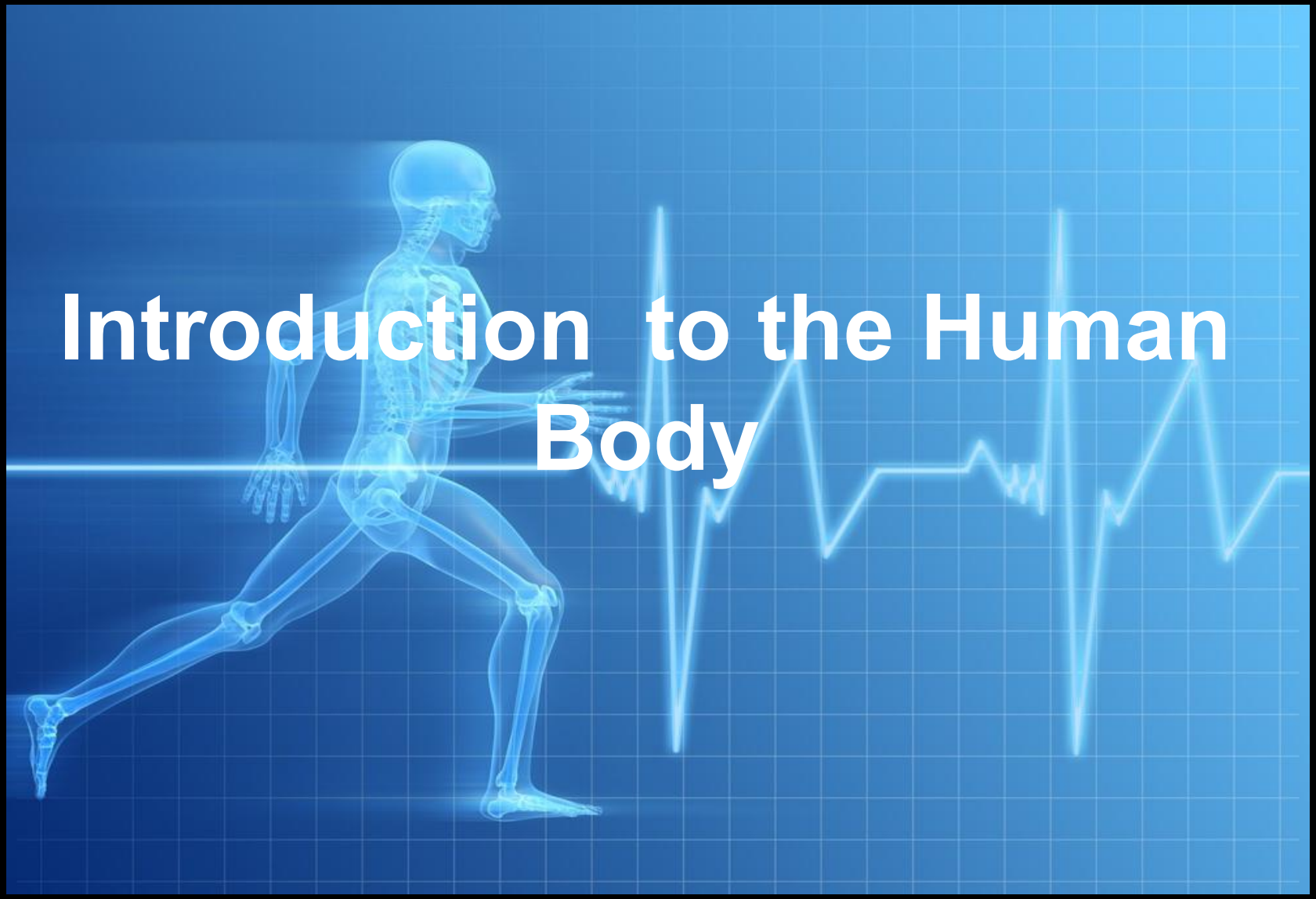
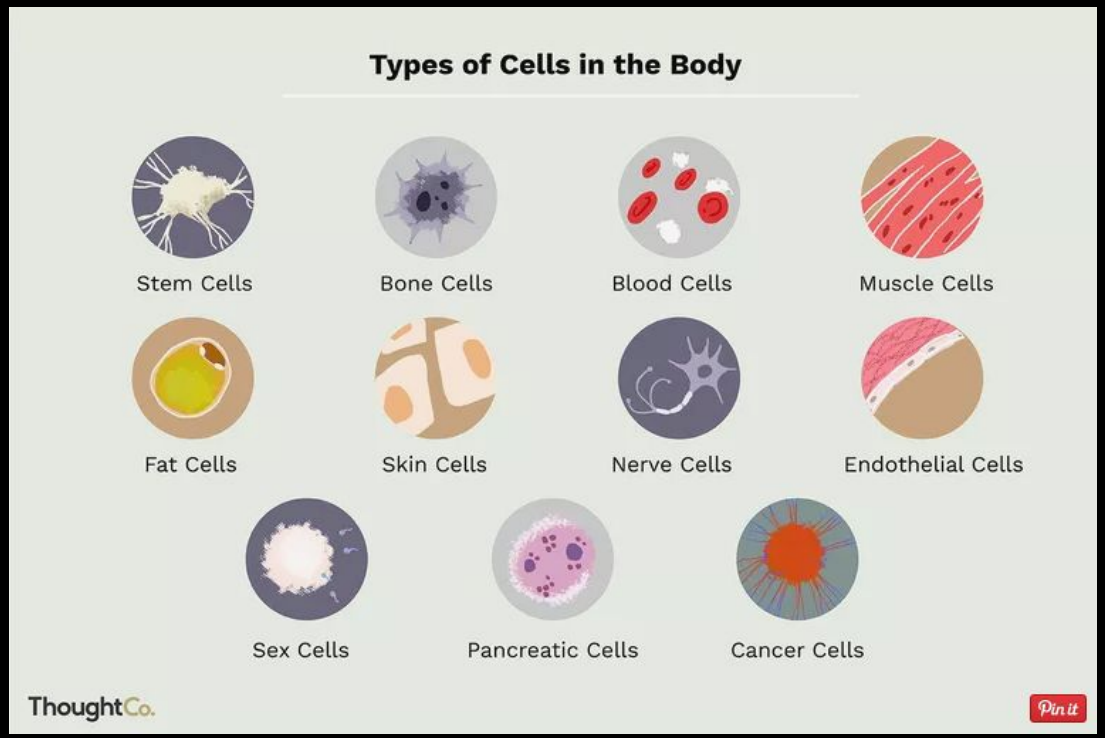

Introduction to the Human Body

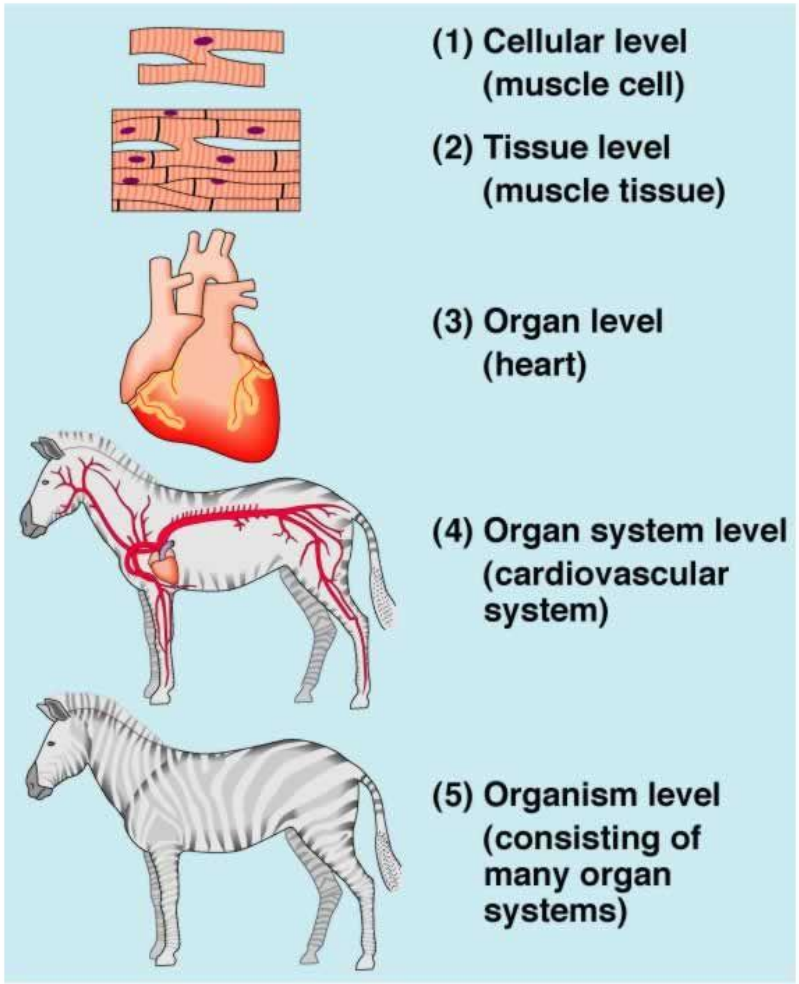
Cells in the Human Body



- Over <u>200</u> types of cells in the human body
- Cells become <u>specialized</u> as they mature

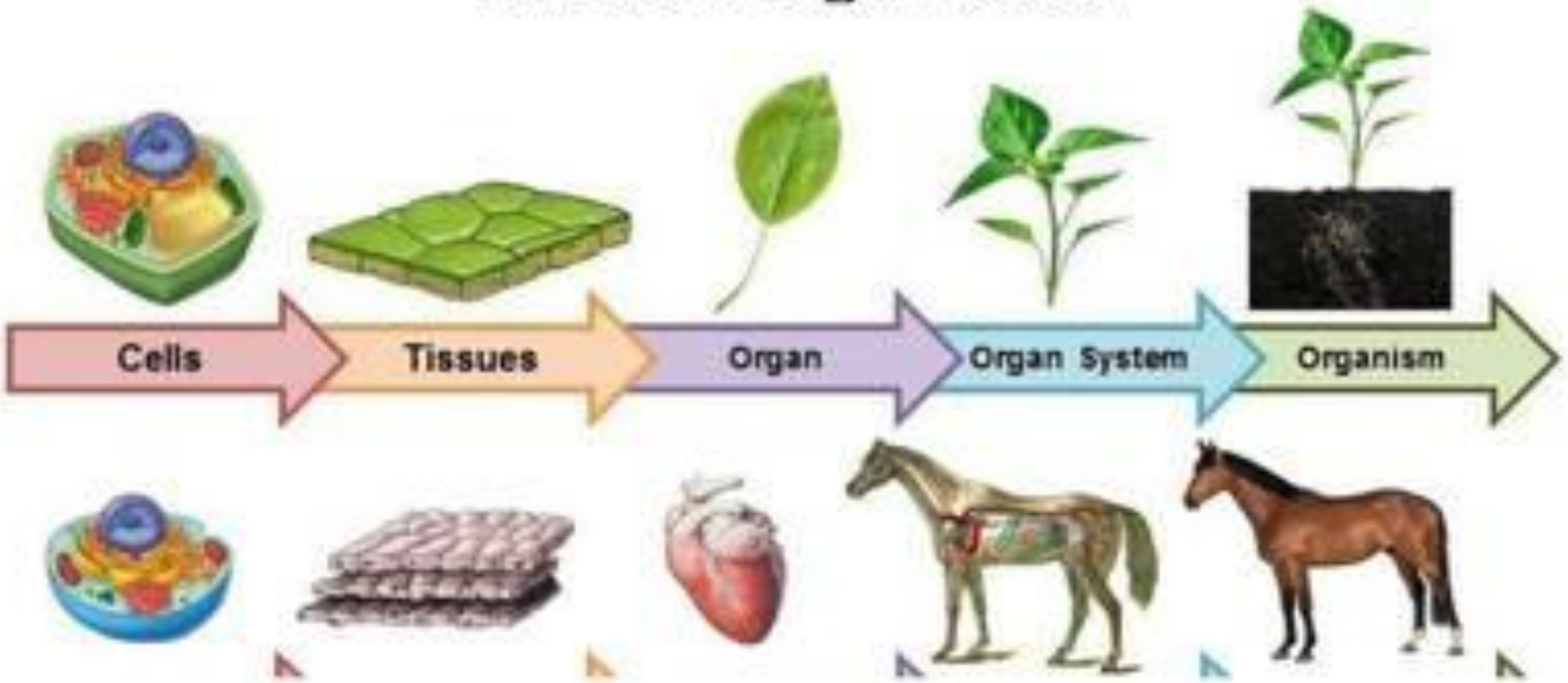
How do cells work together?

- Levels of organization in animals form a **hierarchy** going from least complex to most complex
  - Cell
  - Tissue
  - Organ
  - Organ system
  - Organism



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Levels of organization



There are 11 Organ Systems in the Human Body

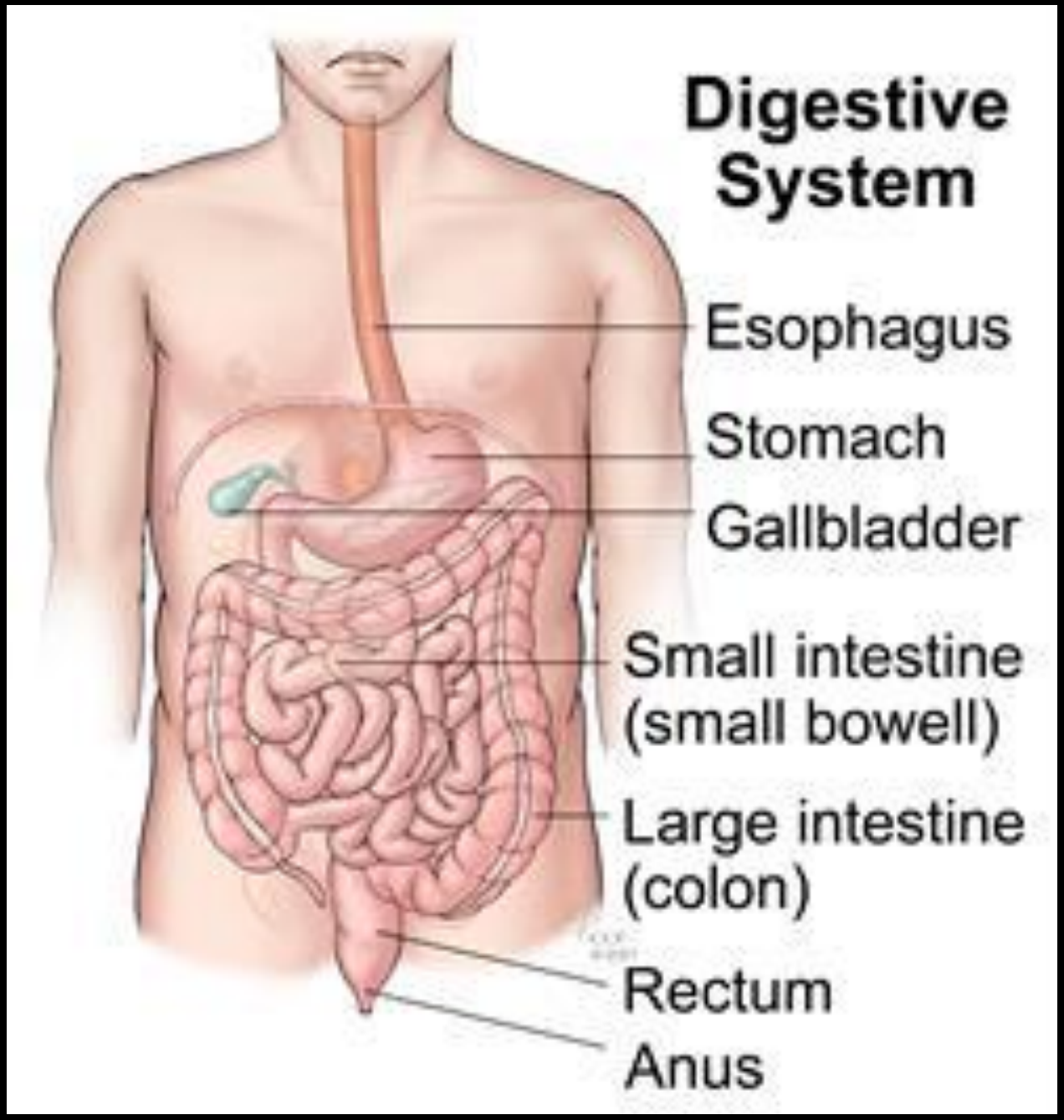
1. Digestive System
2. Respiratory system
3. Excretory (urinary)
4. Muscular system
5. Endocrine system
6. Lymphatic (immune)
7. Integumentary system (skin
8. Skeletal system
9. Circulatory (cardiovascular)
10. Nervous System

The Digestive System

- Breaks down food so that it can be used by the body

- In your lifetime, your digestive system may handle about 50 tons!!



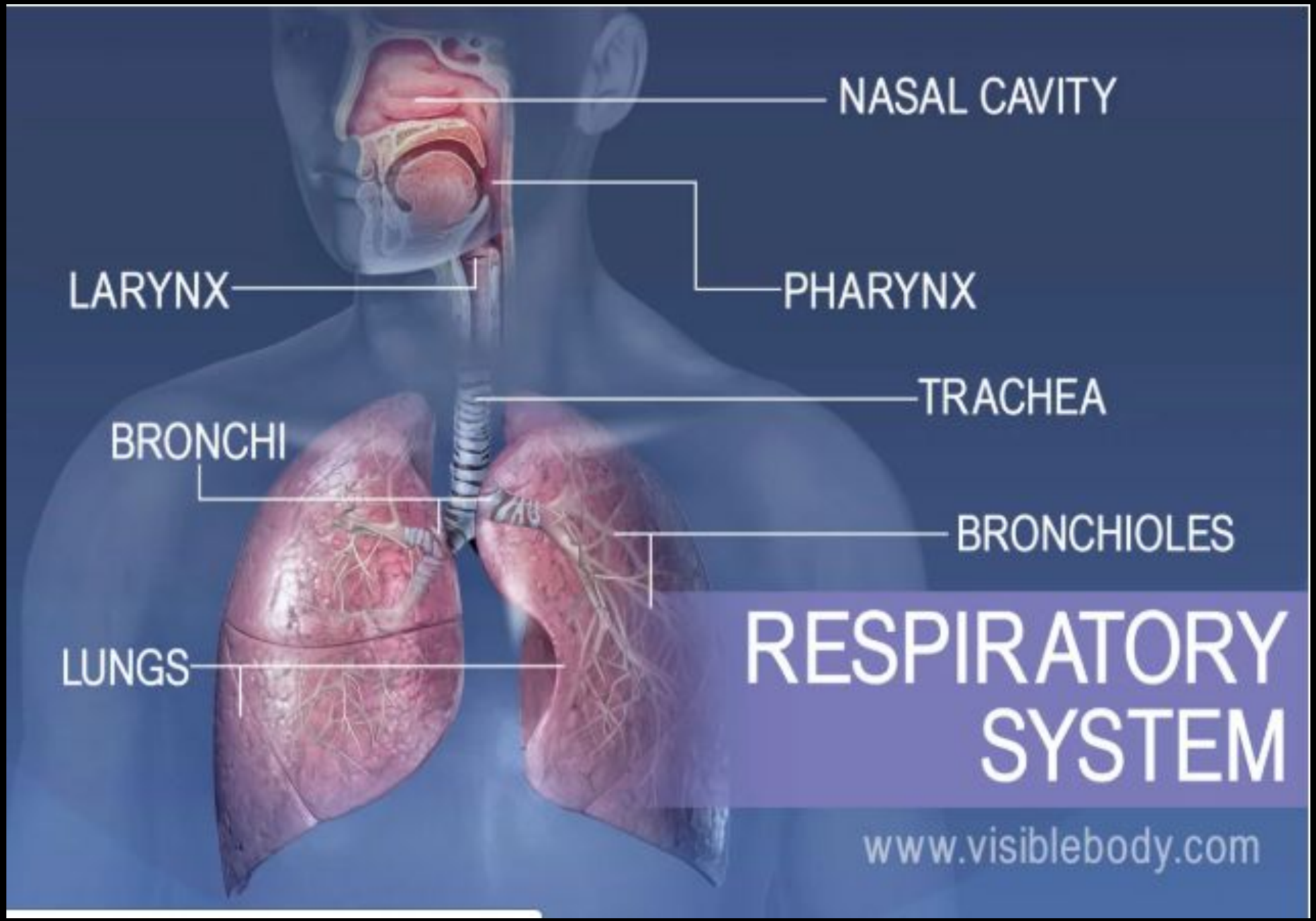

Digestive System
Esophagus
Stomach
Gallbladder
Small intestine (small bowell)
Large intestine (colon)
Rectum
Anus

The Respiratory System

- To take in oxygen and release carbon dioxide

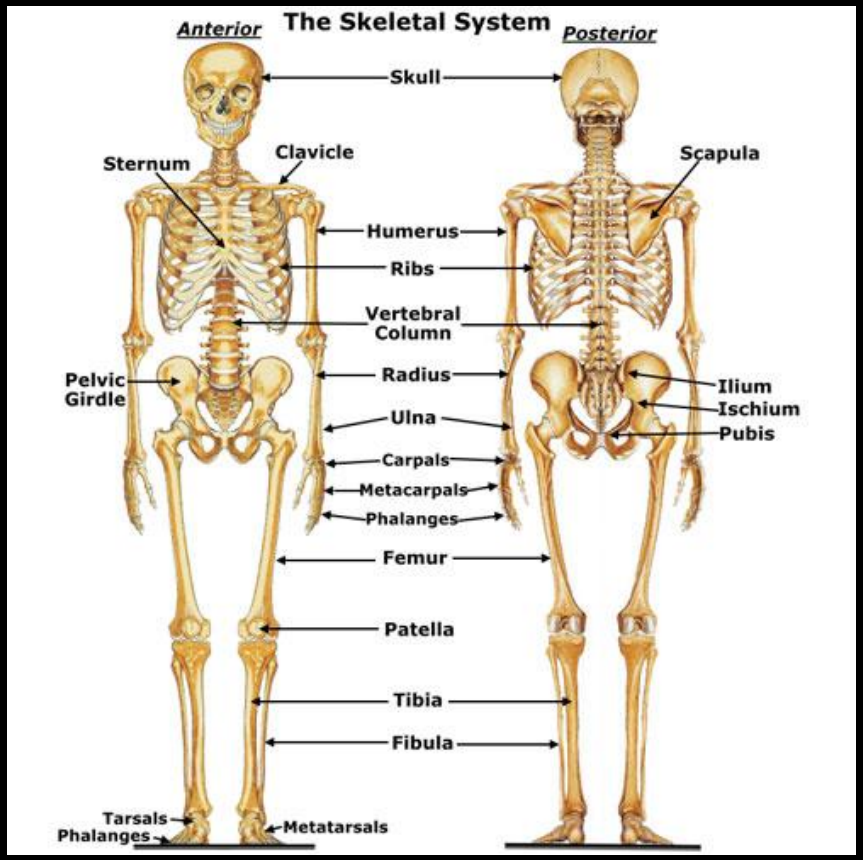
- Respiration does **NOT** mean the same thing as breathing!!!!




NASAL CAVITY
PHARYNX
LARYNX
TRACHEA
BRONCHI
BRONCHIOLES
LUNGS
RESPIRATORY SYSTEM
www.visiblebody.com

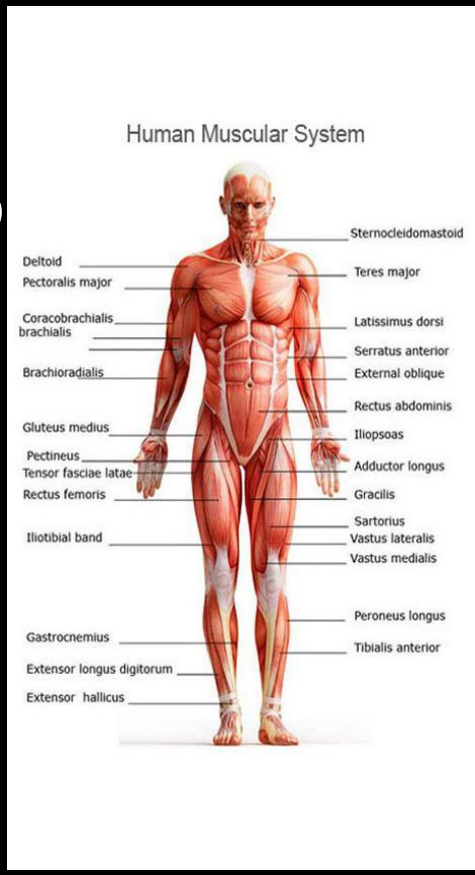
The Skeletal System

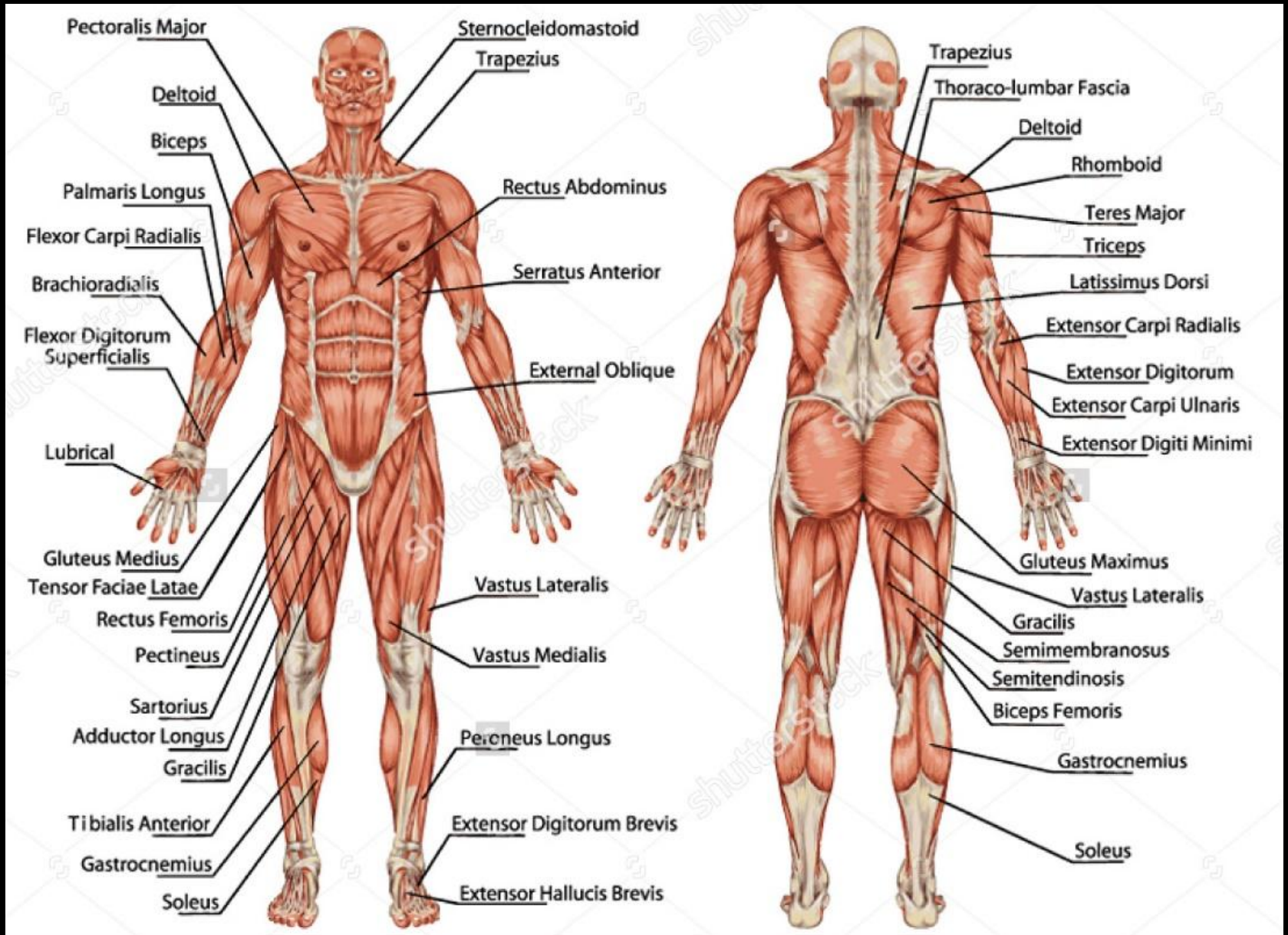
- A frame that supports and protects the body
- Allows the body to move
- The average adult human has 206 bones



The Muscular System

- Primary function is movement and flexibility
- Works with the skeletal system to help you move.
- Eye muscles are the busiest muscles in the body. Scientists estimate they may move more than 100,000 times a day!
- The largest muscle in the body is the gluteus maximus muscle in the buttocks

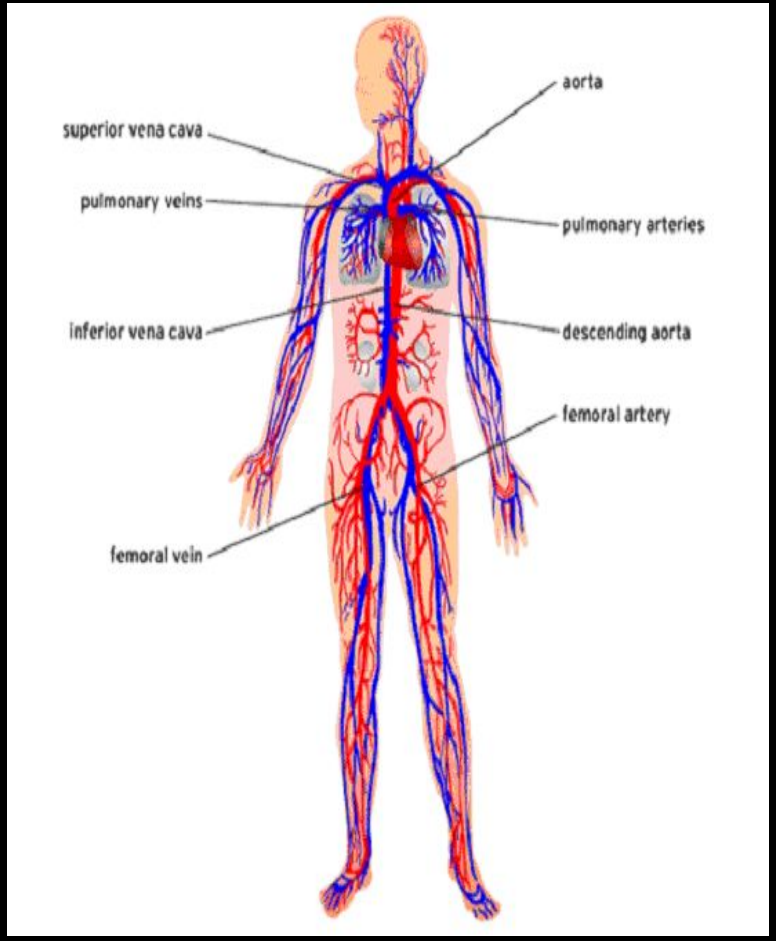




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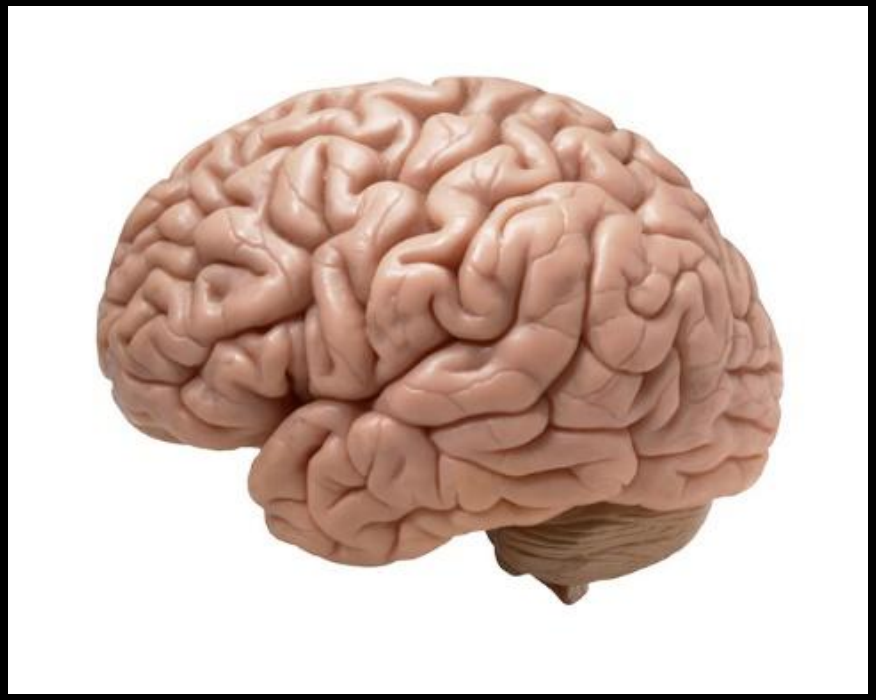
The Circulatory/Cardiovascular System

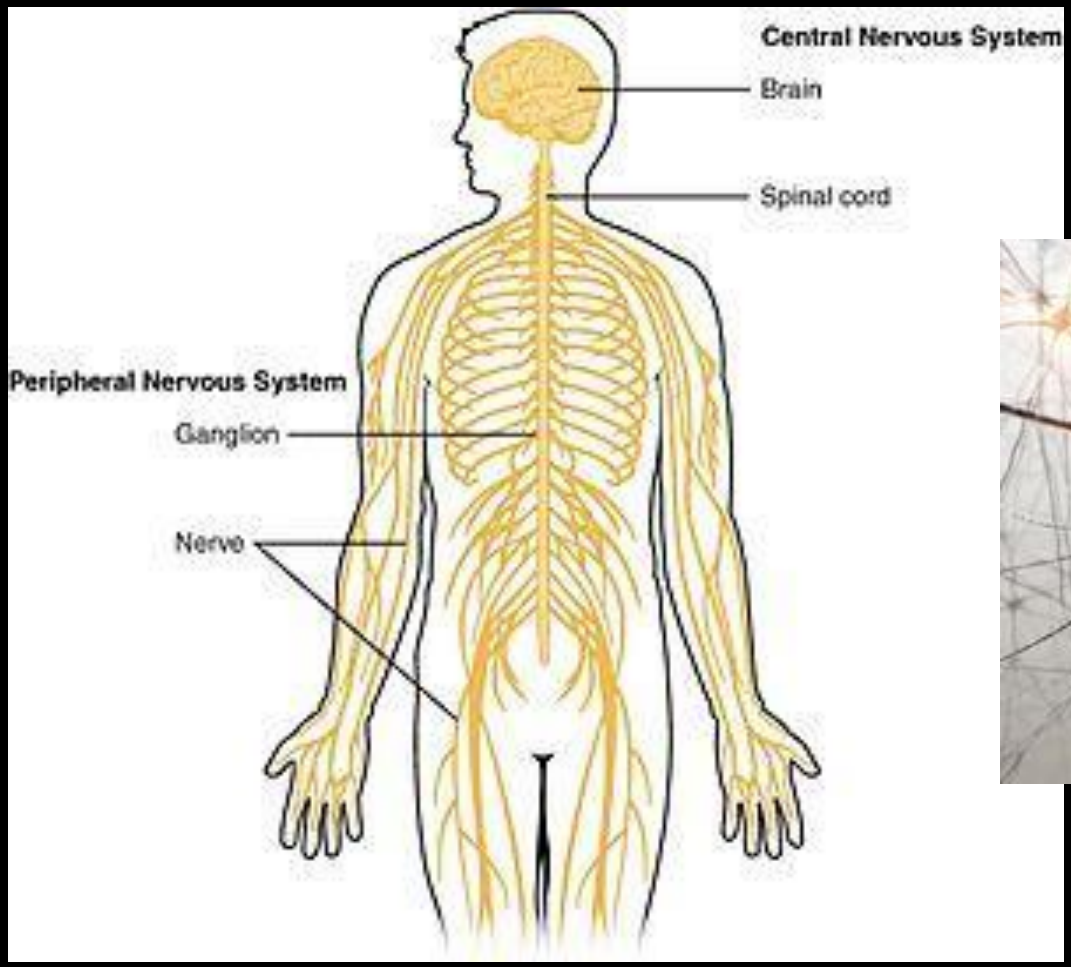
- Function: System that moves <u>blood</u> throughout your body
- Main parts of this system: <u>veins, arteries, and the heart</u>
- Your heart beats some 30 million times a year!



The Nervous System

- Function: Receives and sends electrical messages throughout the body.
- To coordinate the body's response to changes in its internal and external environment
- This system tells you what to do !!!



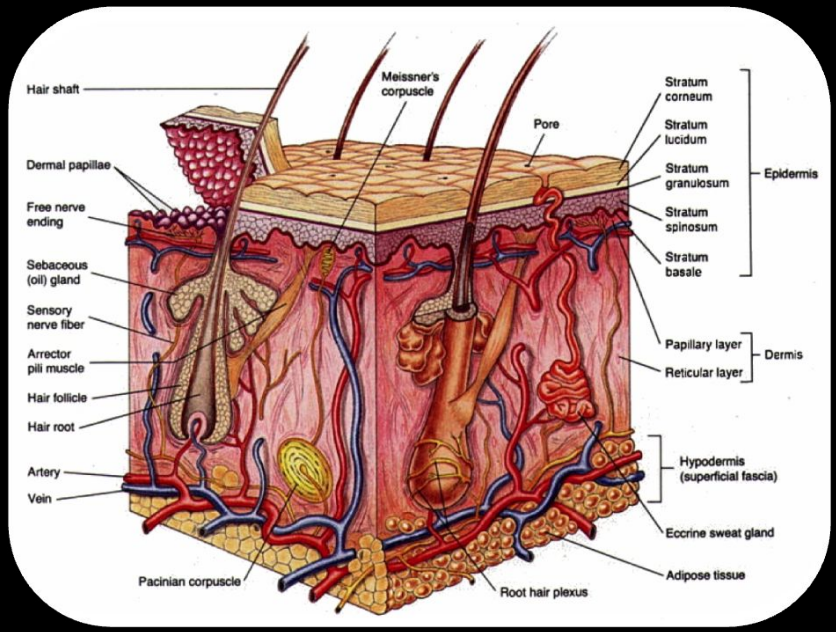

Central Nervous System
Brain
Spinal cord
Peripheral Nervous System
Ganglion
Nerve

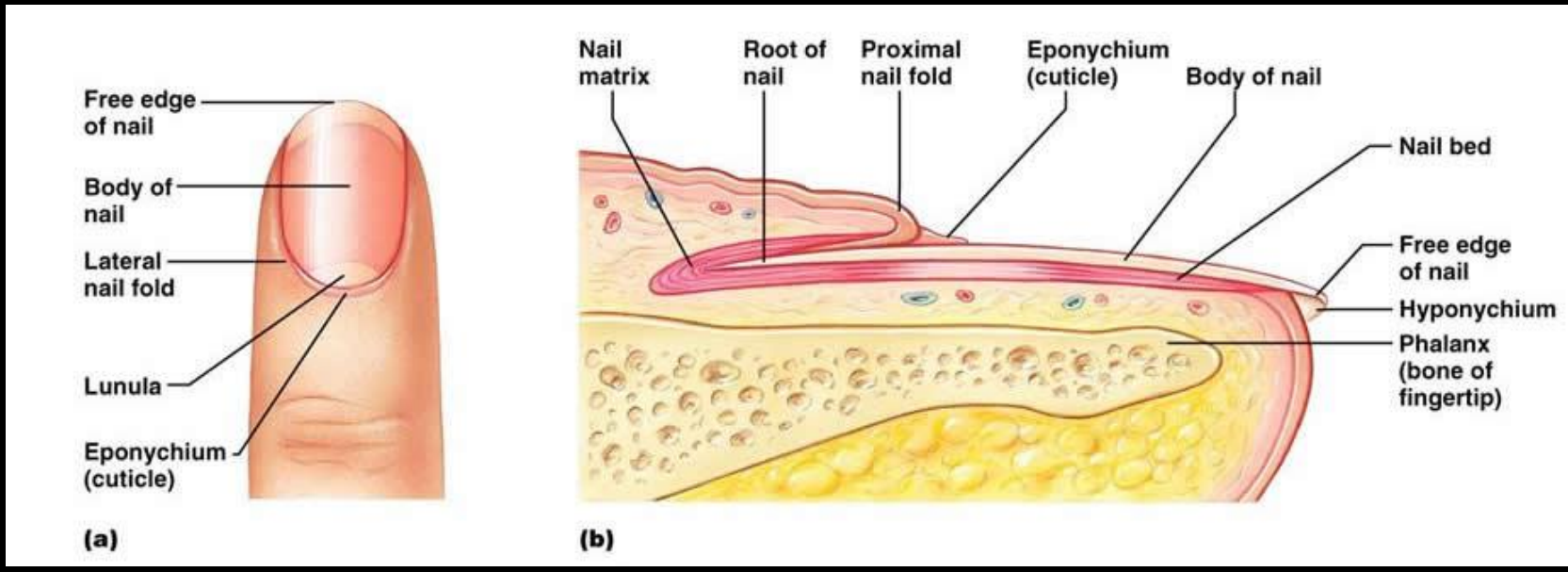


The Integumentary System

- Function: protects the tissue that lies beneath your skin, hair, and nails

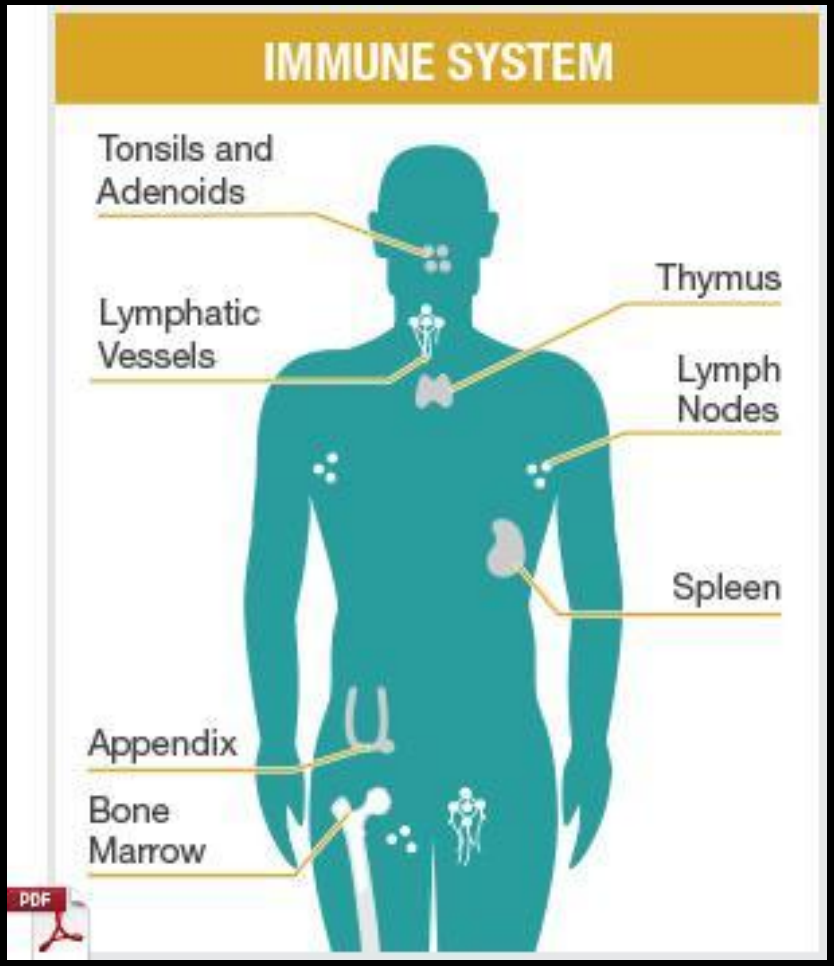
- The skin is your body's largest organ



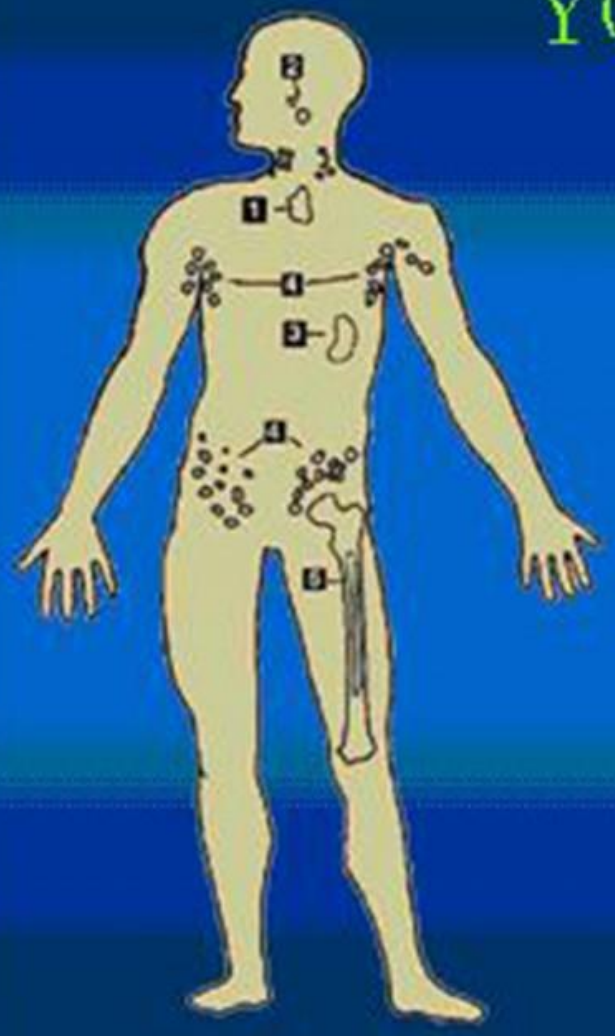

Free edge of nail
Body of nail
Lateral nail fold
Lunula
Eponychium (cuticle)
(a)
Nail matrix
Root of nail
Proximal nail fold
Eponychium (cuticle)
Body of nail
Nail bed
Free edge of nail
Hyponychium
Phalanx (bone of fingertip)
(b)

The Immune/Lymphatic System

- Function: returns leaked fluids to blood vessels and helps get rid of bacteria and viruses.
- Protects you from germs, bacteria, etc.
- Every day your body is exposed to millions of germs, and you do not get sick from them.



YOUR IMMUNE SYSTEM

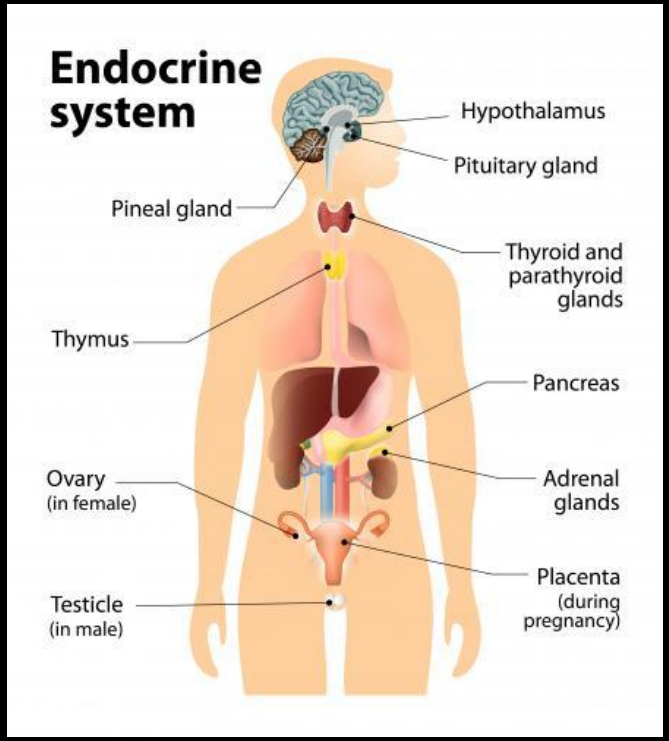


IMMUNE ORGANS

1	Thymus	Formation of T-cells
2	Tonsils/ Adenoids	Distinguish invaders for destruction
3	Spleen	Filters blood and distributes T and B cells
4	Lymph Glands	Storage and white blood cell formation
5	Bone Marrow	B cells are produced in bone marrow

The Endocrine System

- Function: glands send out chemical messages
- Deals with hunger or being full; how you sleep; your body temperature; how you break down and utilize the food you eat and whether you are fat or thin; when you start puberty and how long it takes; how you handle stress; how much adrenaline you have in an emergency situation...even how and when you grow. Phew!
- Helps to control growth, development, metabolism and reproduction through the production and secretion of hormones
- Ovaries and testes are part of this system.



The Excretory/Urinary

- Function: Removes waste from the blood and regulates your body fluids.
- We all have to eliminate waste and this is the system which does that
- You might wonder how your body ends up with waste it needs to get rid of. Body processes such as digestion and metabolism (when the body turns food into energy) produce wastes, or byproducts. The body takes what it needs, but the waste has to go somewhere. Thanks to the kidneys and urine, it has a way to get out.

