



# Human Body Systems

7<sup>th</sup> grade Science  
Miss Evans



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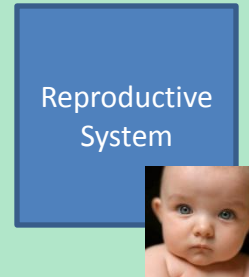
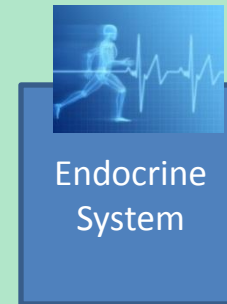
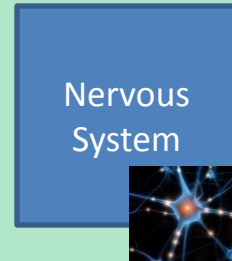
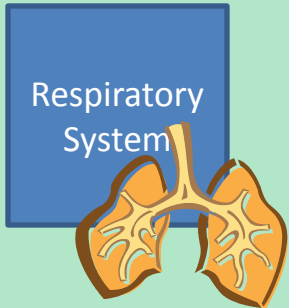
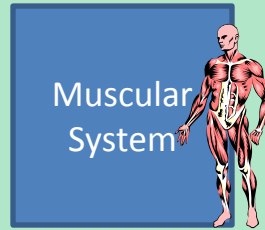
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# Human Body Systems Main Page

Directions: Begin by clicking on the word or picture of the system you want to view. There are buttons at the bottom of each slide, just click on the box to move to the next slide, to go back to the main page, or to try the review question. Please read all slides first, then test your understanding by trying the review question at the end.





# Skeletal System



- It protects, provides form and structure.
- Humans, like all vertebrates, have an endoskeleton (internal framework) made up of bone and cartilage and the muscles attach to the bone.
- Made up of 206 separate different shapes and sizes of bone, which make up 18% of a person's body weight.
- Joints are where two or more bones meet.
- Cartilage acts as a cushion between bones.

# Muscular System



- 40% of our body weight is muscle.
- **There are three types of muscle cells:**
  1. **Skeletal**- voluntary (you can control these)
  2. **Smooth**-involuntary (can't consciously control)
  3. **Cardiac**- is a type of smooth muscle that makes up the heart, which is also involuntary.



# Digestive System



- Mechanical digestion occurs mainly in the mouth and stomach, which breaks down food into small pieces.
- Chemical digestion breaks down food even further chemically into simple sugars (for carbohydrates), amino acids (for proteins), fatty acids, and glycerol (for fats).



**BLOOD  
TYPE**

**A**



# Circulatory System

## Two main parts of whole blood:

1. Plasma (yellowish-clear liquid)
  2. Solid part (red blood cells, white blood cells, and platelets)
- Red blood cells ( contain hemoglobin), white blood cells (attack foreign invaders), platelets (form blood clots)
- There are 4 main types of blood (A, B, AB, and O)

## Three types of blood vessels:

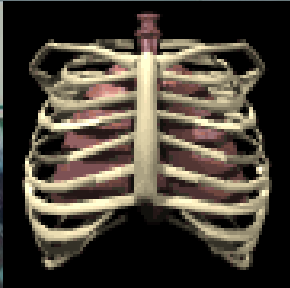
1. Arteries- carry blood away from the heart
2. Veins- carry blood to the heart
3. Capillaries- connect arteries to veins



# Respiratory System

Trachea is the flexible breathing tube that is also known as the windpipe.

- Larynx contains the vocal cords also known as the voice box.
- Bronchi are two breathing tubes that branch out of the trachea and lead to the lungs.
- Bronchial tubes are large breathing tubes that branch out from the bronchi.
- Alveoli are sacs in the lungs where gas exchange takes place.
- Your ribs and diaphragm help you breathe as well.







# Excretory System



- Metabolism is the sum of all the chemical processes that take place in an organism.
- Excretion is the way organisms get rid of metabolic/harmful wastes.
- The kidneys for example remove wastes from the blood.
- The liver is the most complex organ in the body because it has so many important functions such as making bile, a digestive juice. Skin is an excretory organ and the largest organ in the human body.
- Epidermis is the outer layer of skin.
- Dermis is the inner layer of skin underneath the epidermis.
- Perspiration (sweat) is released through sweat pores.





# Nervous System

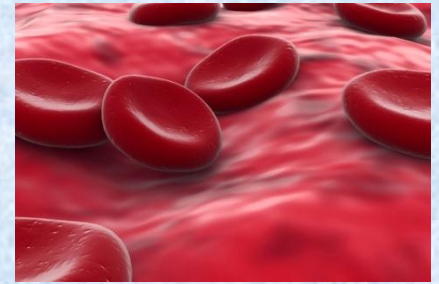


- Neurons are nerve cells that are the basic unit of the nervous system.
- A reflex is an automatic response to a stimulus in which the brain is not directly involved.
- The brain and spinal cord are the 2 MAJOR centers of the human central nervous system.
- Cerebrum is the largest area of the brain.
- Cerebellum controls muscular activity by working with the cerebrum.
- Medulla controls breathing, heart action, and movements in the digestive system.
- Spinal cord is a bundle of nerves that sends and receives impulses.





# Endocrine System



- Hormones are chemical messengers carried by the blood that regulate and balance body functions.
- Endocrine glands release hormones into the blood stream.
- Pituitary hormones regulate the growth of the skeleton.
- The glands produce hormones in small amounts as they are needed and for the most part, the body does not store hormones.



# Reproductive System



- Around age 10, people begin a journey into adulthood called puberty, which is a time the body becomes able to reproduce to create another human being.
- Ovaries are the female reproductive organs.
- Testes are the male reproductive organs.
- Ovulation is the process by which a mature egg is released from an ovary.
- Menstruation is when the flow of the uterine lining and unfertilized egg is released from a woman's body, which happens on average every 29.5 days.
- When fertilization of a woman's egg and a man's sperm occur, an embryo forms and grows in the woman's abdomen, and a baby is born within about 40 weeks.