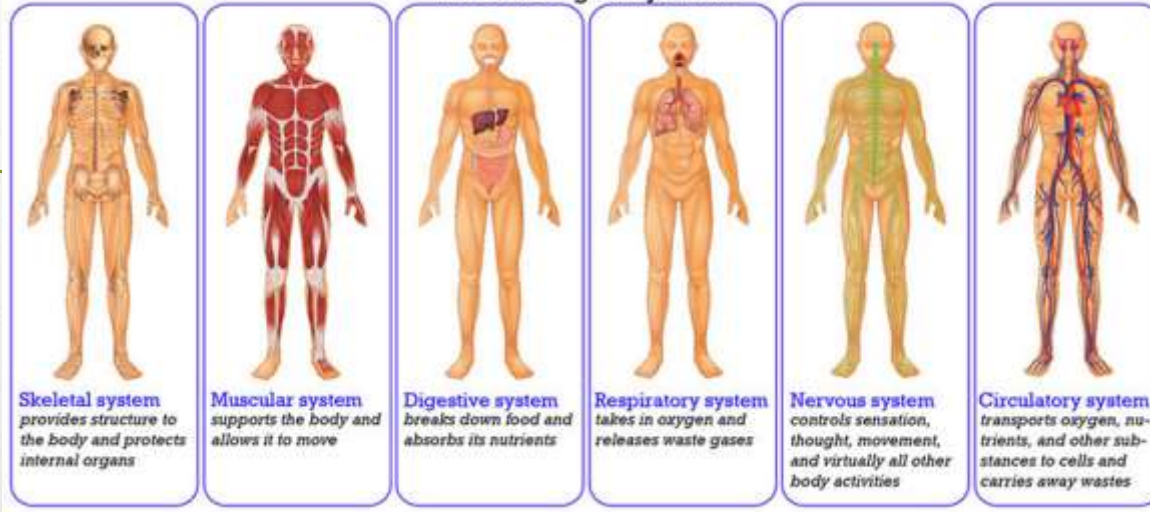


Body Systems

Human Organ Systems



The Digestive System: to convert food particles into simpler micro molecules that can be absorbed into the bloodstream and used by the body

- **Major Organs and their Functions:**

- **Mouth** – to chew and grind up food
 - saliva also begins the chemical breakdown
- **Esophagus** – pipe connecting mouth to stomach
- **Stomach** – secretes an extraordinarily strong acid that leads to breakdown of food
- **Pancreas** – produces the hormone **insulin** that regulates blood sugar levels

Liver – produces bile, which breaks down fats in foods

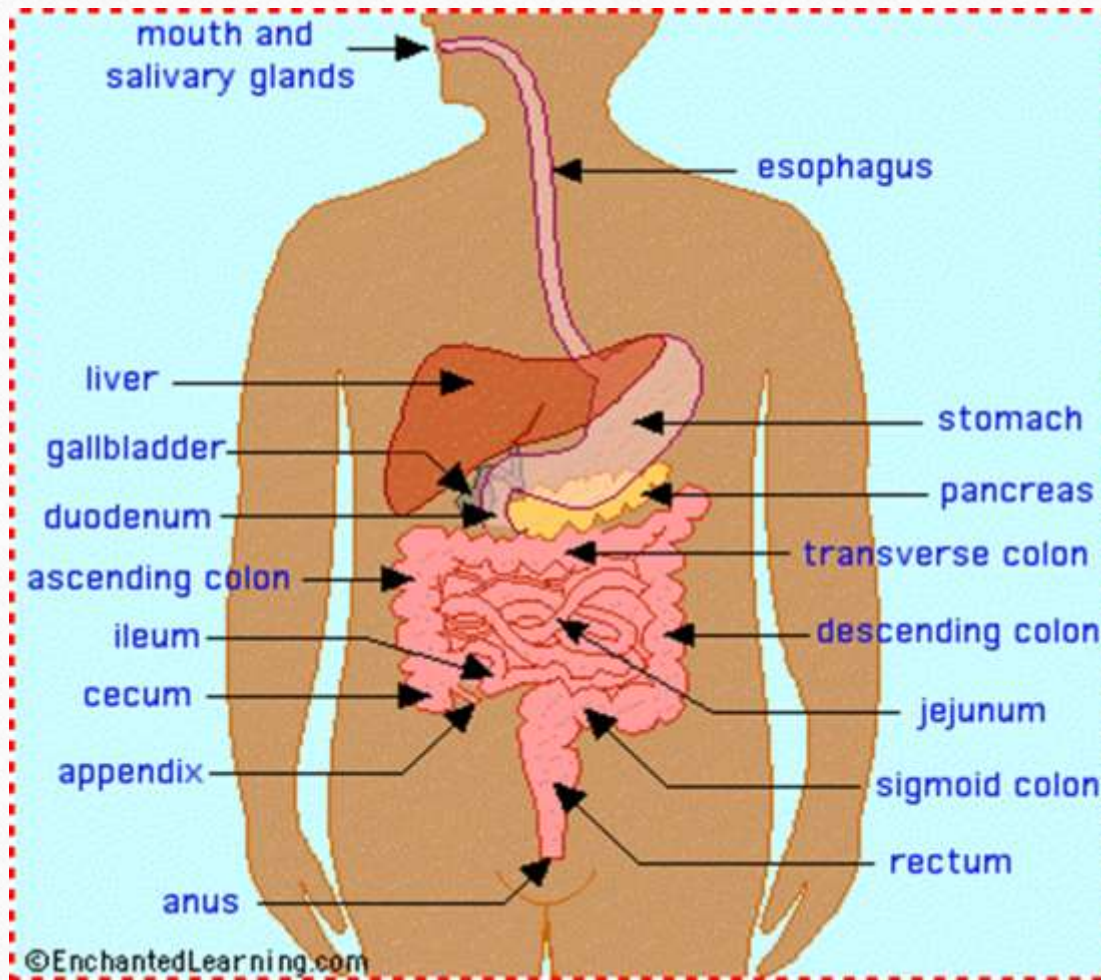
Gallbladder – pouch-like organ that stores **bile** for future use

Small Intestine – after digestion is complete, the chyme enters the small intestine where it is absorbed into the bloodstream

-- the chyme is propelled along by folded surfaces called **villi**, on the intestine

Large Intestine – removes water from the chyme and gets the waste ready for excretion

The Digestive System



The Respiratory System: to provide the body with a fresh supply of oxygen for cellular respiration and remove the waste product carbon dioxide

Major Organs and Their Functions

Nose – internal entry and exit point for air

Pharynx – serves as a passage way for both air and food at the back of the throat

Larynx – your “voicebox”, as air passes over your vocal chords, you speak

Trachea – the “windpipe”, or what connects your pharynx to your lungs-- a piece of skin, called the **epiglottis**, covers the trachea when you swallow, preventing food from entering

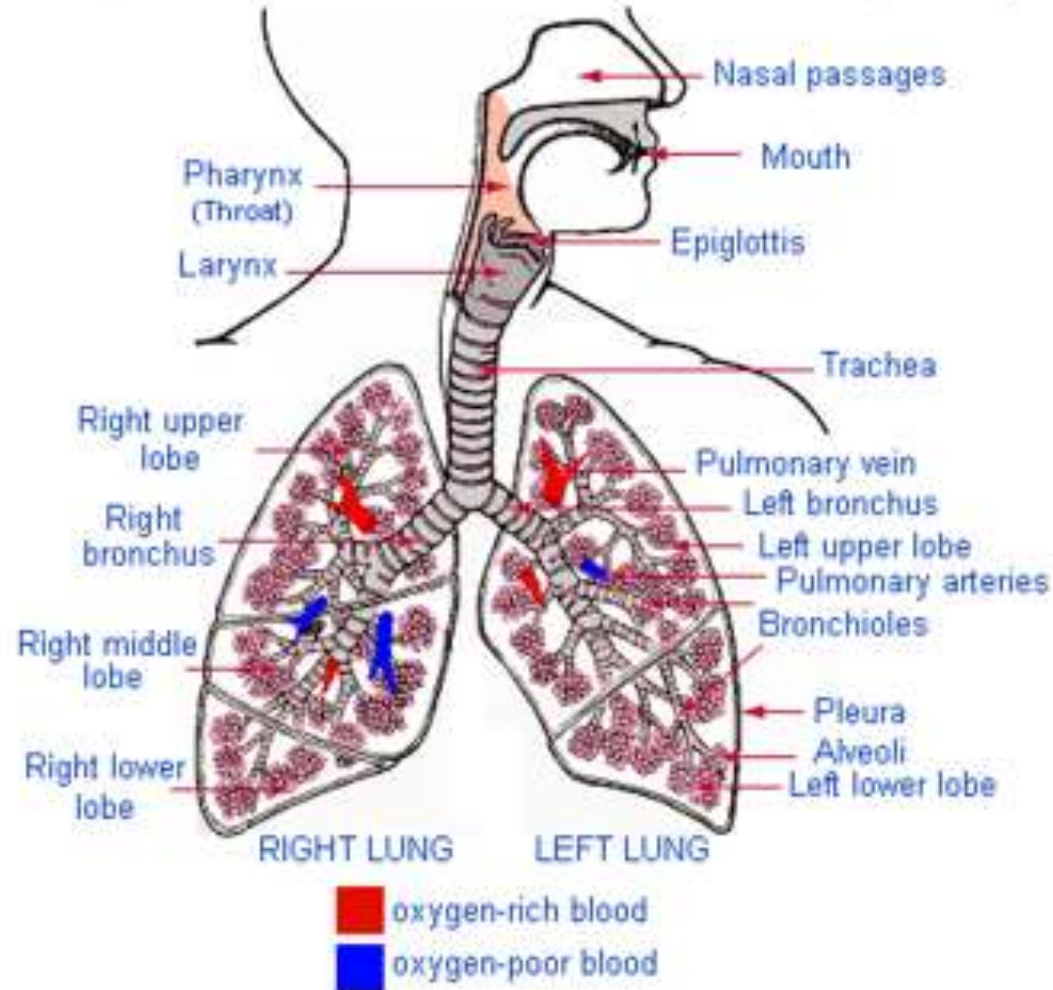
Bronchi – the two large passageways that lead from the trachea to your lungs (one for each lung) -- the bronchi are further subdivided into bronchioles

-- eventually, the further subdivisions lead to tiny air sacs called **alveoli**

-- capillaries surrounding each alveolus is where the exchange of gases with the blood occurs

The **diaphragm** is the muscle that causes you to breath

Image of the Respiratory System



The Circulatory System: to deliver oxygenated blood to the various cells and organ systems in your body so they can undergo cellular respiration

Major Organs and Their Functions

Heart – the major muscle of the circulatory system

-- pumps blood through its four chambers (two ventricles and two atria)

-- pumps deoxygenated blood into the lungs, where it gets oxygenated, returned to the heart, and then pumped out through the aorta to the rest of the body

-- valve regulate the flow of blood between the chambers

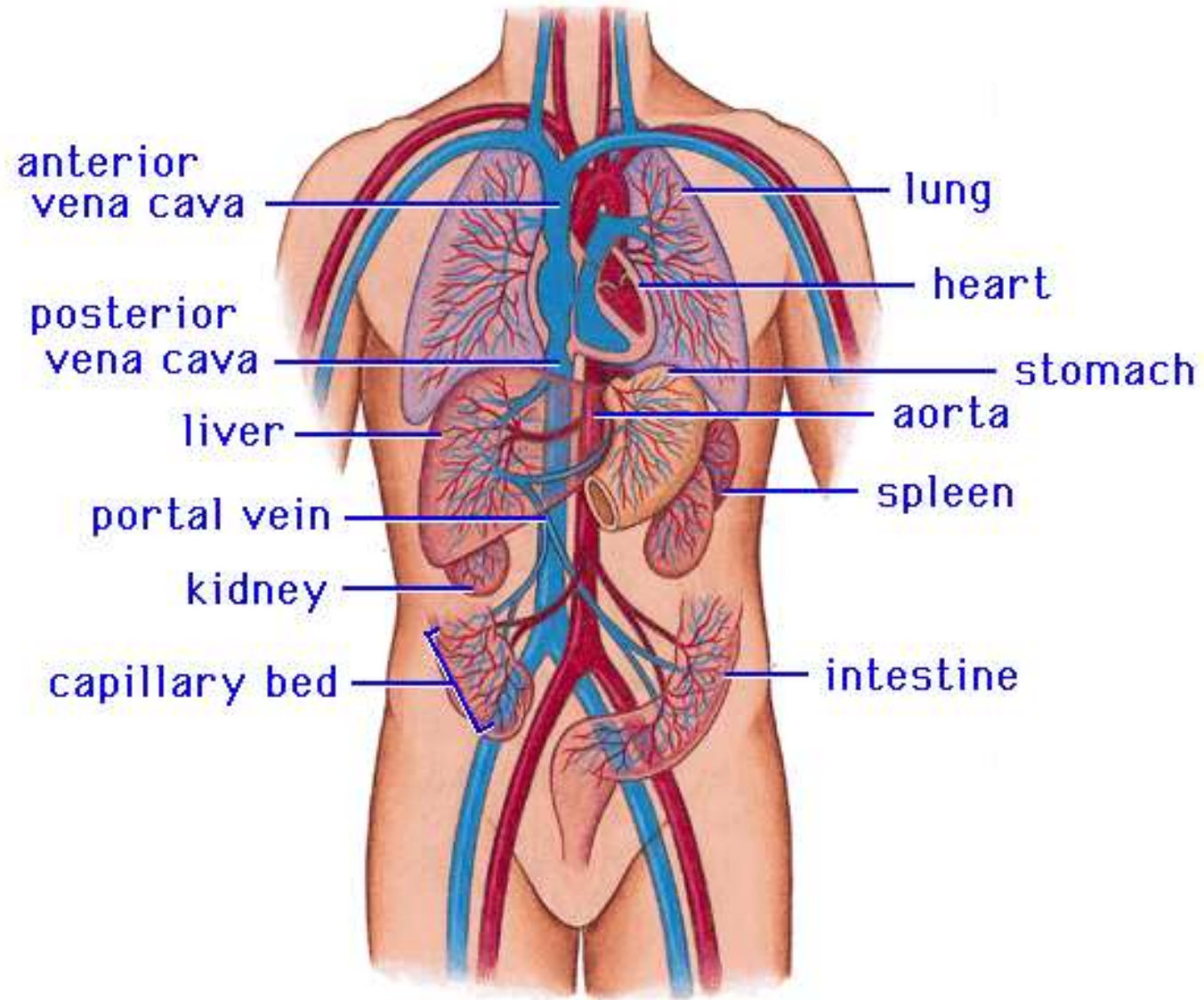
Arteries – carry blood away from the heart and to the major organs of the body

Veins – carry blood back to the heart away from the major organs of the body

Capillaries – small blood vessels where gas exchange occurs

Blood – the cells that flow through the circulatory system-- red blood cells contain

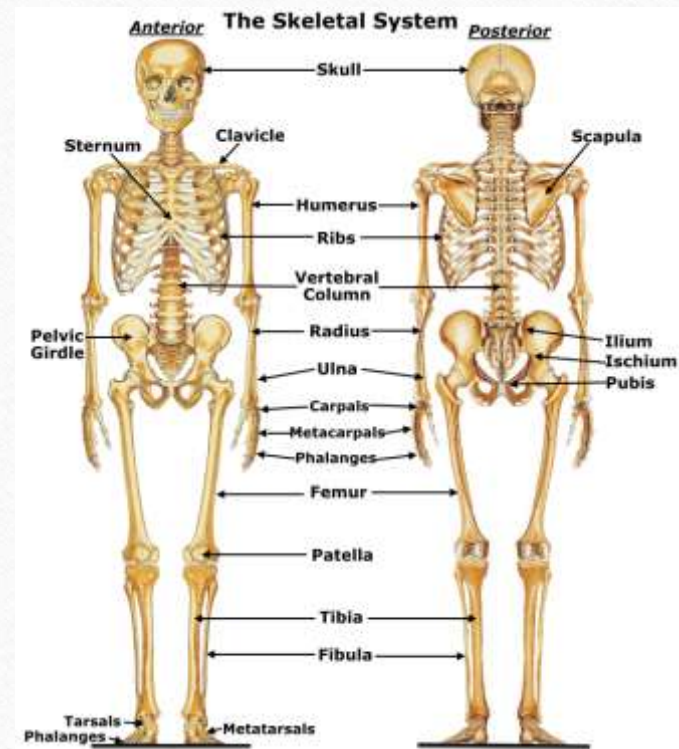
Spleen – helps to filter out toxins in the blood



The Skeletal System: to provide structure and support to the human body. Bones are where new blood cells are generated, and require the mineral **calcium** for strength

Major Bones/Organs of the Human Body

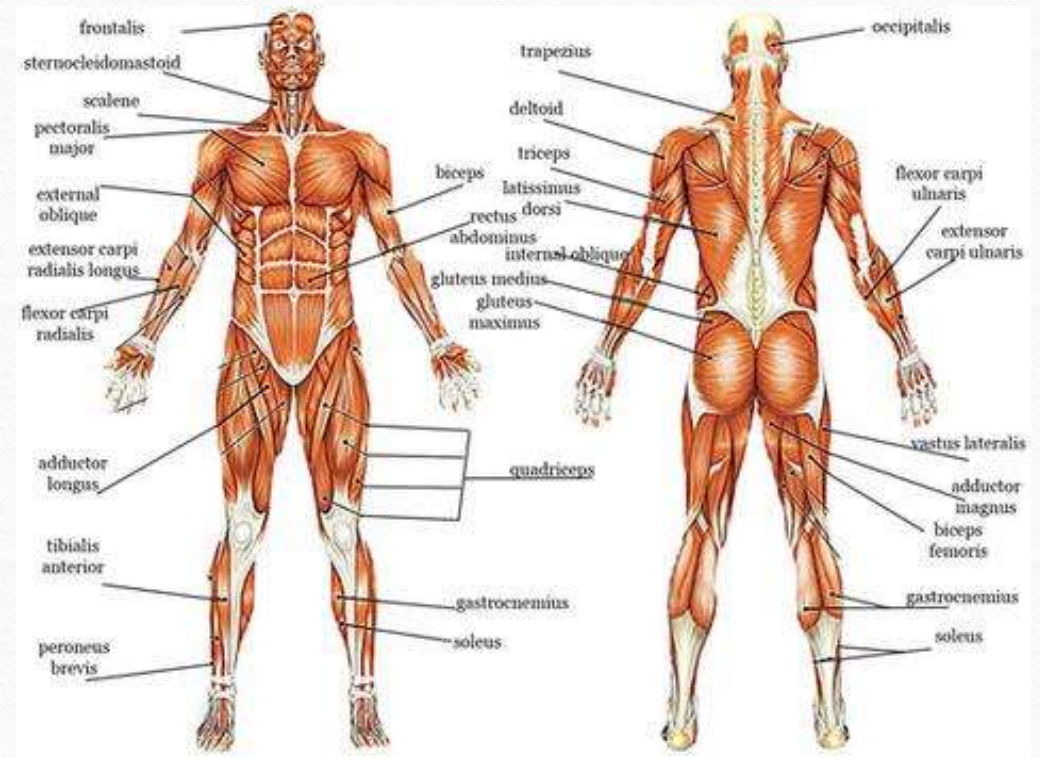
- femur (thigh bone)
- radius and ulna (lower arm)
- sternum (breastbone)
- fibula and tibia (calf)
- scapula (shoulder)
- coccyx (tail bone)
- humerus (upper arm)
- cranium (skull)
- clavicle (shoulder blade)
- vertebrae (back)
- pelvic bone
- phalanges (fingers/toes)



The Muscular System: works with the skeletal and nervous system to produce movement, also helps to circulate blood through the human body--muscle contractions can be voluntary or involuntary

Major Muscles/Organs of the Human Body

- biceps
- triceps
- deltoids
- glutes
- hamstrings



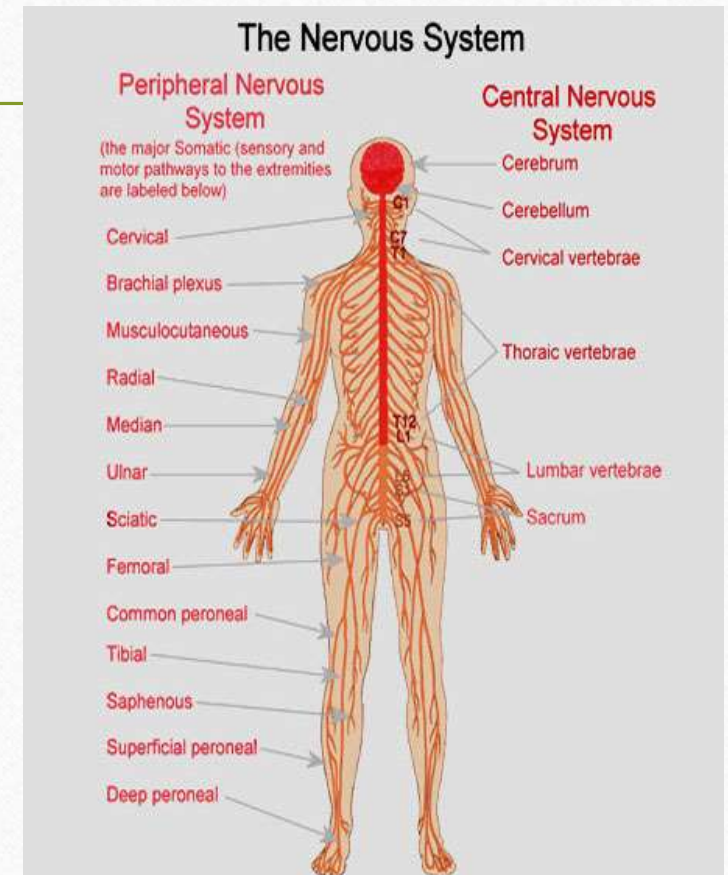
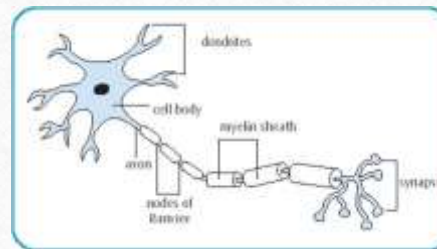
The Nervous System: to coordinate the body's response to changes in its internal and external environment. Communicate all sensory information

Major Organs and Their Functions

Brain – control center of the body, where all processes are relayed through -- consists of cerebrum (controls thought and senses) and cerebellum (controls motor functions)

Spinal Cord – sends instructions from the brain to the rest of the body and vice versa

Nerves – conduct impulses to muscle cells throughout the body



The Excretory System: to rid the body of wastes, including excess water and salts and carbon dioxide

Major Organs and Their Functions

Kidneys – the main organs of the excretory system-- waste-laden blood enters the kidney and the kidney **filters** out urea, excess water and other waste products, which eventually travel out of the kidney as urine

eventually they travel through the **ureter** to the urinary **bladder**

Rectum – solid (food) waste travels out of the body through the rectum

Skin – sweat glands remove excess water and salts from the body

Lungs – expel the waste gas carbon dioxide

