

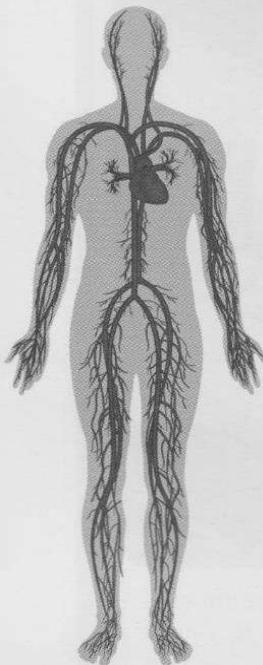
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Unit

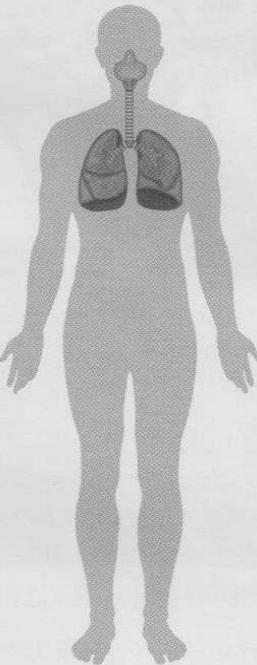
Anatomy and Physiology

Human Body Systems

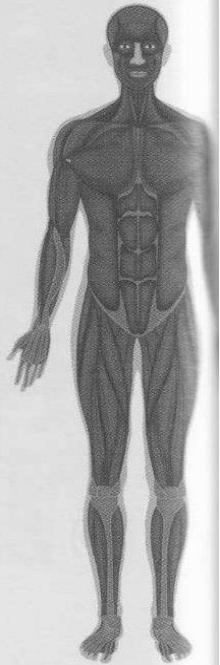
Nervous System



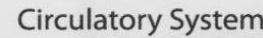
Digestive System



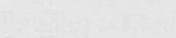
Muscular System



Circulatory System



Respiratory System



Skeletal System



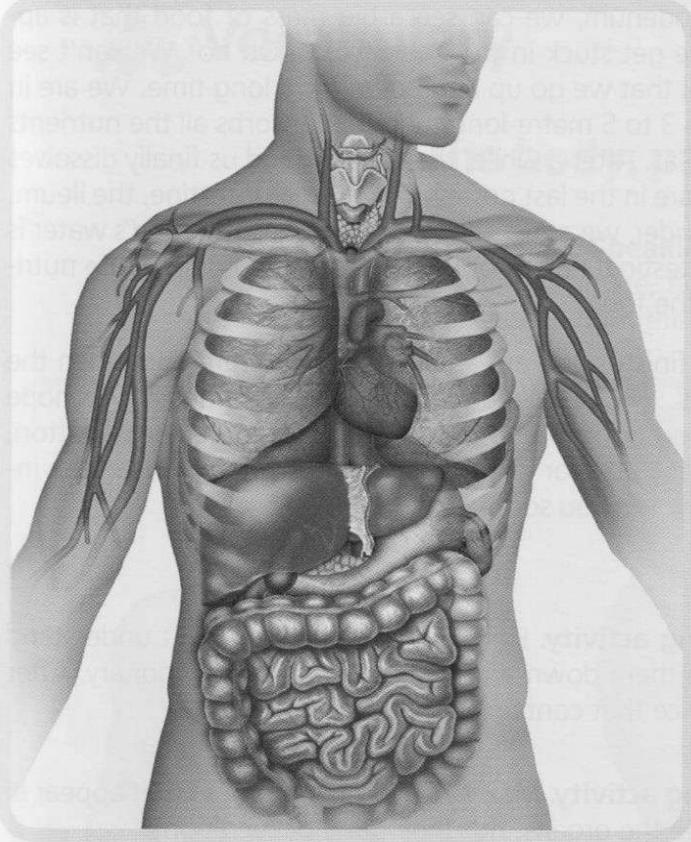
Situation and reading

A trip inside the human body

Welcome on board! Today we are going on a very special trip inside the human body! Ladies and gentlemen, please fasten your seatbelts and sit tight because our captain will press the shrink button shortly to reduce us to the size of a bacteria. ZOOM! There we are, the same size as a *Staphylococcus aureus*, one of the most common bacteria in our skin.

Get ready because the captain will start the engine and we will enter the nose. Now we are going through some sticky hairs and we will enter the nasal cavity. It humidifies and heats the air that we breathe and it also has smell receptors in the walls.

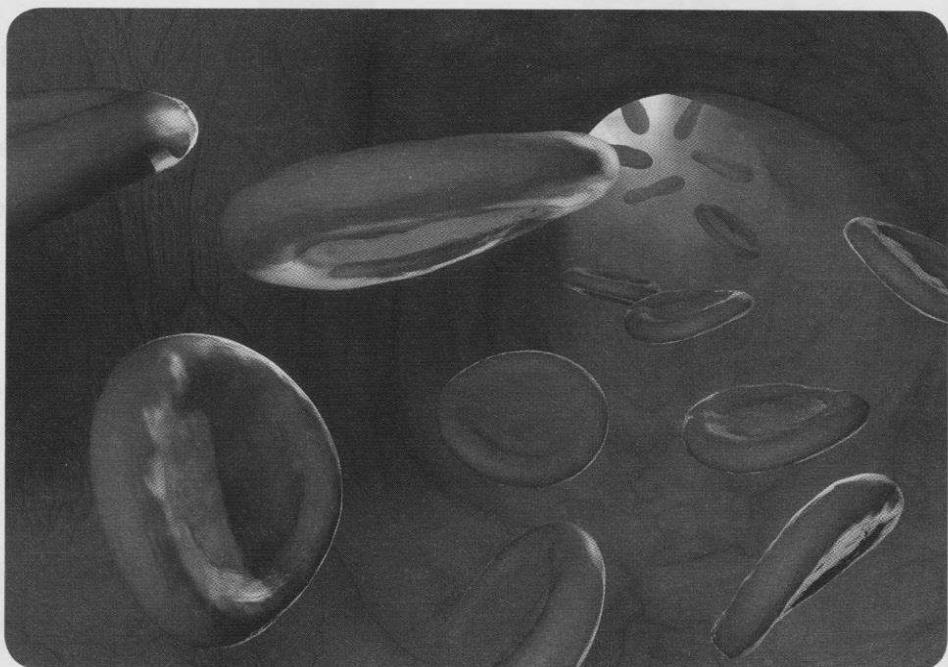
Now we move towards the back and into the pharynx, we go down and we can see the back of the tongue from the oropharynx. Let's move downwards to the larynx and we will pass through the vocal cords. Did you know that we only have 2 true vocal cords? And they don't look like cords, more like skin folds.



After the larynx, we are going to enter the trachea, can you see the ring cartilages that surround it? At the end of the trachea our path divides into two, the right and the left bronchi, and we are going to go inside the left bronchi and deep into the bronchioles until we get to the end, the alveoli. Alveoli are little sacks covered in blood capillaries; those bring carbon dioxide to expel and get oxygen from the air.

We are going to go through the alveoli into these little capillaries, that eventually join some big blood vessels, the pulmonary veins. This is the most dangerous part of our trip, because the pulmonary veins enter the heart, and we are going to be pumped out of the heart at high speed. Get ready, we enter the left atrium of the heart, BAM! Now we are in the left ventricle... BAM! and we get out of the heart through the aorta artery, the biggest and strongest artery of the body! In less than 5 seconds we have travelled from the lungs to the abdomen. Now we are in the abdominal portion of the aorta, that supplies blood to most of its organs.

We are going to leave the aorta through one of its branches, the superior mesenteric artery, that brings blood to the pancreas. As you know, the pancreas produces an essential hormone, insulin, but it also secretes pancreatic juices to break food into small particles. Right now we are in the pancreatic duct, the main collection tube that brings the digestive juices into the duodenum, which is the first part of the small intestine. We are going to open our shield to prevent the digestion of our ship!



We can observe that a green liquid is also coming into our tube, it is the bile that comes from the gallbladder and joins the pancreatic juices in the sphincter of Oddi! The bile mainly digests the fats, and the pancreatic juices digest the rest of the components.

As we enter the duodenum, we can see a big mass of food that is approaching us and we get stuck in the middle of it. Oh no! We can't see anything but we feel that we go up and down for a long time. We are in the small intestine, a 3 to 5 metre-long tube that absorbs all the nutrients in the food that we eat. After a while, the food around us finally dissolves and we see that we are in the last portion of the small intestine, the ileum. Now the pipe gets wider, we are in the large intestine. The food's water is absorbed and the intestinal flora produces vitamins and digests the nutrients that remain in the food.

Our trip is about to finish... we are arriving at the rectum and when the anal sphincter opens... POW! We are outside the body again. We hope that you have enjoyed our trip and before we press the enlarge button, we would like to thank you for joining us in this incredible adventure inside the human body. See you soon!

Activity 1. Reading activity. Find 5 words that you don't understand from the text. Write them down and look them up in a dictionary. After that, create a sentence that contains them.

Activity 2. Reading activity. Make a list of all the organs that appear in the text. Only include the organs, not their parts or secretions.

Activity 3. Reading activity. Classify the organs from activity 2 according to their organ system.

Respiratory system: _____

Cardiocirculatory system: _____

Digestive system: _____

Activity 4. Reading activity. According to the text, what organs relate to the following sentences?

- It is surrounded by some ring cartilages.
- It absorbs all the nutrients in the food.
- The blood vessel that goes out of the left ventricle.
- It humidifies and heats the air.
- A sack covered in capillaries that is at the end of the bronchioles.

Activity 5. Reading activity. Answer the following questions according to the text.

- How long is the small intestine?
- What two substances does the pancreas produce?
- What is the name of the digestive juice produced by the gallbladder?
- Where are the vocal cords?
- What is the name of one of the most common bacteria in our skin?