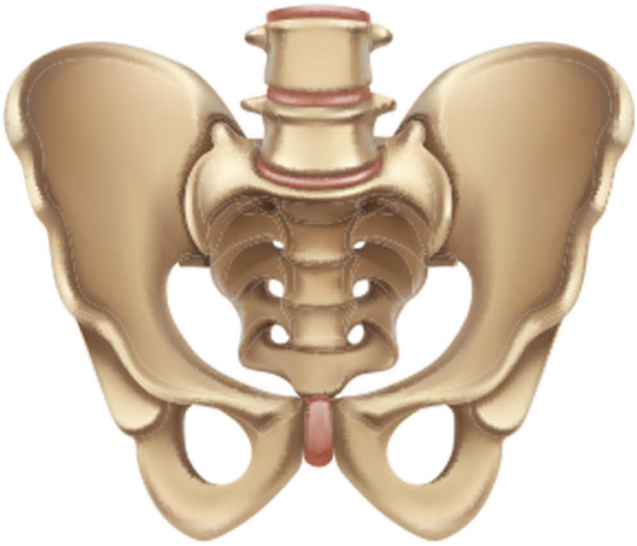
CLAVICLE



RIB CAGE



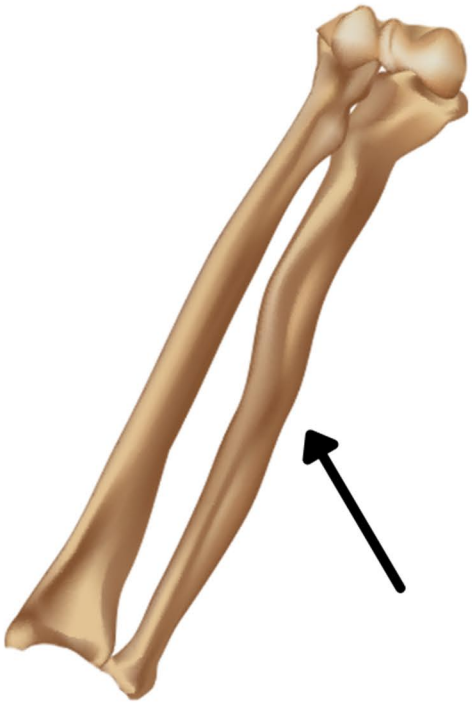
SPINE



PELVIS

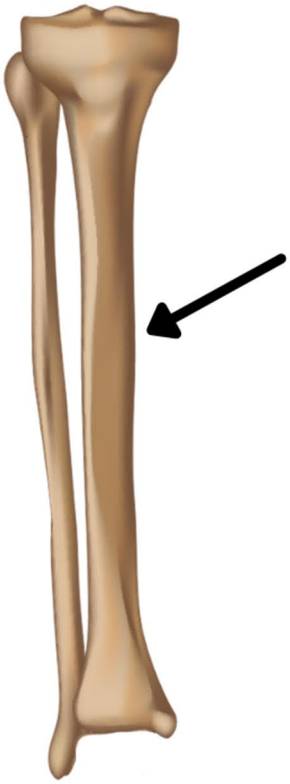
HUMERUS

RADIUS



ULNA

FEMUR



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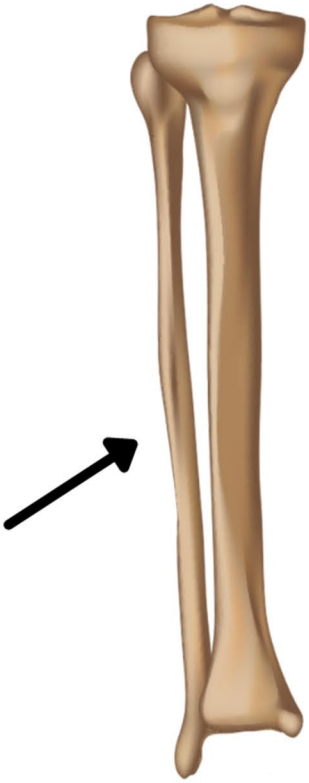

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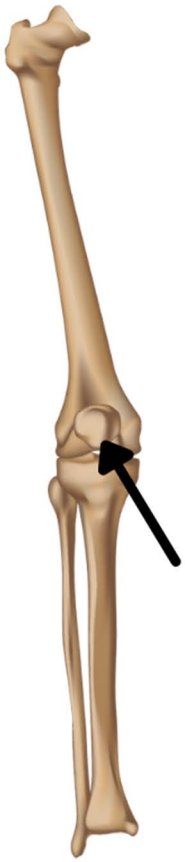

PATELLA

STERNUM

HANDWRITING WORKSHEETS

THE HOMESCHOOL COMPASS

HANDWRITING PRACTICE

for we are his
workmanship, created in
Christ Jesus for good
works, which God
prepared beforehand
that we should walk in
them.
Ephesians 2:10

HANDWRITING PRACTICE

You shall love the Lord your God with all your heart, with all your soul, and with all your mind.

- Matthew 22:37

HANDWRITING PRACTICE

Do not be wise in your own eyes; fear the Lord and depart from evil. It will be health to your flesh and strength to your bones.

-Proverbs 3:7-8

HANDWRITING PRACTICE

I will praise You, for I
am fearfully and
wonderfully made.
Marvelous are Your
works.
-Psalm 139:14