Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Reading Guide (Organ Systems part 2)

**Muscular System**

1. Muscles are organs composed mainly of muscle cells, which are also called muscle \_\_\_\_\_\_\_\_\_. Each muscle fiber is a very long, \_\_\_\_\_\_\_\_ cell that can do something no other cell can do. It can \_\_\_\_\_\_\_\_\_\_\_, or shorten. Muscle contractions are responsible for virtually all the movements of the body, both inside and out.
2. Describe smooth muscle
3. Where is it found?
4. Describe skeletal muscle
5. Where is it found?
6. Describe cardiac muscle
7. Where is it found?
8. Which type of muscle are contractions voluntary?
9. Which 2 types of muscle are contractions involuntary?

**Integumentary System**

1. Your \_\_\_\_\_\_ covers the entire outside of your body. Your skin is your body's \_\_\_\_\_\_\_\_\_ organ, yet it is only about \_\_\_ millimeters thick.
2. List the functions of your skin
3. Where on the body would thick, hairless skin be found?
4. What are the 2 layers of the skin?
5. The \_\_\_\_\_\_\_\_\_\_(**the outermost layer of the skin**) forms the waterproof, \_\_\_\_\_\_\_\_\_\_\_ wrap over the body's surface. The epidermis is divided into several layers of \_\_\_\_\_\_\_\_\_\_\_\_ cells. The epithelial cells are formed by \_\_\_\_\_\_\_\_\_\_\_ in the lowest layer. These cells move \_\_\_\_ through the layers of the epidermis to the top. Although the top layer of epidermis is only about as \_\_\_\_\_\_\_ as a sheet of paper, it is made up of \_\_\_ to \_\_\_ layers of cells.
6. Where does the epidermis get blood from?
7. The \_\_\_\_\_\_\_\_\_\_ (**the layer of skin directly under the epidermis**) is made of a tough connective tissue that contains the protein \_\_\_\_\_\_\_\_\_\_\_\_. Collagen is a long, fiber-like \_\_\_\_\_\_\_\_\_\_ that is very strong. The dermis is tightly connected to the \_\_\_\_\_\_\_\_\_\_\_\_\_ by a thin wall of collagen fibers.
8. What are oil glands?
9. What is **sebum**?
10. What are sweat glands?
11. How do they help maintain homeostasis?
12. Nails and hair are made of the same types of cells that make up skin. Hair and nails contain the tough protein \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
13. Draw and label a diagram of skin.
14. What are 2 benefits of hair?

**Nervous System**

1. The nervous system is a complex \_\_\_\_\_\_\_\_\_\_\_ of nervous tissue that carries \_\_\_\_\_\_\_\_\_\_\_\_ messages throughout the body. These messages allow organisms to \_\_\_\_\_\_\_\_\_\_ respond to changes in their \_\_\_\_\_\_\_\_\_\_\_\_\_\_, as well as to maintain normally functions of organs and tissues.
2. **Nerve Cells**

* Neurons- the \_\_\_\_\_\_\_\_\_\_\_ and functional units of the nervous system. They transmit electrical signals, called \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Glial Cells- provide \_\_\_\_\_\_\_\_\_\_\_\_ for neurons. (nutrients)

1. **Central Nervous System**
   * Central Nervous System- Brain and \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_
     + The brain is the most \_\_\_\_\_\_\_\_\_\_\_ organ of the human body and the control center of the nervous system. The brain controls such mental processes as \_\_\_\_\_\_\_\_\_\_\_\_\_, imagination, \_\_\_\_\_\_\_\_\_\_\_\_\_, and language. It also interprets information from the \_\_\_\_\_\_\_\_\_\_. In addition, it controls basic physical processes such as breathing and heartbeat. The brain has three major parts: the \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_, and brain \_\_\_\_\_\_\_\_\_.
   * Peripheral Nervous System- nervous tissue that lies outside the \_\_\_\_\_\_\_\_\_\_ nervous system.

**Circulatory System**

1. The function of the circulatory system is to \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ around the body.
2. The **HEART**-The heart is a muscular organ in the \_\_\_\_\_\_\_\_\_. It consists mainly of \_\_\_\_\_\_\_\_\_ muscle tissue and pumps \_\_\_\_\_\_\_\_\_\_\_ through blood vessels by repeated, \_\_\_\_\_\_\_\_\_\_\_ contractions. The heart has \_\_\_\_\_\_\_ chambers. Two upper \_\_\_\_\_\_ (singular, atrium) and two lower \_\_\_\_\_\_\_\_. Valves between \_\_\_\_\_\_\_\_\_\_\_ keep blood flowing through the heart in just \_\_\_\_ direction.
3. Draw a diagram of the heart and label as many parts as you can.