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Human body composition
Learn about our body
Parts of our body

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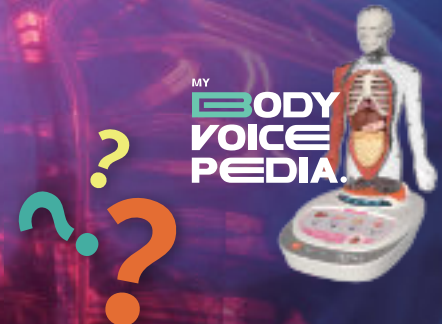


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SCIENCE CAN (HIBL) LEARNING
Improve children's scientific thinking & problem-solving ability

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MY **BODY VOICE PEDIA.**




Learn about the Parts of the Human Body

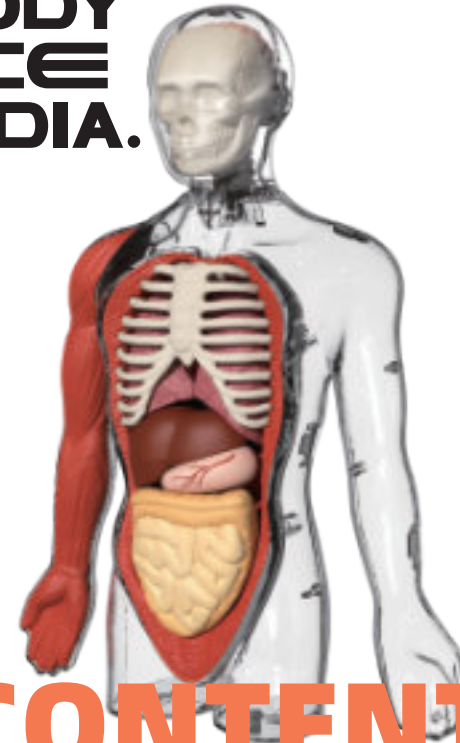
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LIFE SCIENCES



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MY
**BODY
VOICE
PEDIA.**



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An anatomical illustration of a human torso, focusing on the ribcage and spine. The ribs are shown in a light tan color, and the spine is visible in the center. The background is a vibrant, multi-colored gradient of blue, green, and yellow. The illustration is detailed, showing the individual ribs and the way they connect to the spine and each other.

Preface

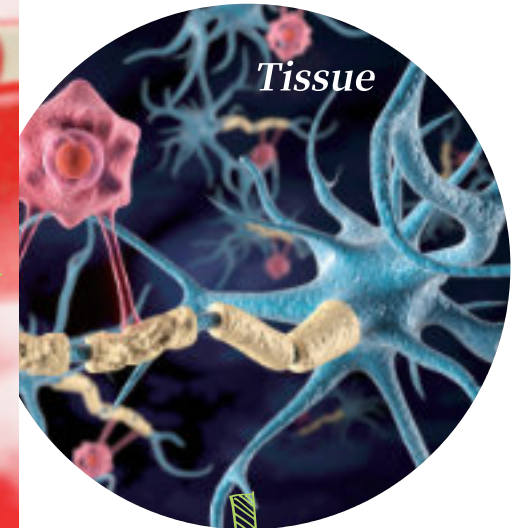
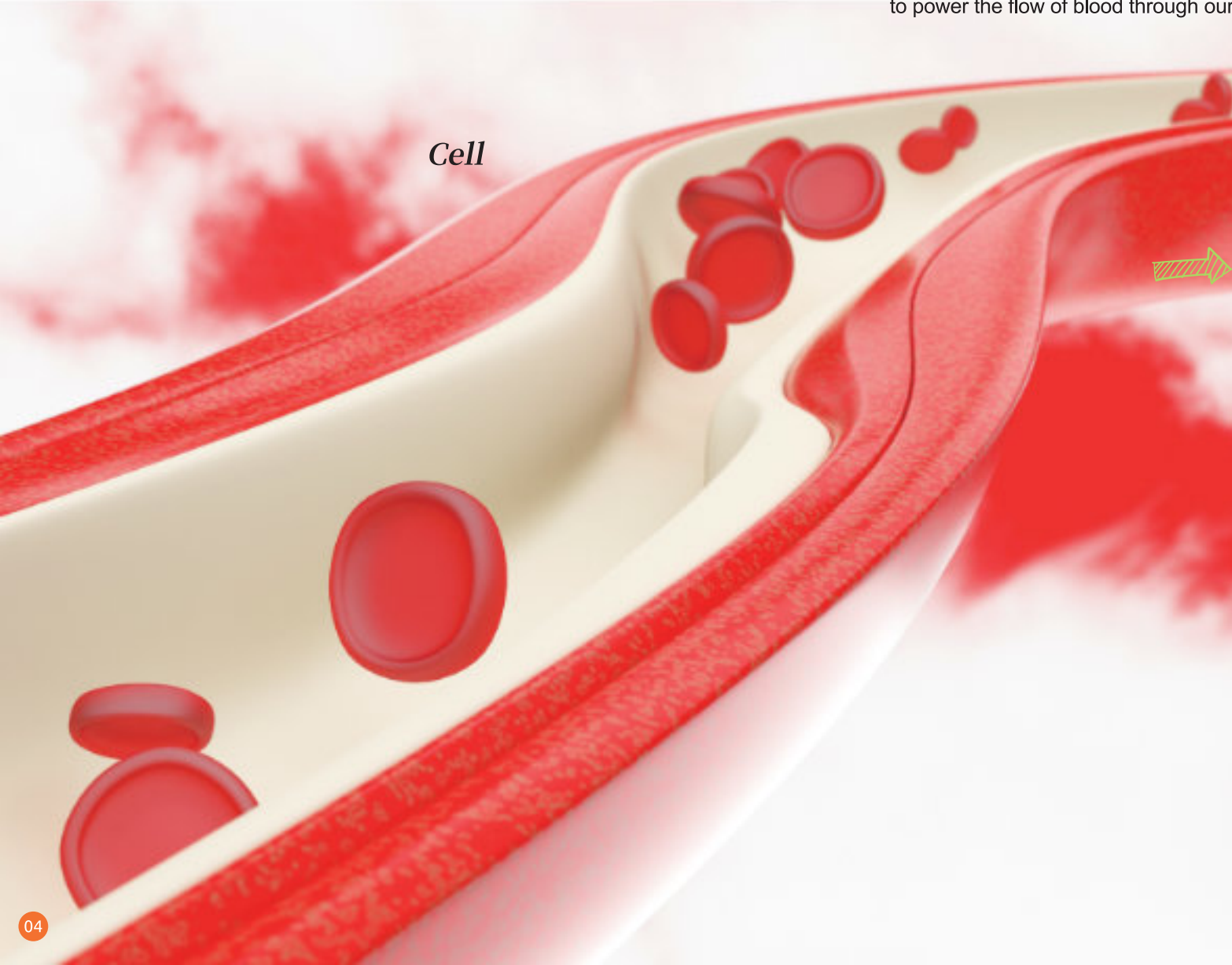
When we are walking down the road, playing on the playground, or sleeping in bed, many parts of our body are working at the same time. But how exactly do the different parts of our bodies divide up the work and how do they work together?

Let's embark on a fascinating journey through the body!

Building Blocks of Life

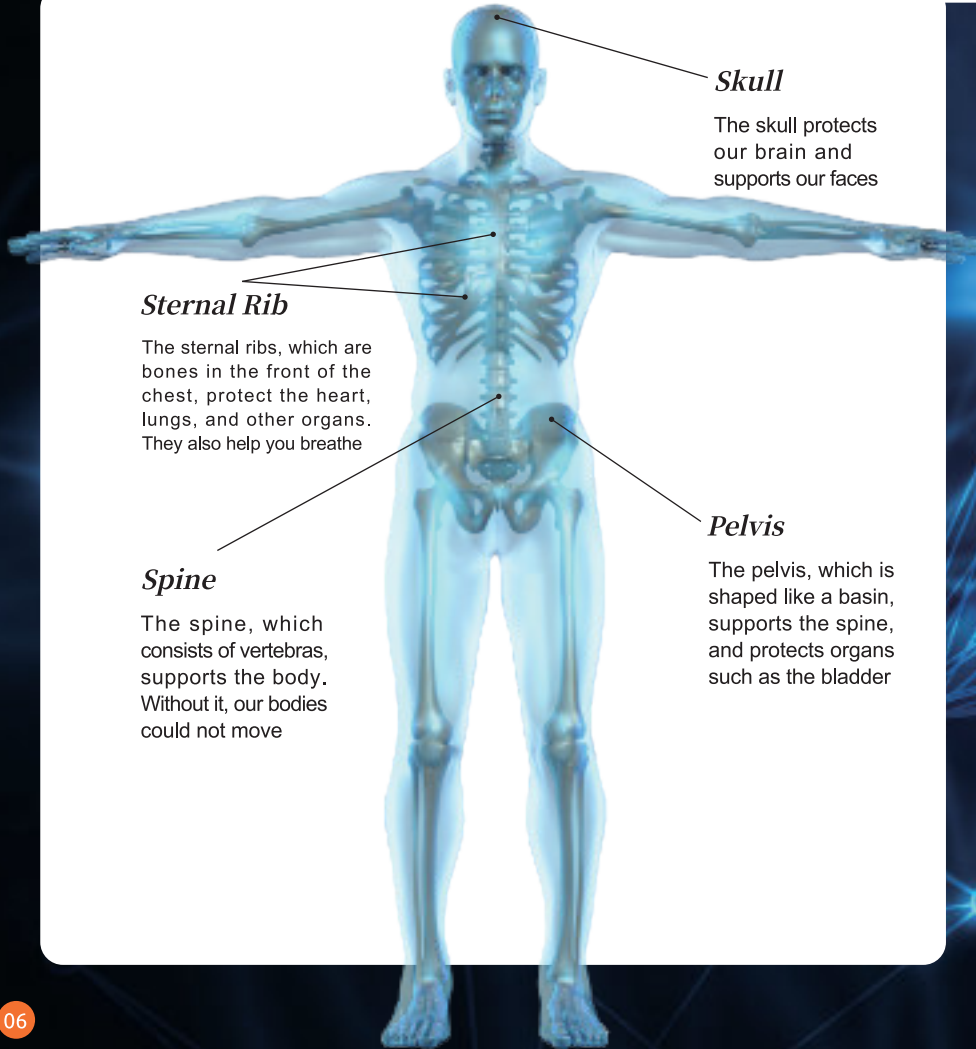
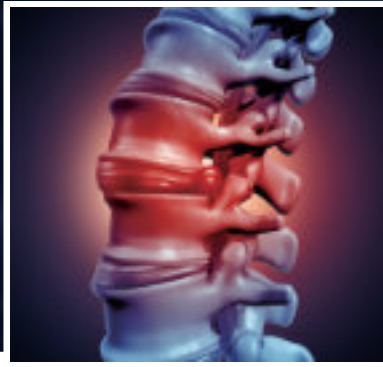
Our body is made up of cells that are like building blocks. There are many types of building blocks, and similar building blocks form various kinds of tissue when they work together.

Multiple tissues work together in forming various organs, each of which has its own ability. For example, the heart is made up of muscles, nerves, connective tissues, and epithelial tissues, that all work together to power the flow of blood through our bodies.



The Skeletal System

Touch your arm or head with your hand. Can you feel something hard? That is one of your bones. We have 206 bones, all of which fit together like puzzle pieces to support our bodies. Without bones, we would be as soft as a slug.



Skull

The skull protects our brain and supports our faces

Sternal Rib

The sternal ribs, which are bones in the front of the chest, protect the heart, lungs, and other organs. They also help you breathe

Spine

The spine, which consists of vertebrae, supports the body. Without it, our bodies could not move

Pelvis

The pelvis, which is shaped like a basin, supports the spine, and protects organs such as the bladder



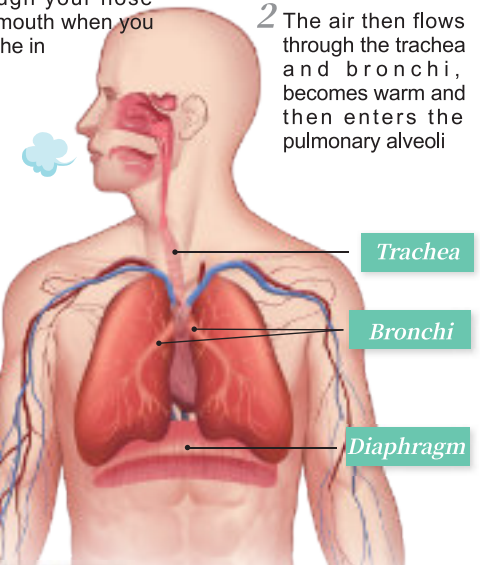
The Respiratory System

Try to breathe in and out and feel your chest as you do so again and again. Do you feel that your chest is getting bigger and then smaller? This happens because when we breathe in, air fills our lungs and expands our chest. When we breathe out, air leaves our lungs and our bodies, making our chest smaller again. All of this happens in the respiratory system, which is an important system that ensures that our bodies are working properly getting the oxygen it needs.



1 Air enters your body through your nose and mouth when you breathe in

2 The air then flows through the trachea and bronchi, becomes warm and then enters the pulmonary alveoli



Pulmonary Alveoli

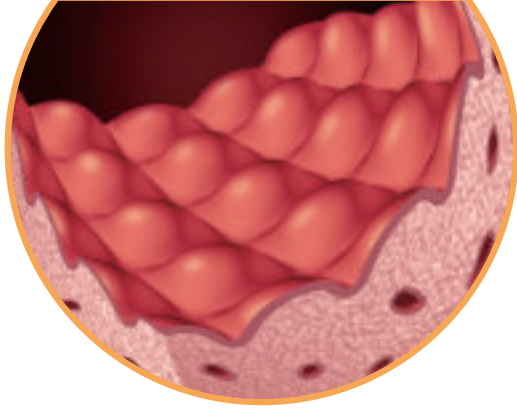
The pulmonary alveoli absorb the oxygen from the air and expel carbon dioxide

4 The diaphragm helps us breathe. When we breathe in, it moves downward and the thorax expands; when we breathe out, it moves upward, and the thorax shrinks



The Journey of Food - The Digestive System

We eat a lot of food every day. Have you ever wondered where the food goes? How is it turned into faeces and excreted from the body? Let's follow food on its journey!



1 After you chewed the food and swallowed it, the food enters the stomach via the oesophagus



2 The gastric muscles get into a peristaltic state, meaning they slowly squeeze the food through your oesophagus. Meanwhile, the digestive juice secreted by the liver and the gastric gland turns the food into a paste and feeds it into the small intestine

Liver

Pancreas

Oesophagus

Spleen

Stomach (Gastric Gland)

Large Intestine

Small Intestine

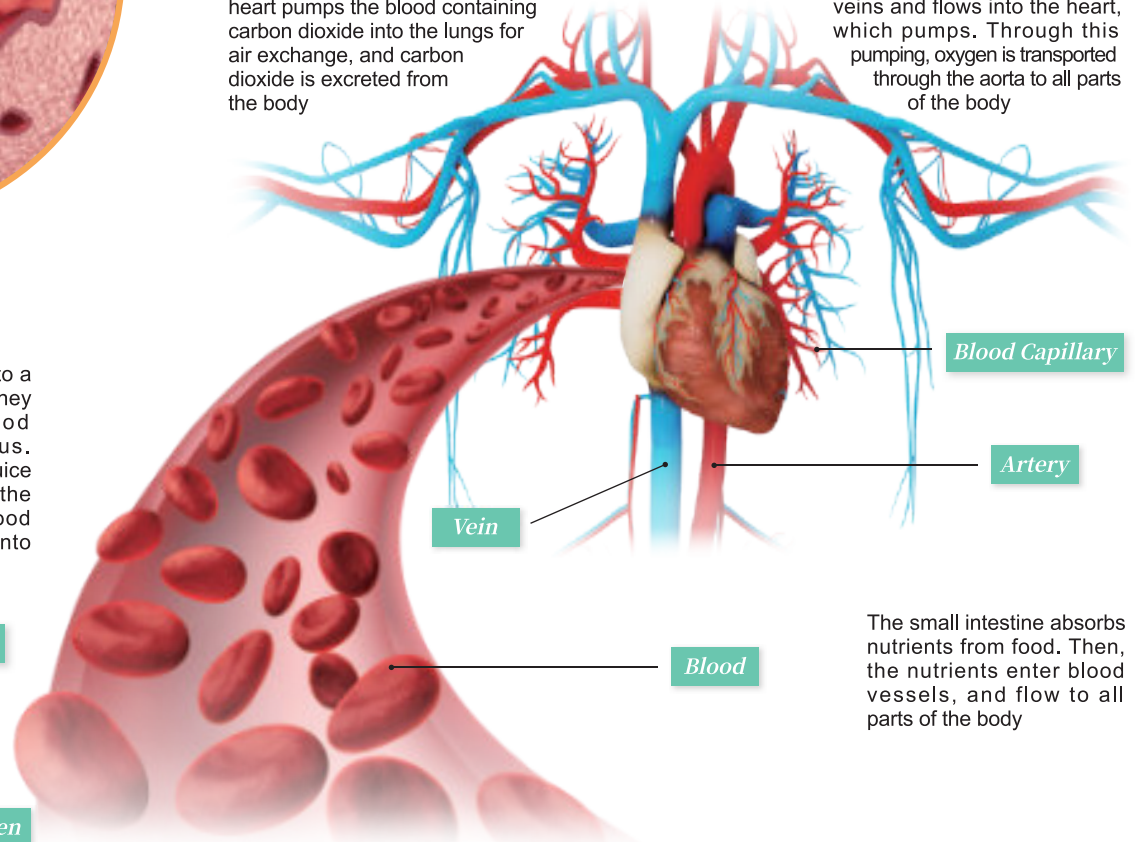
Anus

3 The pancreas and the intestinal gland secrete digestive juice, while the small intestine absorbs nutrients from the food. All impurities are transported to the large intestine

4 After absorbing the water from the impurities, the large intestine transports it to the rectum and then pushes it out of the body via the anus. That's an entire digestive process

The carbon dioxide produced when the organs work, flows into the heart via the superior and inferior caval veins. Then, the heart pumps the blood containing carbon dioxide into the lungs for air exchange, and carbon dioxide is excreted from the body

Oxygen is transported via blood through the capillaries of the lungs into the pulmonary veins and flows into the heart, which pumps. Through this pumping, oxygen is transported through the aorta to all parts of the body



Blood Capillary

Artery

Vein

Blood

The small intestine absorbs nutrients from food. Then, the nutrients enter blood vessels, and flow to all parts of the body

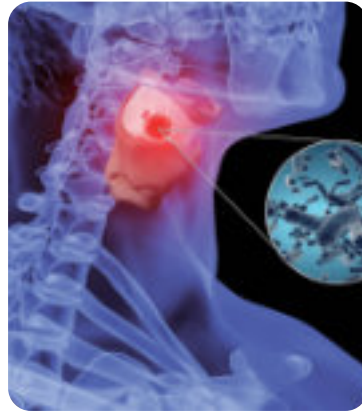
The Circulatory System

Food is turned into nutrients after digestion, but have you ever wondered how nutrients flow through the whole body?

Put your hand on the left side of your chest and feel the pounding and hear the beating; that's the sound your heart makes when it's working. Heartbeats promote blood flow, thereby delivering nutrients via the blood to all parts of the body.

The Immune System

Occasionally our bodies are attacked by viruses, and we get sick. Sometimes we can just rest and are able to recover on our own, but sometimes we need to take medication to recover. Have you ever wondered why our bodies react so differently? And who is protecting our bodies? It is the immune system in our body, which includes immune organs such as the skin, tonsils, spleen, and lymph nodes, as well as immune cells and immune active substances. These parts work together to keep us healthy.



2 The tonsils produce lymphocytes and antibodies, which are able to resist bacteria and viruses

Tonsils

1 The thymus is a central lymphoid organ, which produces hormones and lymphocytes

Thymus

Lymphatic Vessel

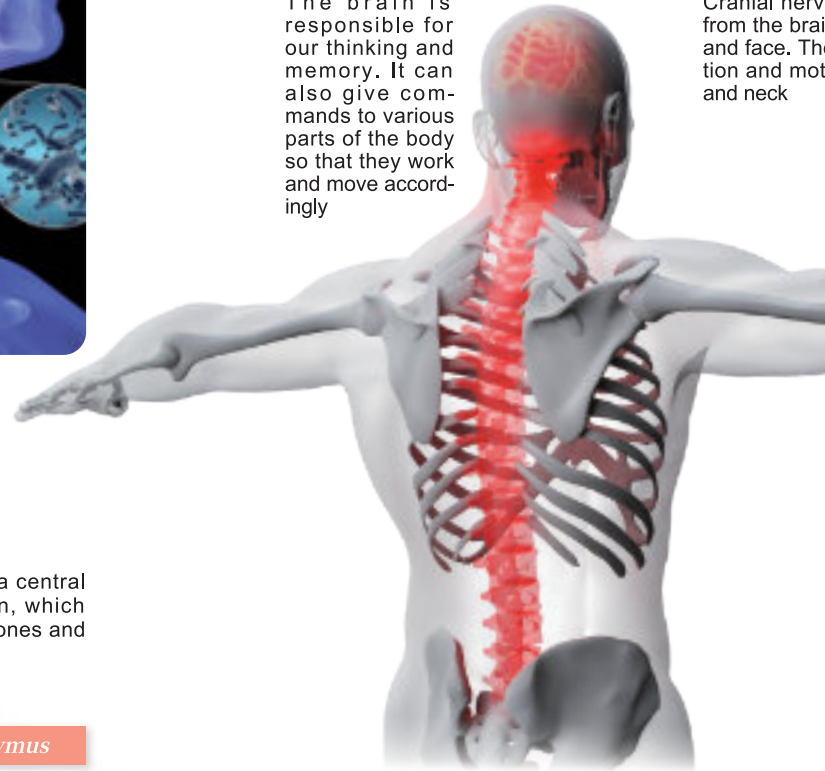
Spleen

3 The lymph nodes, composed of lymphatic tissues, are distributed in the neck, internal organs, and inner thighs. They are able to produce lymphocytes and antibodies to kill bacteria invading the body

4 The spleen produces immune substances and is also responsible for removing impurities, germs and dead cells from the blood

The Brain

The brain is responsible for our thinking and memory. It can also give commands to various parts of the body so that they work and move accordingly



Cranial Nerves

Cranial nerves are paired nerves stretching from the brain, mainly distributed in the head and face. They primarily dominate the sensation and motion of various parts of the head and neck



The Nervous System

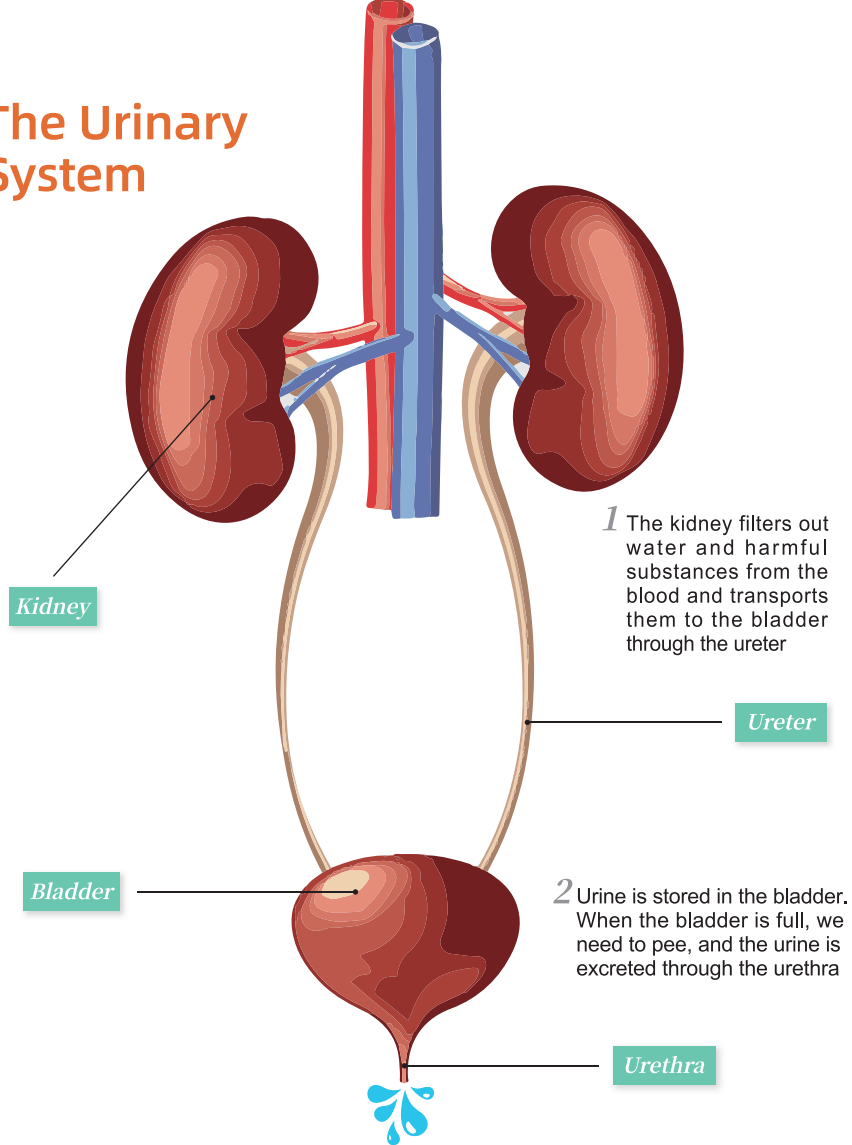
While we are running, our muscles help our bones move. Meanwhile, our respiratory systems and circulatory systems provide us with energy. How do these systems cooperate with each other? The nervous system is the mediator between them. The nervous system is divided into two parts, including the central nervous system and the peripheral nervous system. The central nervous system comprises the brain and the spinal cord, while the peripheral nervous system comprises cranial nerves and spinal nerves.

Spinal Nerves

Spinal nerves come from the spinal cord and are primarily responsible for the sensory movement of the neck, limbs and internal organs



The Urinary System



Our body produces a lot of toxins and harmful substances every day. How does our body get rid of these toxins and harmful substances? Parts of the toxins and harmful substances are excreted through the urinary system! The urinary system is comprised of the kidney, the ureter, the bladder, and the urethra. It plays a primary role in excreting toxins and harmful substances.



Investigating the Human Body

Every part of our body is very important. Think about what are the main parts that make up our body?

Learn About the Organs in Your Body

Experimental Materials

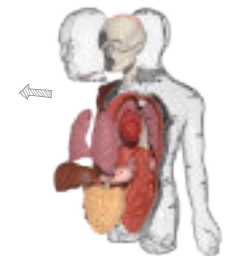
3D Human Body Model



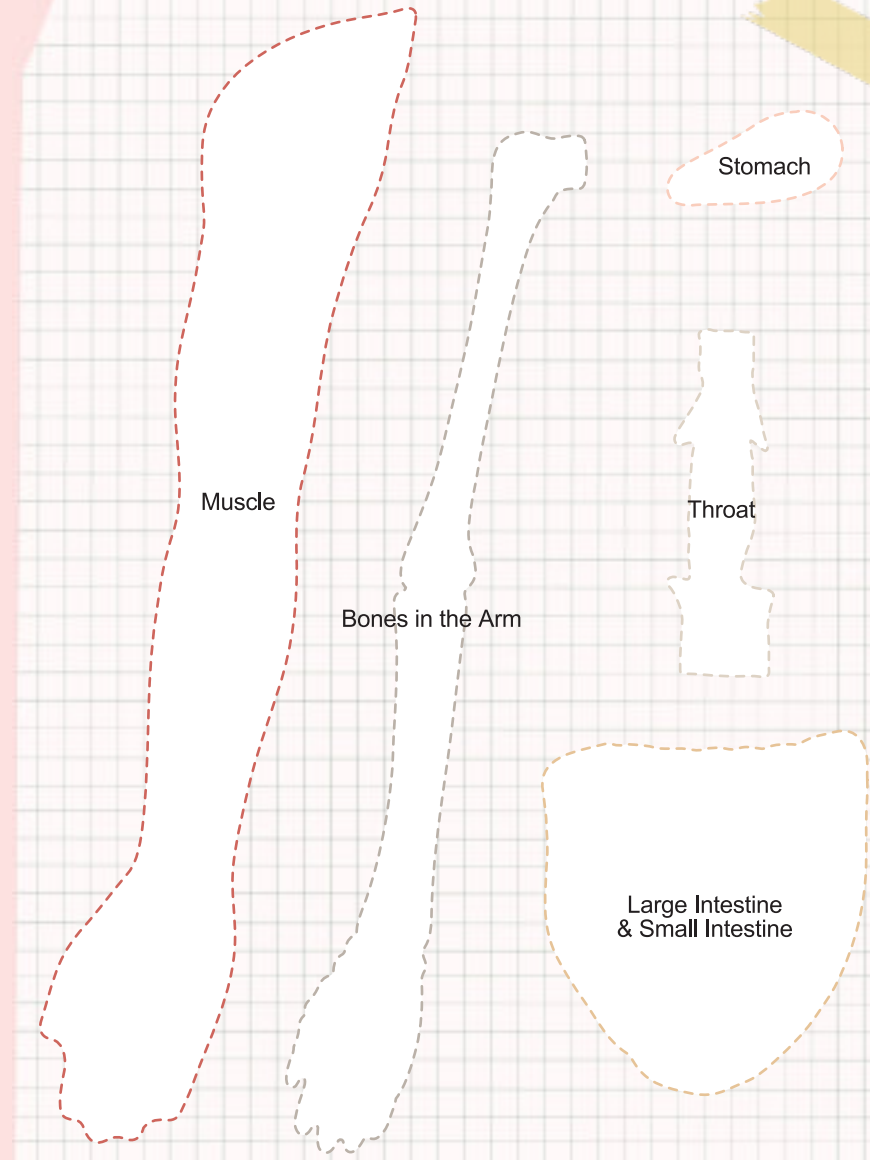
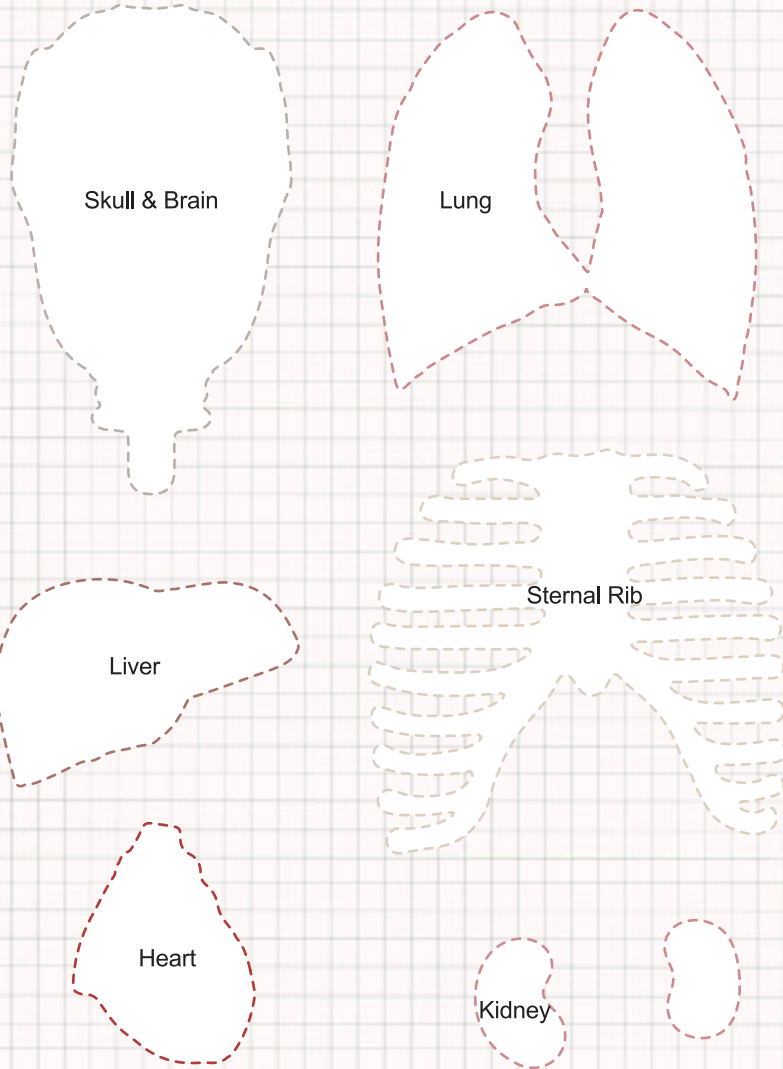
Experimental Procedures

Step 1: Remove the 3D human body model carefully and observe each part of the human body by referring to the body parts map

Step 2: Remove each organ according to the instructions, observe each one to learn about its shape and location, and put it on the dotted lines below



Experimental Records



Talk about the organ that interests you most, including its shape and location in our body!

We got to know the location and shape of the main organs. What are their functions? What is the connection between them? Let's explore together!



Learn about the Functions of our Bodies

Experimental Materials

3D Human Body Model



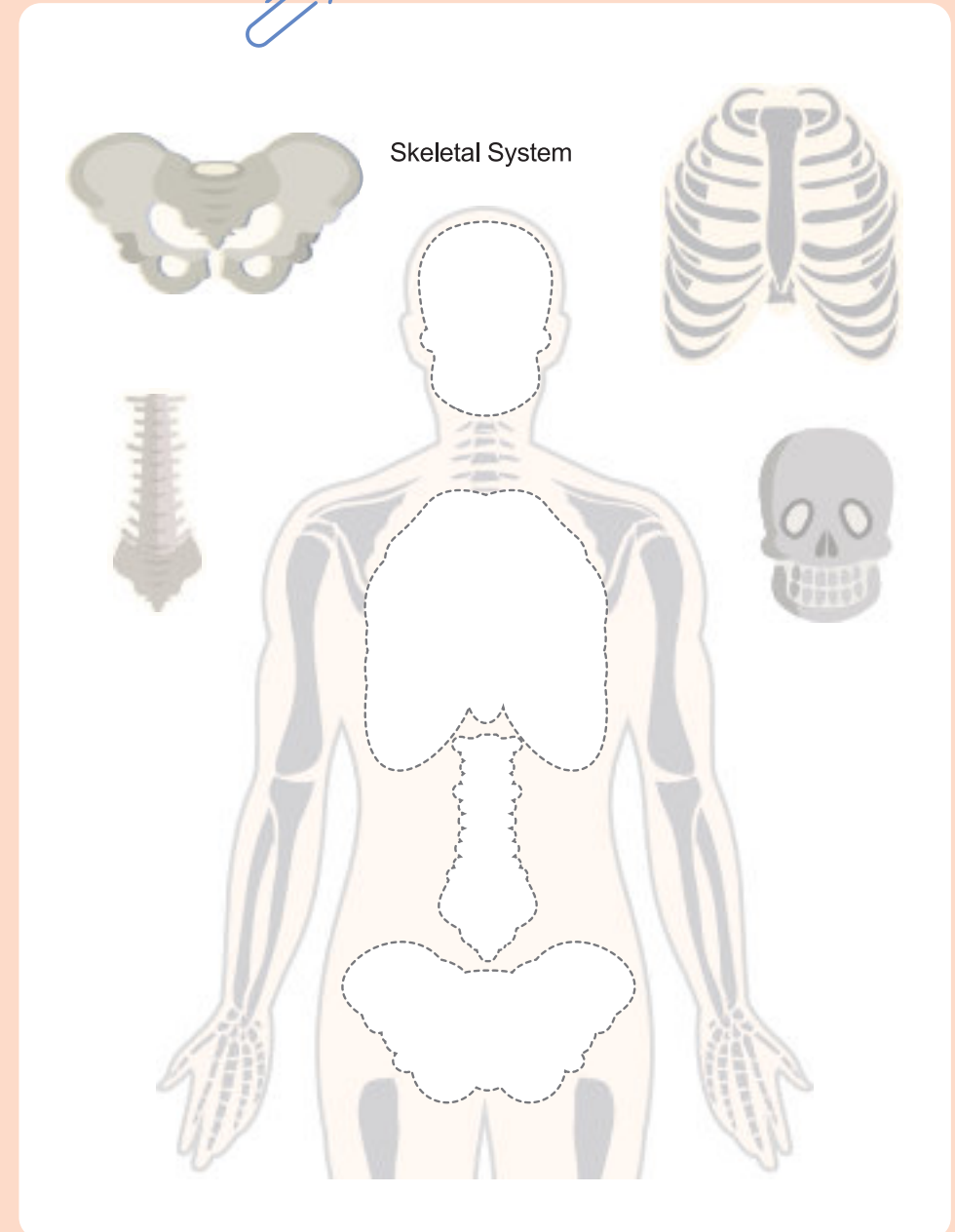
Experimental Procedures

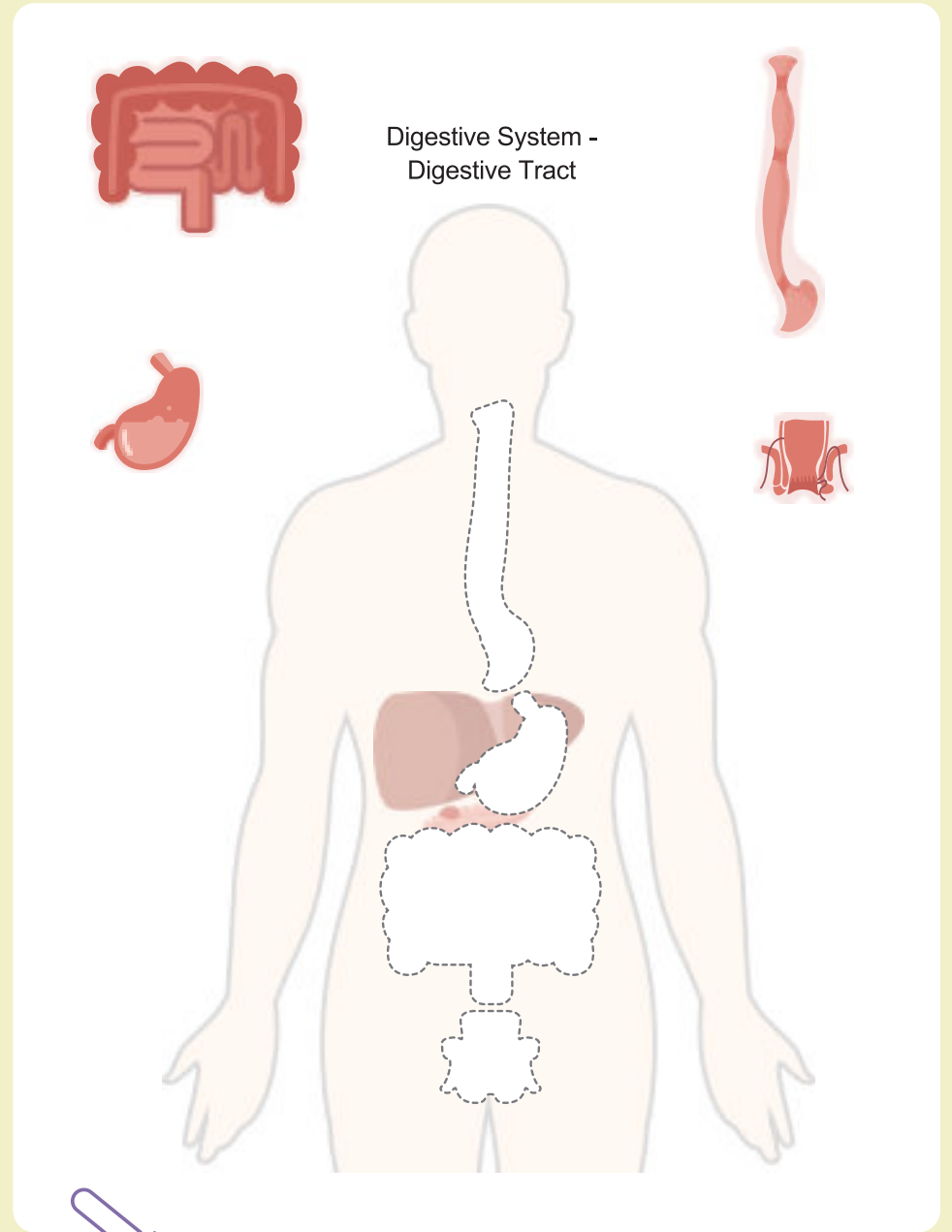
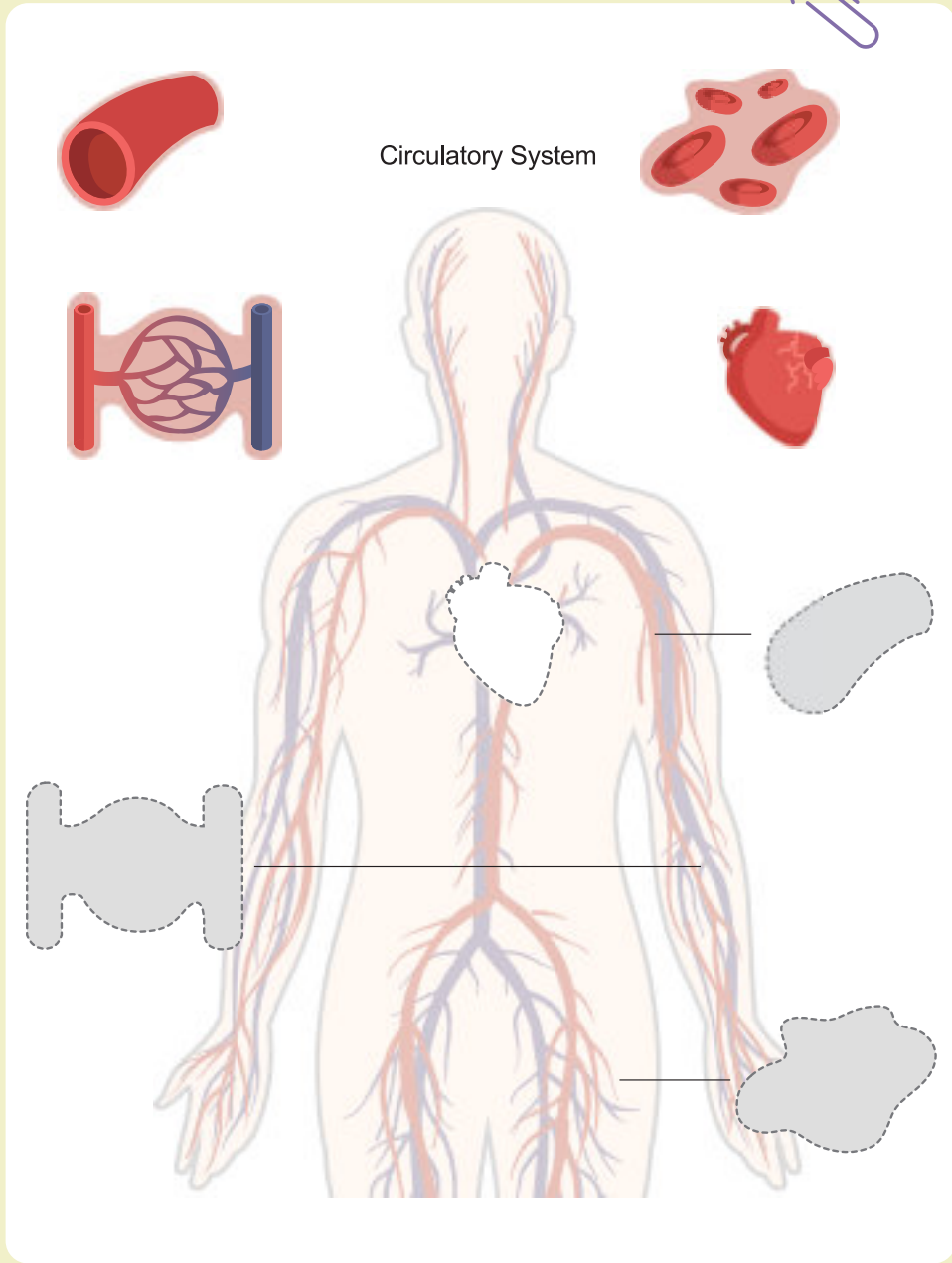
Step 1: Put the card in the card slot according to the instructions to learn about each system and organ

Step 2: Peel off each organ sticker on the back of the booklet and then stick it on the corresponding location



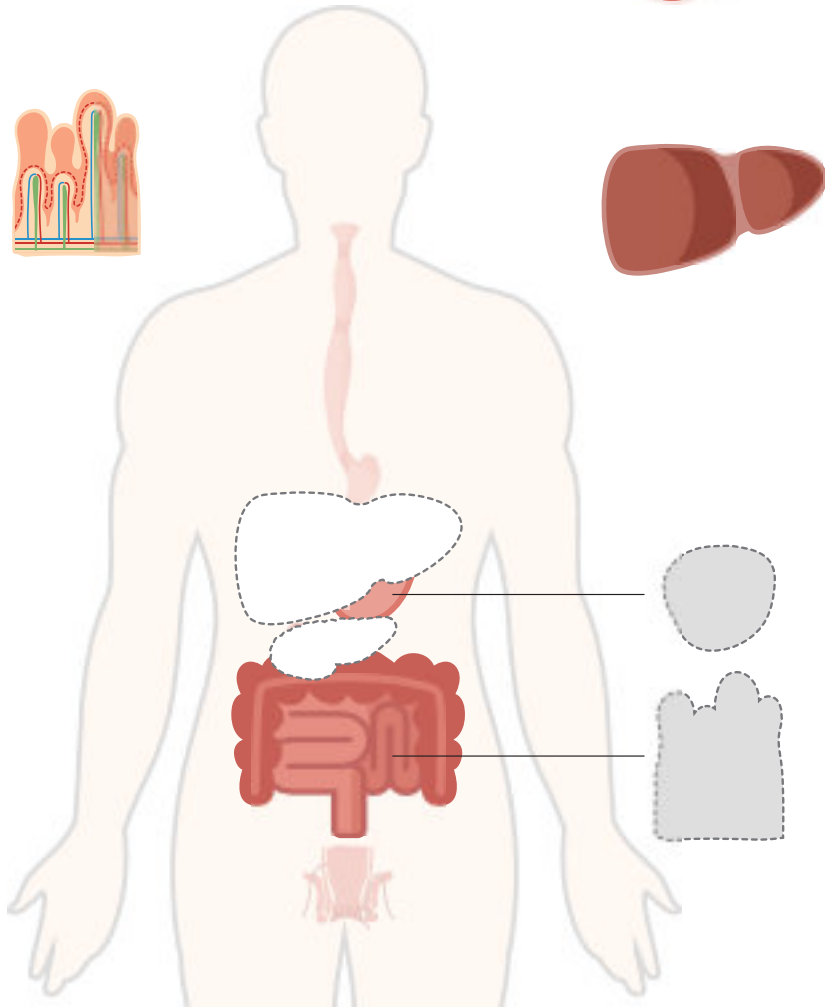
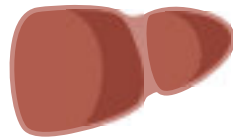
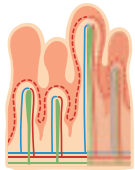
Experimental Records



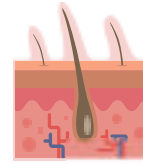




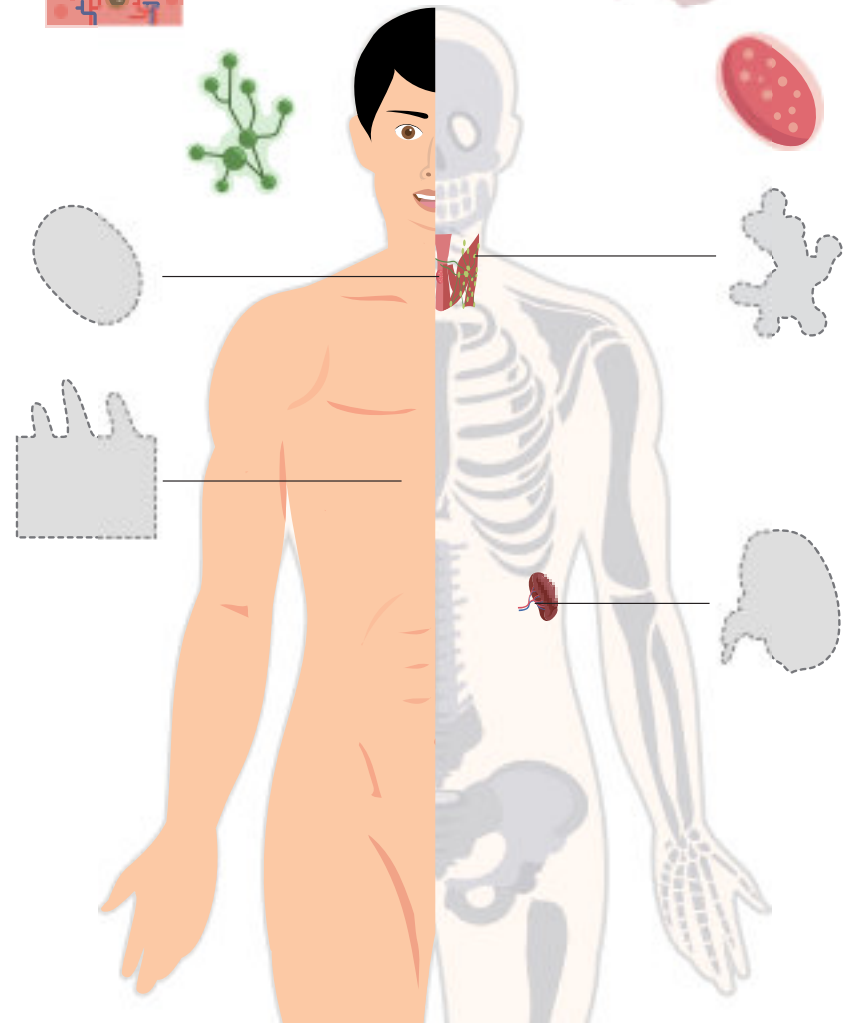
Digestive System -
Digestive Gland

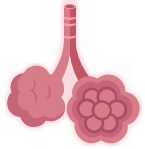


What body systems work while we eat?

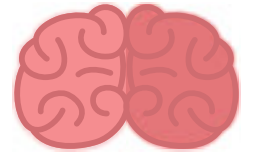
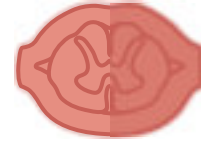
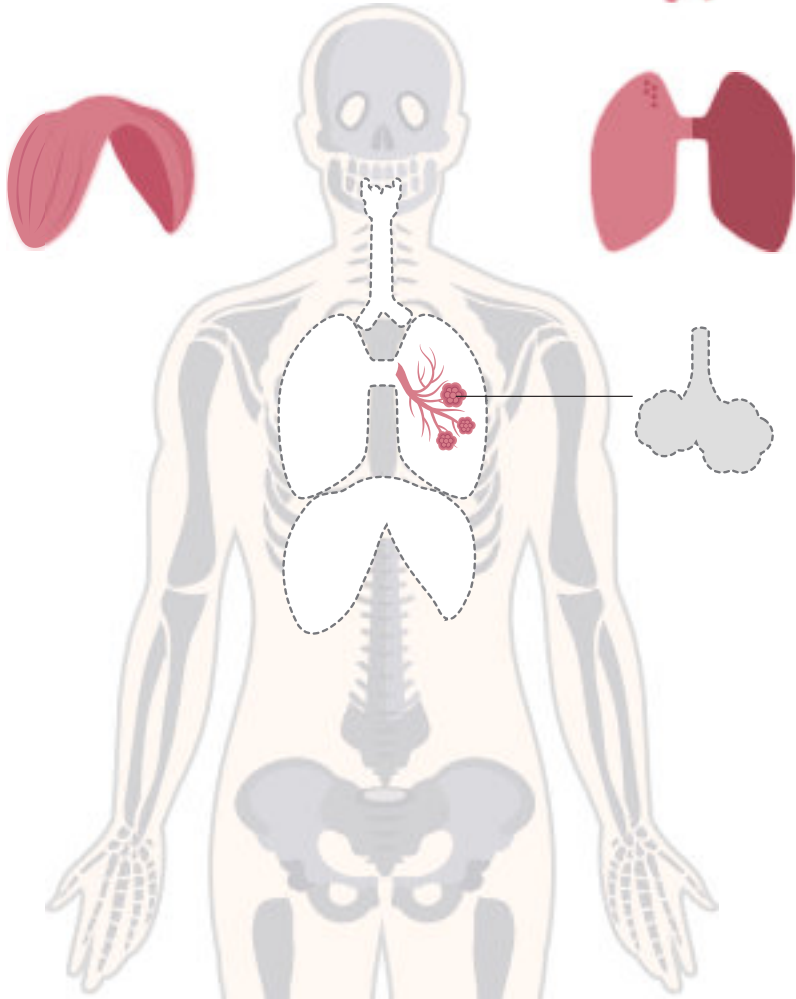


Immune System

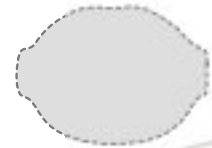
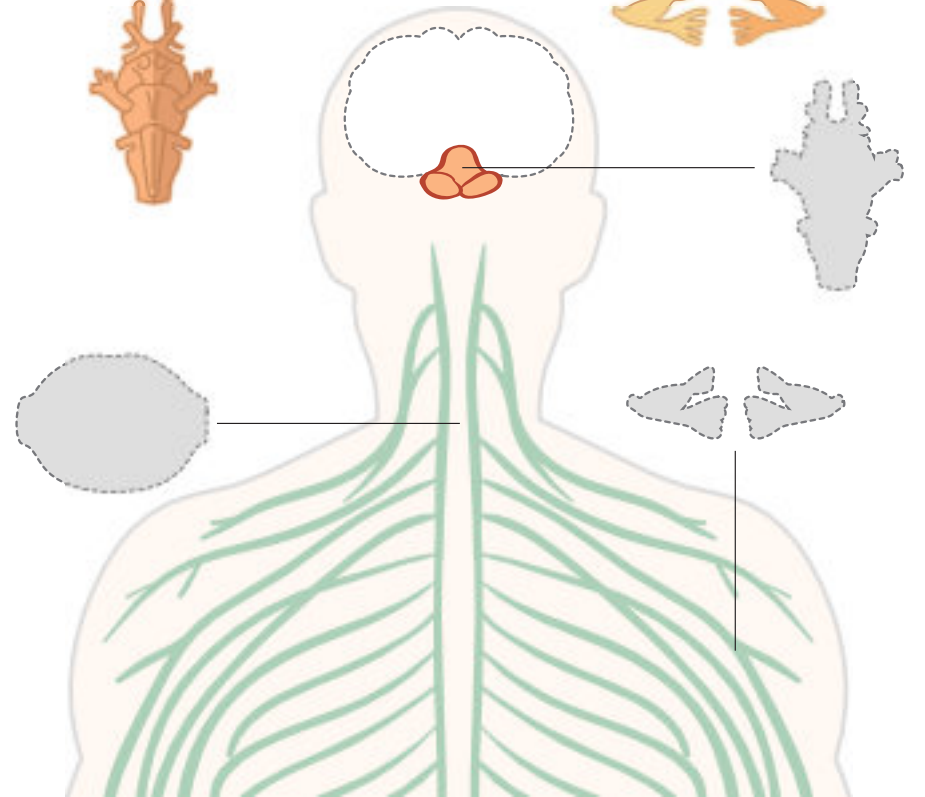




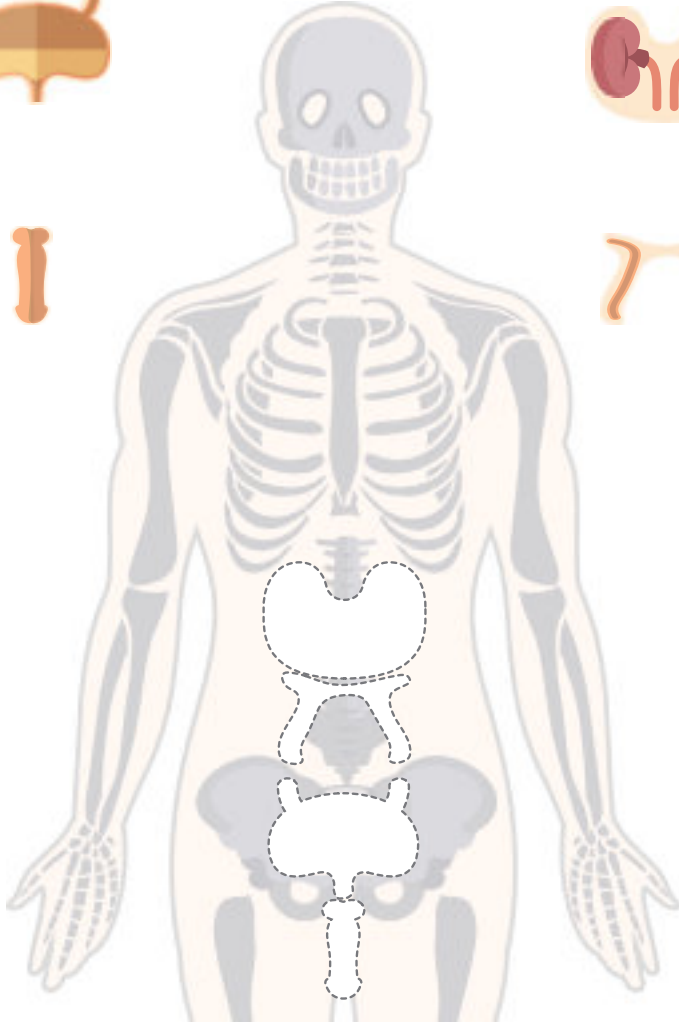
Respiratory System



Nervous System



Urinary System



Sticker Display

