

**It’s yours to keep…you have only one…and it’s up to you to make sure it stays healthy! Your body is a machine that needs fuel to run. It is made up of many parts that work together to help you move. From bones and muscles to skin and organs, your body works hard for you. During this virtual assignment, you’ll need to log notes about your learning. Let’s begin the step by step process:**

1. Save this document and your progress as you go along. You may type right into the gray text boxes starting at the arrows (>>). Your teacher may ask you to print out this page so you can show what you learned.
2. Begin your tour of the human body by finding out how your body is organized. Watch this video about the [systems of the human body.](https://www.youtube.com/watch?v=8fG5Pxr9ZQ0)

| **What are some of the major systems of your body?**  **>>skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and the reproductive system.** |
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1. Let’s explore the skeleton! Do you know how many bones are in a human skeleton? There are 206 bones. Take a look at the following simple [skeleton diagram](http://m.patient.media/images/i111_l.jpg) to see some of the most commonly known bones.

| **Name the 3 major arm bones.**  **>> the upper arm bone (humerus) and two forearm bones (the ulna and the radius).**  **Name the 3 major leg bones.**  **>> the femur (thighbone); an intermediate segment, the tibia (shinbone) and the smaller fibula;** |
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1. For this challenge, you are going to help piece together a skeleton! Click to play [The Skeleton Game](https://www.abcya.com/games/skeletal_system) and see how you do. Click on “Assemble” and try to do it in under 26 tries!

| **What score did you get?**  **>>** 28 |
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| **Briefly describe how an X-ray works.**  **>>** **An X-ray is produced when a negatively charged electrode is heated by electricity and electrons are released, thereby producing energy. That energy is directed toward a metal plate, or anode, at high velocity and an X-ray is produced when the energy collides with the atoms in the metal plate.** |
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1. Have you ever had an X-ray? Take a look at [how X-rays work](https://m.kidshealth.org/Nemours/en/kids/video-xray.html) by **reading about X-rays** and **watching the video**.
2. Take a look at this [video about the skeletal system](https://www.youtube.com/watch?v=vDjW00S29l0). See if you can find out the four types of bones.

| **What are the four types of bones?**  **>>** long bone, short bone, flat bone, irregular bone  **TRUE or FALSE (Write T or F on each line.)**  >>\_\_\_T\_ Bones of the skeletal system are stronger than steel.  >>\_\_T\_\_ Bones make red blood cells.  >>\_\_F\_\_ The Femur is an irregular bone. |
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1. Now we’ll move on to muscles. [Watch a short video](https://m.kidshealth.org/Nemours/en/kids/msmovie.html?ref=search) to learn more about how you move.

| **Explain how the muscles in your arm work together to make your arm move.**  **>>** **Muscles can pull bones, but they can't push them back to the original position. So they work in pairs of flexors and extensors. The flexor contracts to bend a limb at a joint. Then, when the movement is completed, the flexor relaxes and the extensor contracts to extend or straighten the limb at the same joint.** |
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1. Read about the [three types of muscles in your body.](https://www.factmonster.com/dk/encyclopedia/science/muscular-system#ESCI342MUSSYS001)  Then compare and contrast them by filling in the chart below.

| Type of Muscle 🡪 | **Skeletal Muscle** | **Smooth Muscle** | **Cardiac Muscle** |
| --- | --- | --- | --- |
| Description 🡪 | >> | >> | >> |

1. Take a look at some [muscle cell pictures](http://www.udel.edu/biology/Wags/histopage/colorpage/cmu/cmu.htm)!

| **What type of muscle is this?**  **>>** |
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| **What are the 3 main parts of the Circulatory System?**  **>>** |
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1. You’re going to love this next system because it’s got heart! Read about the [Circulatory System.](http://www.factmonster.com/dk/science/encyclopedia/circulatory-system.html#ESCI352CIRSYS001)
2. View this [Circulatory System Video](https://www.khanacademy.org/science/health-and-medicine/circulatory-system/circulatory-system-introduction/v/flow-through-the-heart) to learn how your heart pumps blood.

| **Explain how the heart pumps blood by completing each statement below:**   * **Blood first enters the heart in the >> \_\_\_\_\_\_\_\_\_\_** * **When the right atrium contracts, it pushes the blood into the >>\_\_\_\_\_\_\_\_\_\_\_** * **The blood then leaves the heart and goes to the >>\_\_\_\_\_\_\_\_\_\_\_\_\_** * **The >>\_\_\_\_\_\_\_\_\_\_\_\_ receives the oxygenated blood from the lungs.** * **The left atrium sends blood to the >>\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** * **The left ventricle pumps blood out through the >> \_\_\_\_\_\_\_\_\_\_\_\_ which distributes blood to your entire body.** |
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1. Vampires love blood…so does your body! Check out the [different blood types.](http://www.factmonster.com/ipka/A0877658.html)

| **What are the 8 major blood types? Which one is most common?**  **>>** |
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1. Breathe in, breathe out! It’s time to move on to the Respiratory System. Take a look at this [Respiratory System Diagram.](http://www.stanfordchildrens.org/content-public/topic/images/77/125977.gif)

| **The following list is missing some parts of the Respiratory System. Use the diagram to complete the list:**  **Nasal Cavity**  **Bronchus**  **Pleura**  **Alveolar Sacs and Alveoli**  **Left Lung**  **>>**  **>>**  **>>**  **>>**  **>>**  **>>**  **>>** |
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1. Read about the parts and functions of the [Respiratory System](http://www.factmonster.com/dk/science/encyclopedia/respiratory-system.html#ESCI355SPEECH).

| **How does the Respiratory System enable us to speak?**  **>>** |
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1. Watch this [video about the Respiratory System](http://www.neok12.com/video/Respiratory-System/zX5a5b076c436a5b690d0373.htm).

| **What role do Cilia play in our Respiratory System?**  **>>** |
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1. It’s time to exercise your brain! Let’s explore the Nervous System. [Start with this video.](http://www.neok12.com/video/Nervous-System/zX7851624f055b0c607d7145.htm)  It may challenge your thinking!

| **What did you learn about your brain from watching the video?**  **>>** |
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1. What are the three main parts of the Central Nervous System? Click [HERE](https://m.kidshealth.org/Nemours/en/kids/word-nervous-system.html?ref=search) to find out.

| **What are the three main parts of the Central Nervous System?**  **>>** |
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1. What are the 3 major [parts of the brain?](https://m.kidshealth.org/Nemours/en/kids/brain.html?ref=search)  After reading, summarize each part in the chart below.

| 3 Major Parts  of the Brain 🡪 | **Cerebrum** | **Cerebellum** | **Brainstem** |
| --- | --- | --- | --- |
| Description 🡪 | >> | >> | >> |

1. You’ve been working really hard on this webquest. You need a Brain Break! Explore some of these [brainy games](https://www.mindgames.com/Brain+Games) just for fun! (“Swipe a car” is pretty fun!)

| **Which illusion did you find most fascinating?**  **>>** |
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1. Your eyes can play tricks on you! Test your brain with these [visual illusions.](https://www.optics4kids.org/optical-illusions)
2. Take a look at this [diagram of the human brain.](http://images.wisegeek.com/brain-diagram-with-midbrain-labelled.jpg)

| **List the parts of the brain shown in the diagram.**  **>>** |
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1. You’ve had a lot of information to digest! Time to take a look at the [Digestive System!](https://m.kidshealth.org/Nemours/en/kids/digestive-system.html?ref=search) Click through the slides to see all the parts!

| **List the organs of the digestive system that you recognize.**  **>>** |
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| **In which part of the digestive system does the body absorb most of the nutrients?**  **>>** |
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1. Take a look at this [amazing video](http://www.neok12.com/video/Digestive-System/zX6d696f424451797a7b5955.htm) which shows food being digested! ***(It is real footage of food digesting inside the body!)***
2. Read to find out more about the [esophagus, liver, and gallbladder.](http://www.factmonster.com/dk/science/encyclopedia/digestive-system.html)

| **What is the esophagus?**  **>>**  **How does the liver aid in digestion?**  **>>**  **What does the gallbladder do?**  **>>** |
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