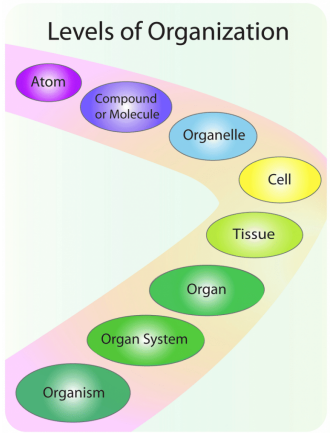
BIG IDEA: Organ systems have complex interrelationships to maintain homeostasis.

- Describe the interactions that occur among systems that performs that functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals.
- Analyze the levels of organization in biological systems and relate the levels of each other and to the whole system.

Vocabulary

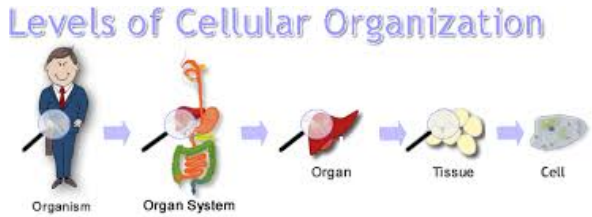
- Cells
- Tissue
- Connective Tissue
- Epithelial Tissue
- Muscle Tissue
- Nervous Tissue
- Organ
- Organ System

The Body Systems



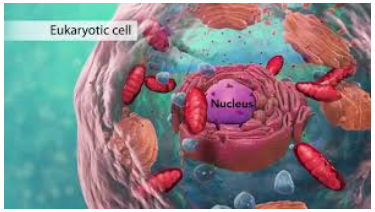
Levels of Organization

1. Cells
2. Tissue
3. Organ
4. Organ Systems

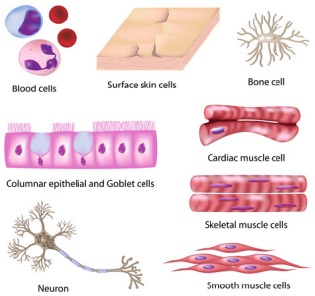


Cells

- An Amazing 100 trillion cells by the time the average person reaches adulthood!
- Basic units of structure and function in the human body, as they are in all living things.
- Each cell carries out life processes that llow the body to survive.



Different types of cells in the human body are specialized the specific jobs. Do you know the functions of any of the cell types shown here?

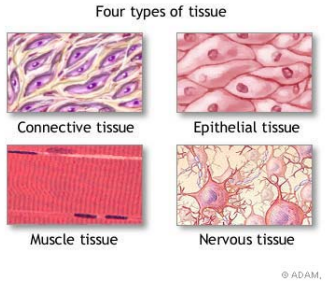


V.O.D

- https://www.youtube.com/watch?v=I8uXewS9dJU

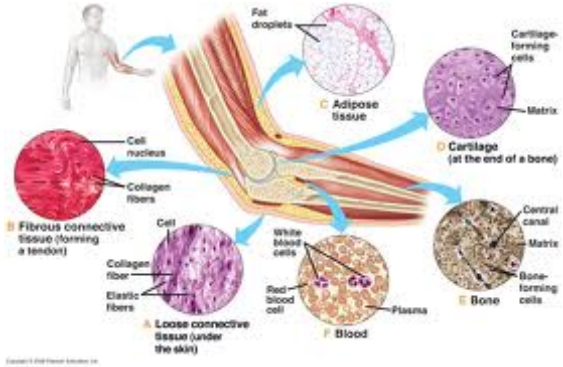
Tissues

- A tissue is a group of connected cells that have similar function.
  - Epithelial Tissue
  - Muscle Tissue
  - Nervous Tissue
  - Connective Tissue



Connective Tissue

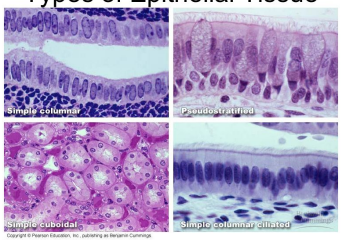
- Form the body's structure. Examples include bone and cartilage.



Epithelial Tissue

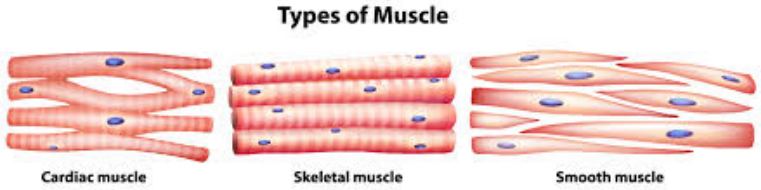
- Line inner and outer body surfaces, such as the skin and the lining of the digestive tract.
- Protects the body and its internal organs
- Secretes substances such as hormones, absorbs substances such as nutrients.

Types of Epithelial Tissue



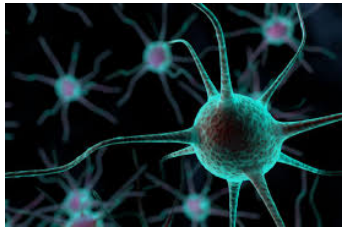
Muscle Tissue

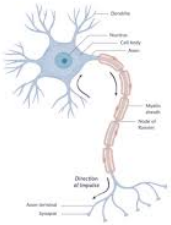
- Unique ability to contract, or become shorter.
- Attach to bones and enable the body to move.



Nervous Tissue

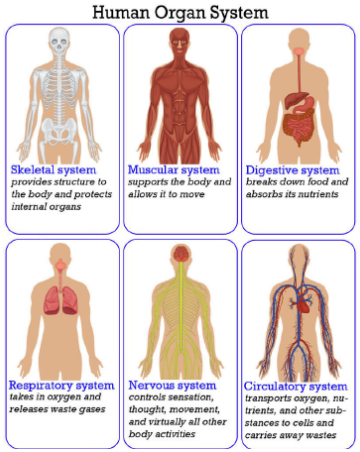
- Made up of neurons, or nerve cells, that carry electrical messages. Nervous tissue makes up the brain and the nerves that connect the brain to all parts of the body.





Organs and Organ Systems

- An organ is a structure and consists of two or more types of tissues that work together to do the same job.
- An organ system is a group of organs that work together to carry out a complex overall function.



Take Away Task

- Biology 12 – Recombinant DNA reading and summary.