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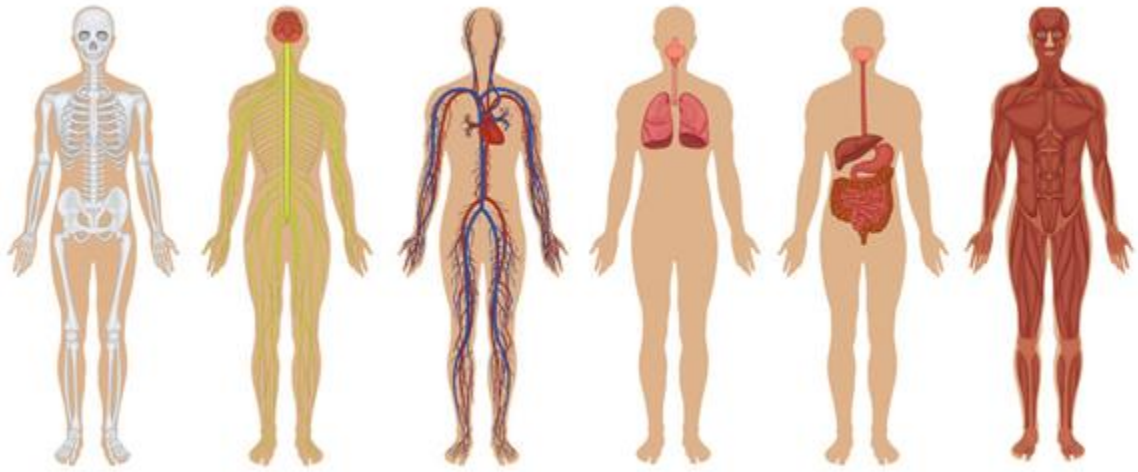
KIPP/2025/_____

Remote Learning Packet
Assignment #5.2

Directions: Read and **annotate** the following article about the human body.

The Human Body: Anatomy, Facts Functions



By Rachael Rettner, Senior Writer | March 10, 2016 01:45pm ET

Organ Systems in the Body

Our bodies consist of a number of biological systems that carry out specific functions necessary for everyday living.

The job of the circulatory system is to move blood, nutrients, oxygen, carbon dioxide, and hormones, around the body. It consists of the heart, blood, blood vessels, arteries, and veins.

The digestive system consists of a series of connected organs that together, allow the body to break down and absorb food, and remove waste. It includes the mouth, esophagus, stomach, small intestine, large intestine, rectum, and anus. The liver and pancreas also play a role in the digestive system because they produce digestive juices.

The endocrine system consists of eight major glands that secrete hormones into the blood. These hormones, in turn, travel to different tissues and regulate various bodily functions, such as metabolism, growth and sexual function.
The immune system is the body's defense against bacteria, viruses and other pathogens that may be harmful. It includes lymph nodes, the spleen, bone marrow, lymphocytes (including B-cells and T-cells), the thymus and leukocytes, which are white blood cells.

The lymphatic system includes lymph nodes, lymph ducts and lymph vessels, and also plays a role in the body's defenses. Its main job is to make is to make and move lymph, a clear fluid that contains white blood cells, which help the body fight infection. The lymphatic system also removes excess lymph fluid from bodily tissues, and returns it to the blood.

The nervous system controls both voluntary action (like conscious movement) and involuntary actions (like breathing), and sends signals to different parts of the body. The central nervous system includes the brain and spinal cord. The peripheral nervous system consists of nerves that connect every other part of the body to the central nervous system.

The body's muscular system consists of about 650 muscles that aid in movement, blood flow and other bodily functions. There are three types of muscle: skeletal muscle which is connected to bone and helps with voluntary movement, smooth muscle which is found inside organs and helps to move substances through organs, and cardiac muscle which is found in the heart and helps pump blood.

The respiratory system allows us to take in vital oxygen and expel carbon dioxide in a process we call breathing. It consists mainly of the trachea, the diaphragm and the lungs.

The urinary system helps eliminate a waste product called urea from the body, which is produced when certain foods are broken down. The whole system includes two kidneys, two ureters, the bladder, two sphincter muscles and the urethra. Urine produced by the kidneys travels down the ureters to the bladder, and exits the body through the urethra.

The skin, or integumentary system, is the body's largest organ. It protects us from the outside world, and is our first defense against bacteria, viruses and other pathogens. Our skin also helps regulate body temperature and eliminate waste through perspiration. In addition to skin, the integumentary system includes hair and nails.

Directions: Please fill out the chart below with each organ system, the function of the system, and organs involved in making that system work. You will be adding many systems that we have not covered in class.

System Name	System Function	Organs Involved

Vital organs

Humans have five vital organs that are essential for survival. These are the brain, heart, kidneys, liver and lungs.

The human brain is the body's control center, receiving and sending signals to other organs through the nervous system and through secreted hormones. It is responsible for our thoughts, feelings, memory storage and general perception of the world.

The human heart is responsible for pumping blood throughout our body.

The job of the kidneys is to remove waste and extra fluid from the blood. The kidneys take urea out of the blood and combine it with water and other substances to make urine.

The liver has many functions, including detoxifying of harmful chemicals, breakdown of drugs, filtering of blood, secretion of bile and production of blood-clotting proteins.

The lungs are responsible for removing oxygen from the air we breathe and transferring it to our blood where it can be sent to our cells. The lungs also remove carbon dioxide, which we exhale.

Fun facts

- The human body contains nearly 100 trillion cells.
- There are at least 10 times as many bacteria in the human body as cells.
- The average adult takes over 20,000 breaths a day.
- Each day, the kidneys process about 200 quarts (50 gallons) of blood to filter out about 2 quarts of waste and water
- Adults excrete about a quarter and a half (1.42 liters) of urine each day.
- The human brain contains about 100 billion nerve cells
- Water makes up more than 50 percent of the average adult's body weight

Directions: Describe each vital organ and explain why the human body cannot work without that organ. What organ system does each organ belong to?

Vital Organ	Why is it so important?	Organ System