Essentials Vocabulary Words Test 1

Test – September 3, 2015

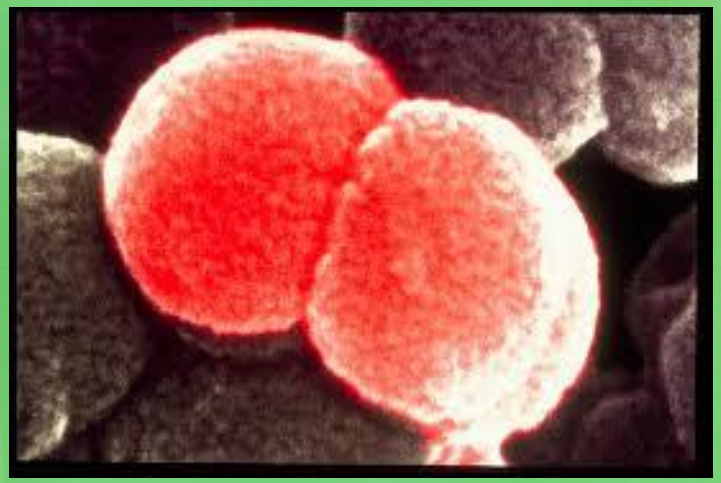
August 10, 2015

Anatomy – the study of the form and structure of an organism.

Physiology – the study of the processes of living organisms, or why and how they work.

August 11, 2015

Pathophysiology – the study of how disease occurs and the responses of living organisms to disease process

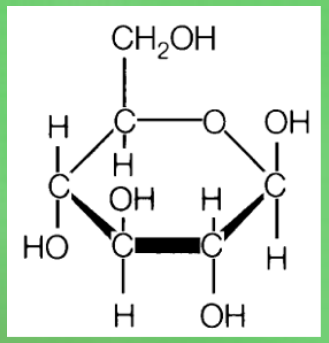


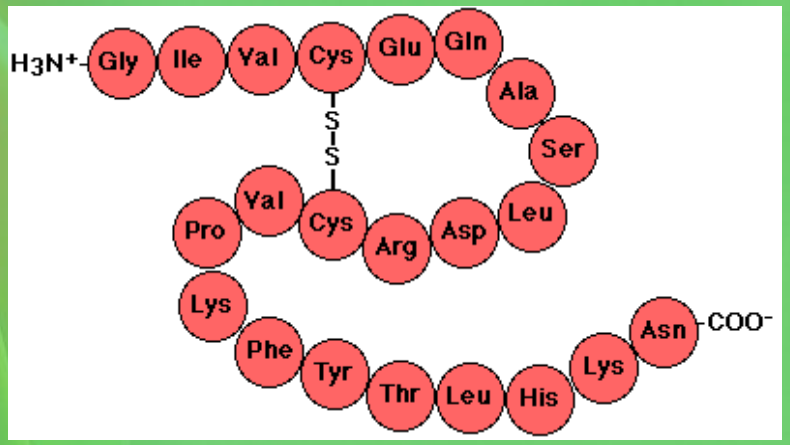
Meningococcal Disease

http://www.steadyhealth.com/articles/Meningococcal_Disease__Meningitis_treatment_and_prevention_a159.html

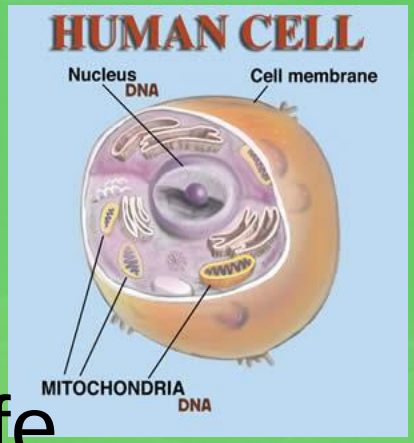
August 12, 2015

Protoplasm – the basic substance of all life. Composed of C,H,O,P,S,N (living components of the cell)





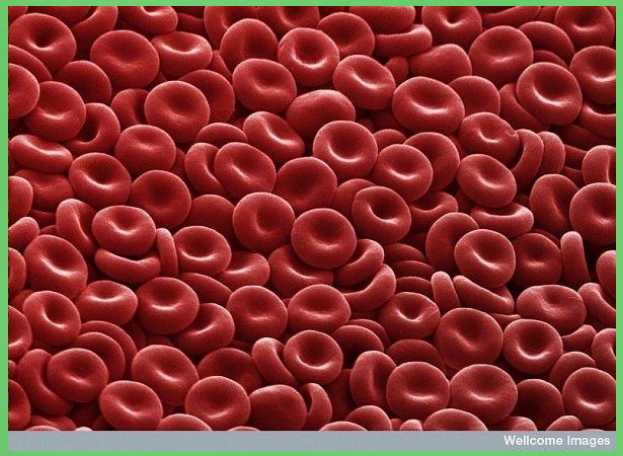
August 13, 2015

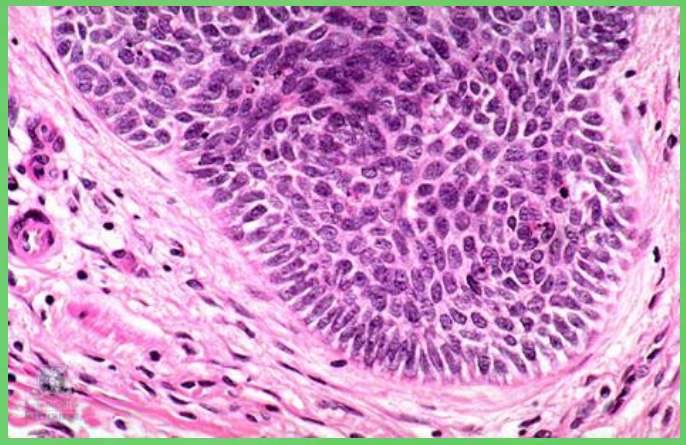


Cells – Microscopic structures that carry on all the functions of life.

(Functions of Life: take in food and O_2; produce heat and energy; move and adapt to their environment; eliminate wastes; perform special functions; and reproduce to create new cells.)

- The human body contains millions of cells.

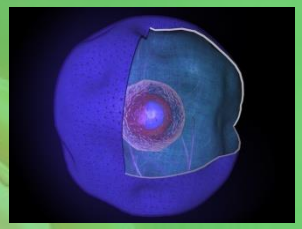
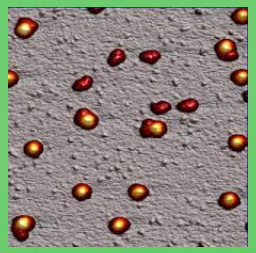
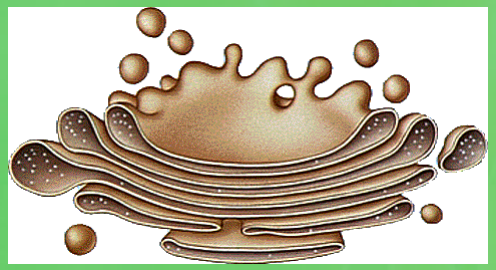
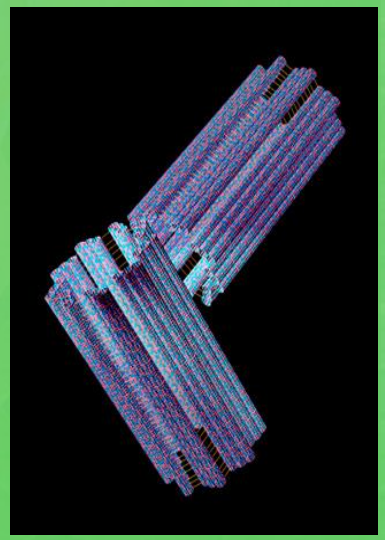


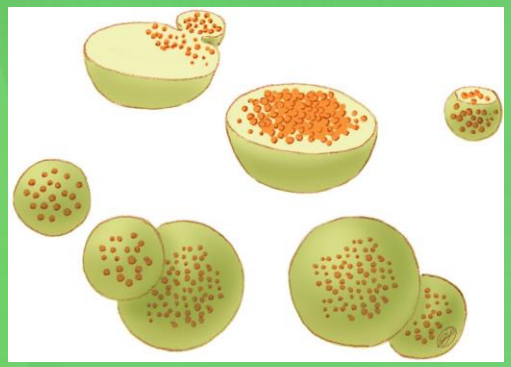


August 14, 2015

Organelles – Cell structures that help a cell to function, are located in the cytoplasm.

(Main Organelles: nucleus, mitochondria, ribosomes, lysosomes, centrioles, Golgi apparatus, & endoplasmic reticulum)

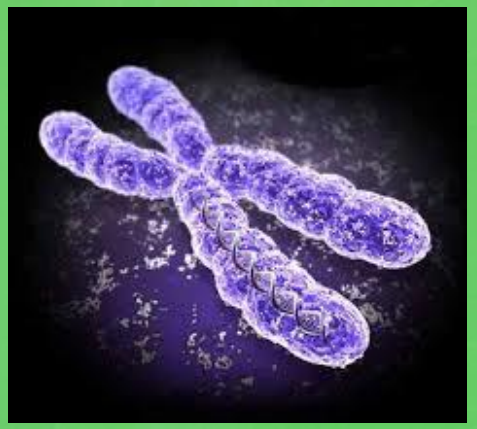



August 17, 2015

Chromatin – Located in the nucleus and made of deoxyribonucleic acid (DNA) and protein. (Mass of chromosomes)

(During cell reproduction, the chromatin condenses to form rodlike structures called _____)

(A human cell has _____ chromosomes; _____ pairs)



Chromatin and Condensed Chromosome Structure

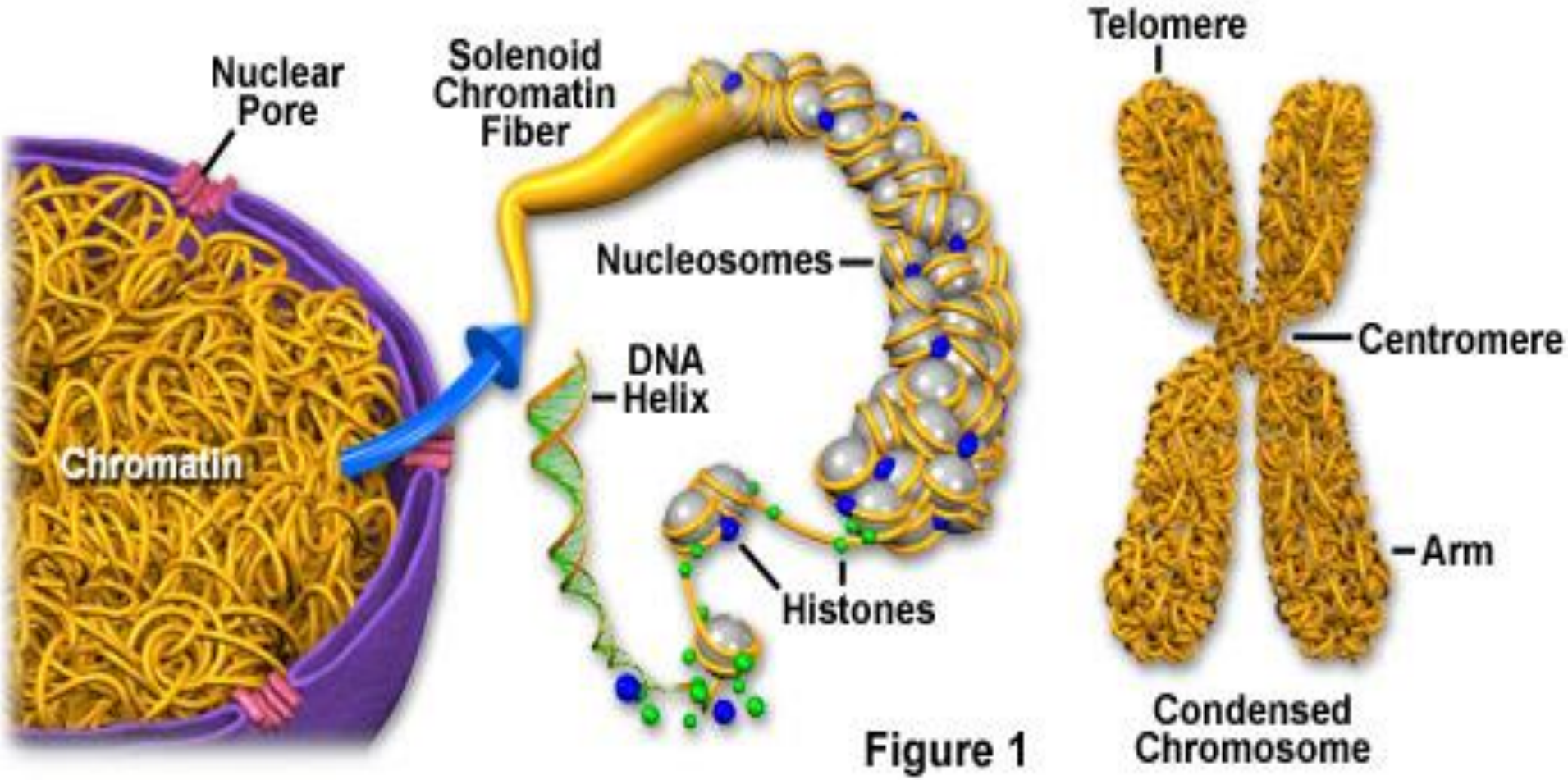


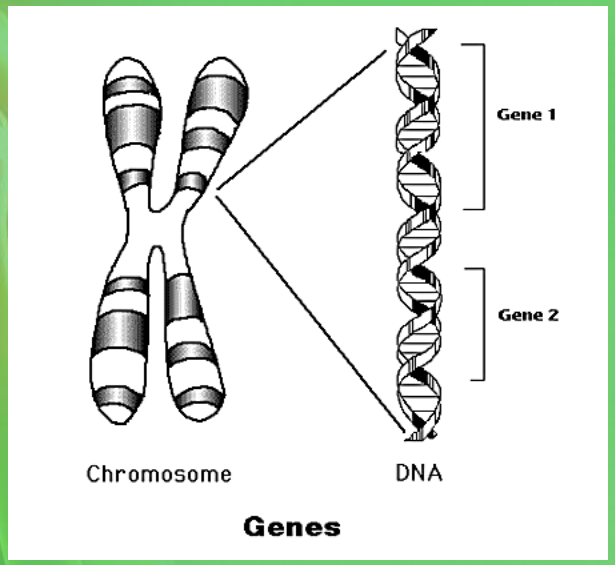
Figure 1

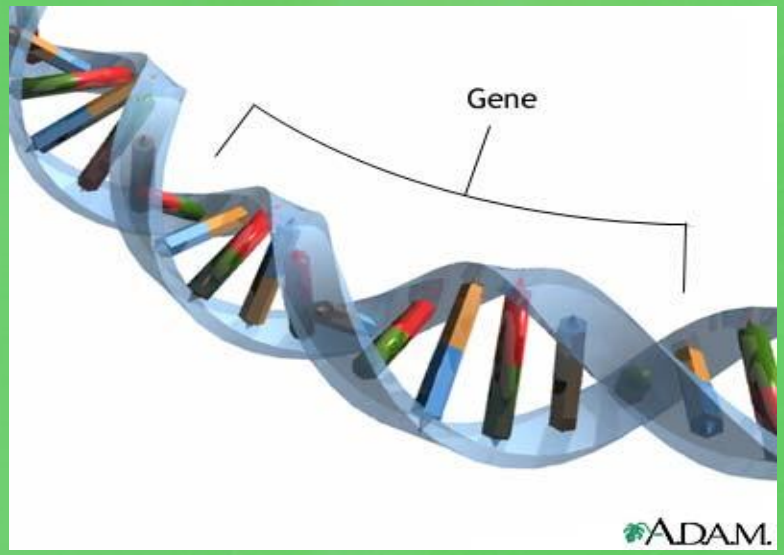
August 18, 2015

genes – The structures that carry inherited characteristics.

- (Each chromosome contains between 30,000 to 45,000 genes.)

- (Each gene has a specific and unique sequence of approximately 1,000 base pairs of DNA)

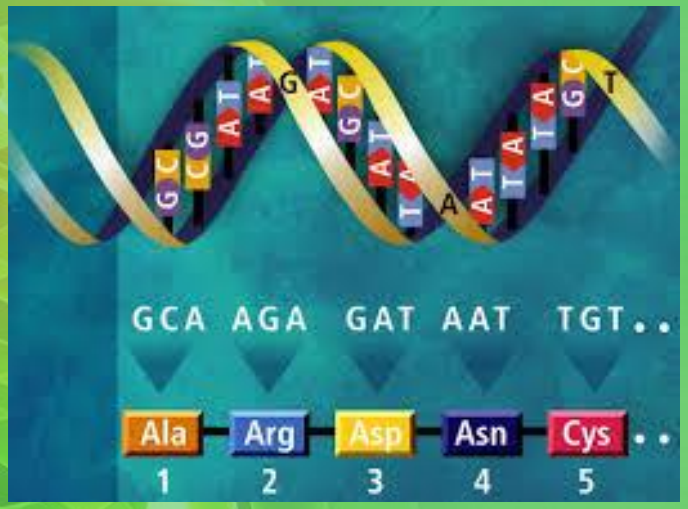


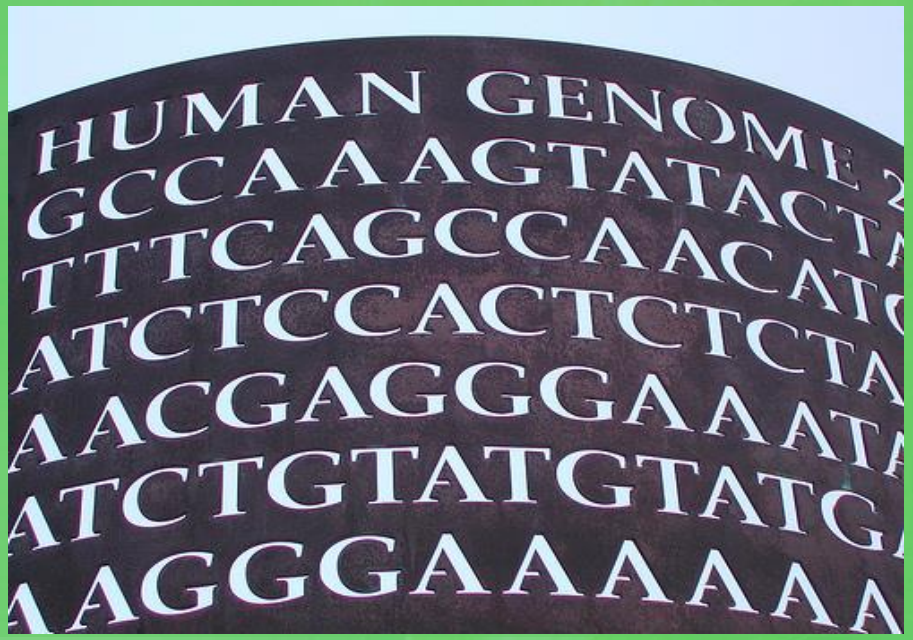


August 19, 2015

genome – Total mass of genetic instruction humans inherit from their parents. It consists of strings of DNA nucleotides.

(Human Beings have about three billion nucleotides in their genome.)





August 20, 2015

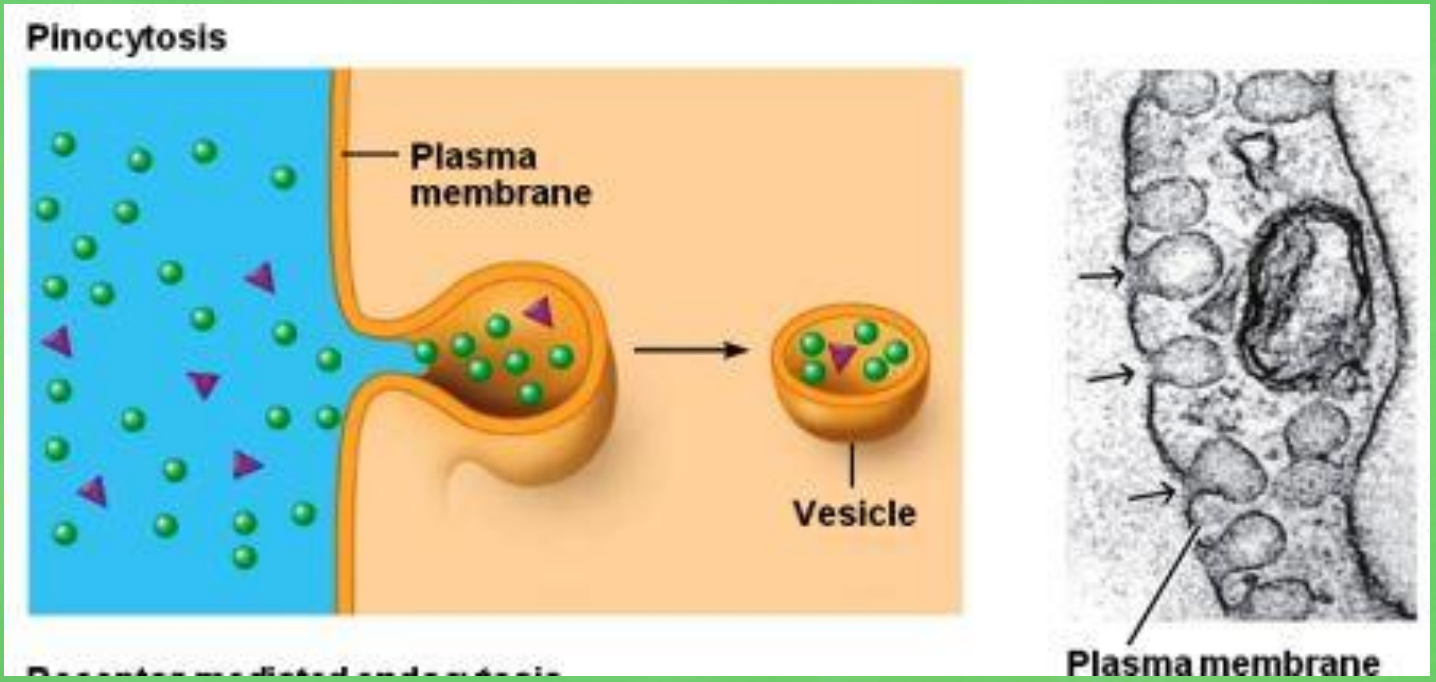
Pinocytic vesicles – Pocketlike folds in the cell membrane. These folds allow large molecules such as proteins and fats to enter the cell.

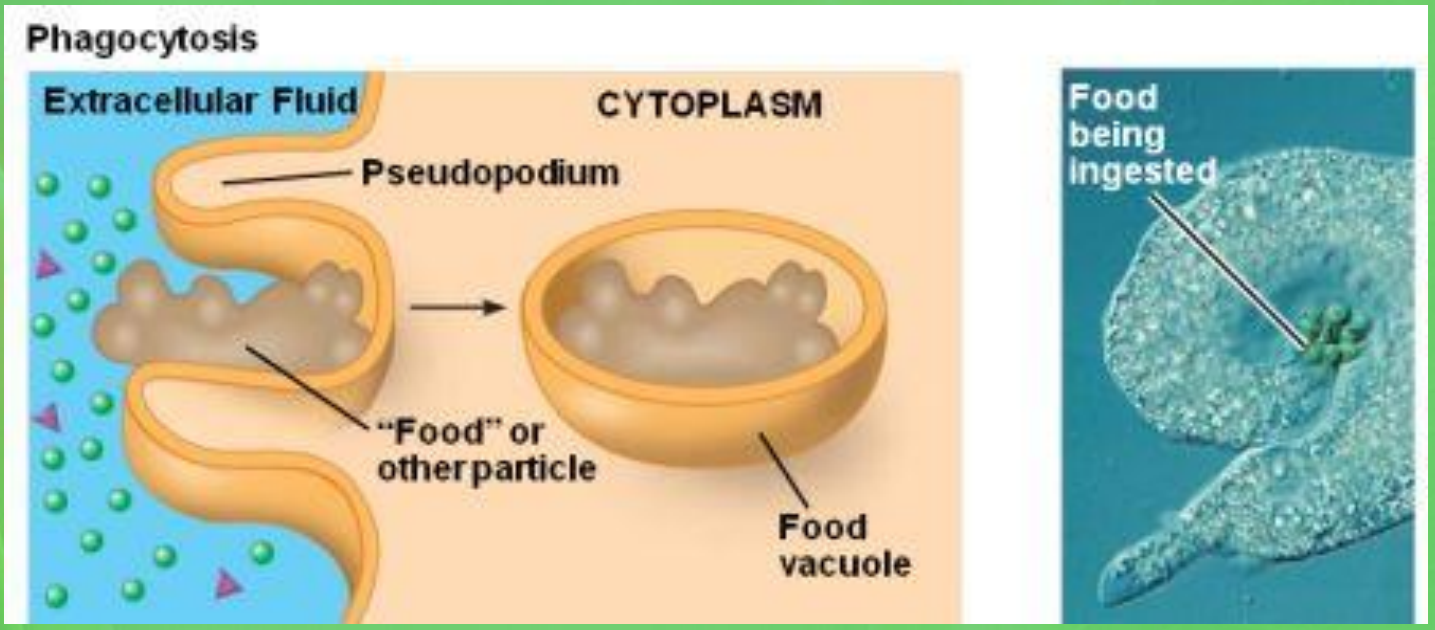
-**When molecules are inside the cell, the folds close to form vacuoles or bubbles in the cytoplasm.**

- **When the cell needs energy, the vesicles fuse with lysosomes to allow the proteins and fats to be digested and used by the mitochondria to produce ATP.**

http://highered.mcgraw-hill.com/sites/0072495855/student_view0/chapter2/animation__lysosomes.html

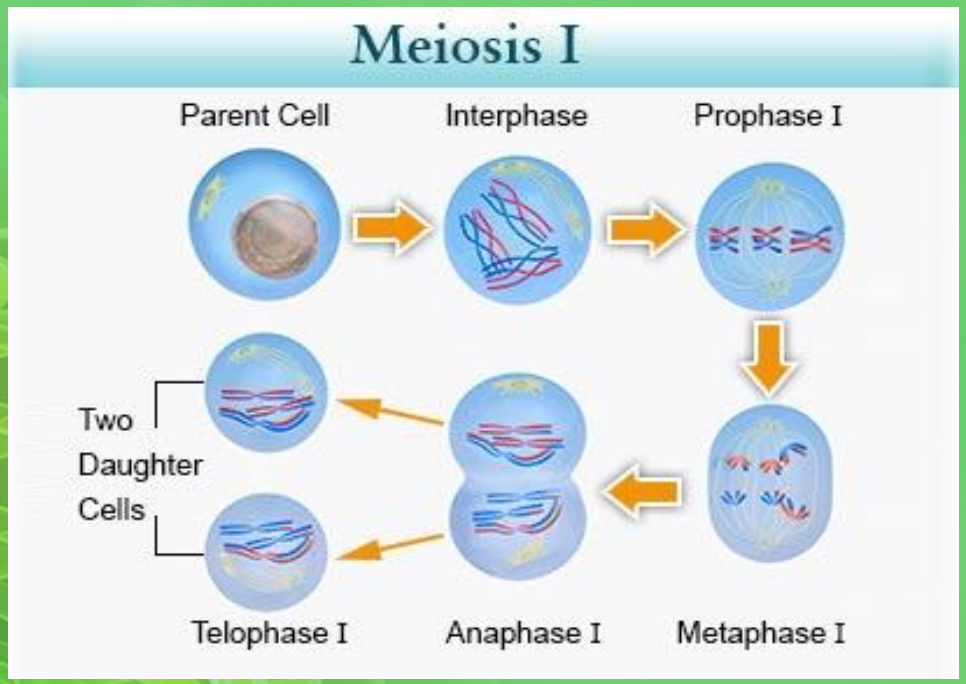
http://www.biologyexams4u.com/2012/06/membrane-transport-for-macromolecules.html

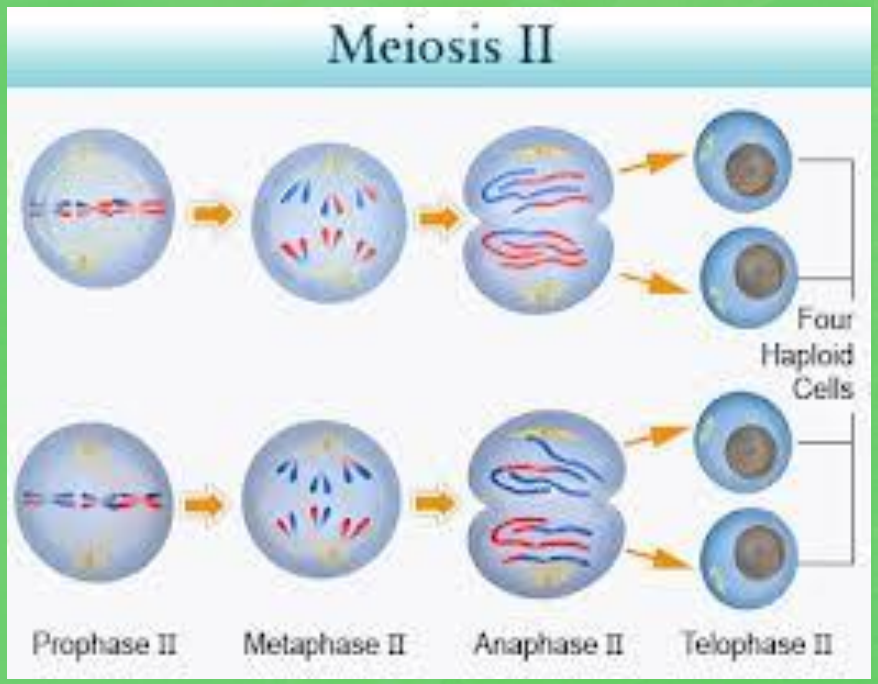




August 21, 2015

Meiosis – The division of gametes. This process uses two separate cell divisions to produce four new cells. Diploid ➞Haploid; 2n ➞n; 46 ➞23



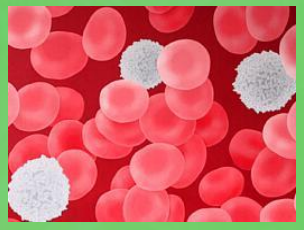


http://www.youtube.com/watch?v=D1_-mQS_FZ0

August 24, 2015

Mitosis – A form of asexual reproduction. Most cells reproduce by dividing into 2 identical cells. 2n ⟹ 2n; diploid ⟹ diploid; somatic cells.

- **Skin cells, blood forming cells, and intestinal tract cells reproduce continuously.**



- **Muscle cells only reproduce every few years, but muscle tissue can be enlarged with exercise.**

- **Specialized cells such as nerve cells in the brain and spinal cord, do not reproduce after birth. If these cells are damaged or destroyed, others are not formed to replace them.**

August 25, 2015

Stem cells – Embryonic cells that have the ability to transform themselves into any of the body's specialized cells and perform many different functions.

-Immediately after the zygote is formed, it begins a period of rapid mitotic division. Within 4-5 days, the zygote is a hollow ball-like mass of cells called a *blastocyst*

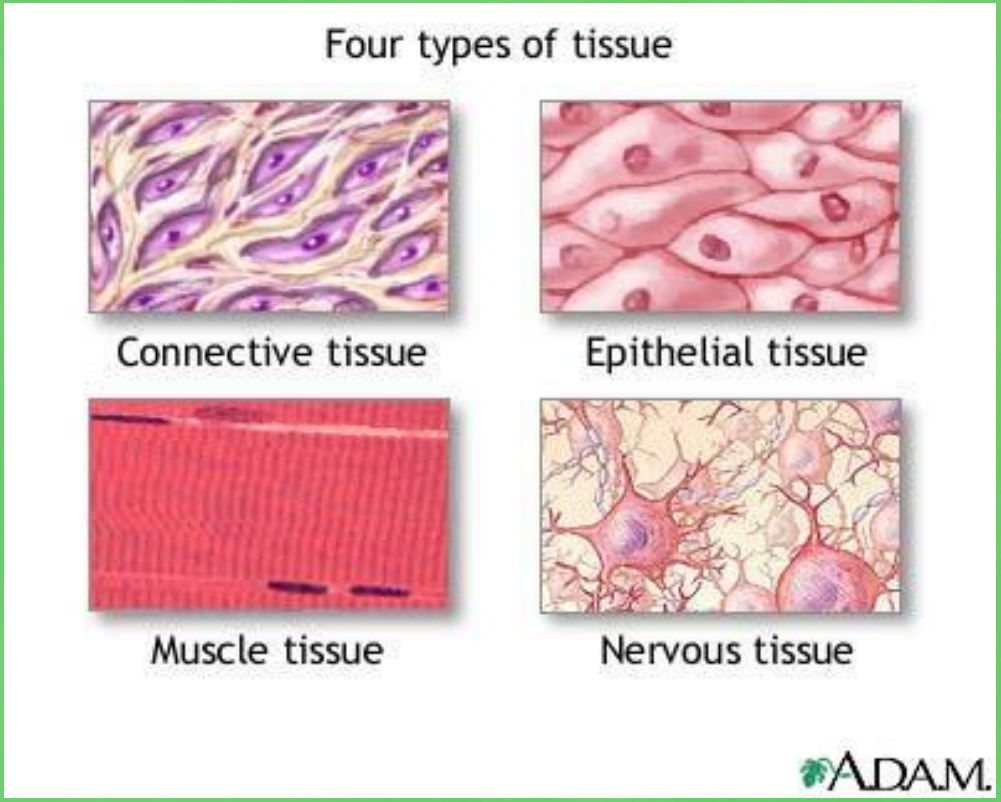
-Stem cell research is used to attempt cure for diseases such as diabetes, Parkinson's, heart disease, osteoporosis, arthritis, and spinal cord injuries.

-The hope is that the stem cells can be programmed to produce new specialized cells that can replace a body's damaged cells

August 26, 2015

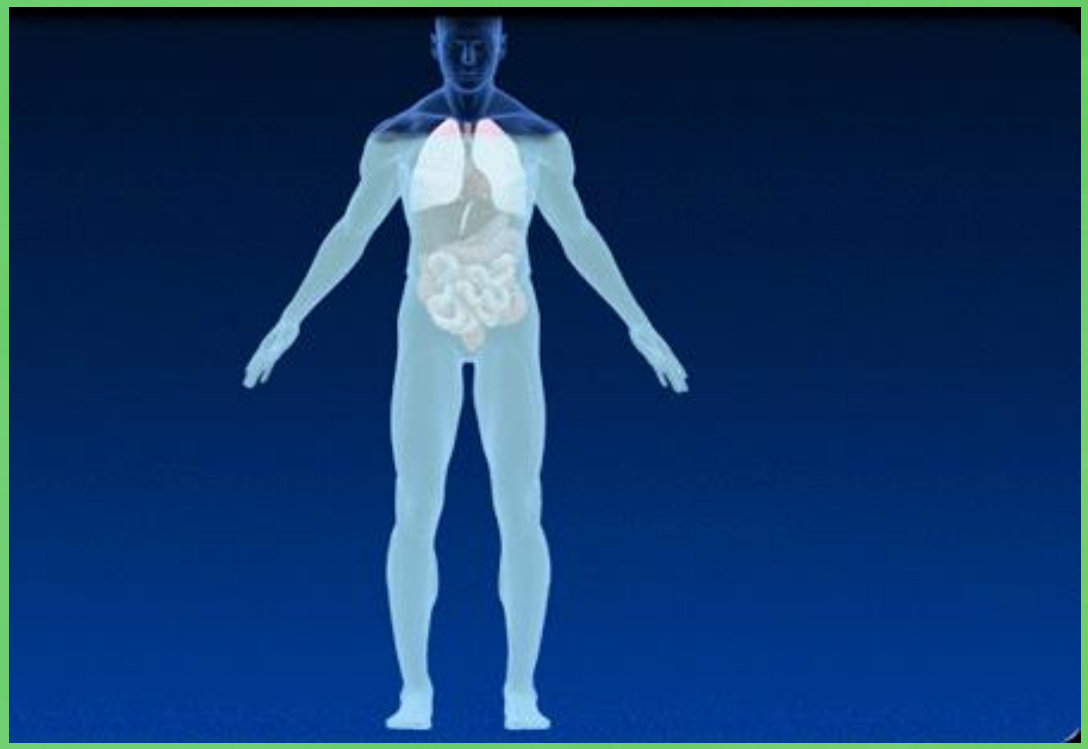
tissue – Cells of the same type that join together for a common purpose.

(Tissues are 60-99% water with various dissolved substances. The water is slightly salty in nature and is called *tissue fluid*)



August 27, 2015

Dehydration –



Edema – when

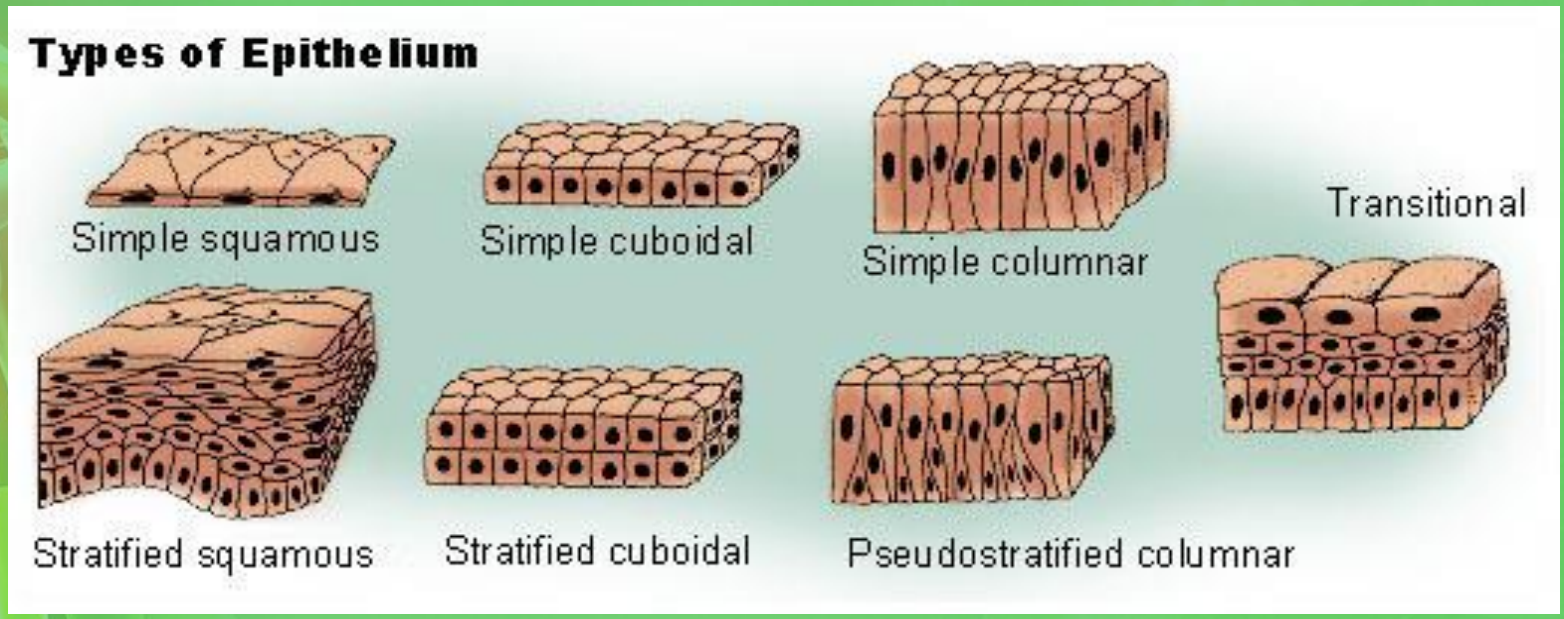
nount of tissue

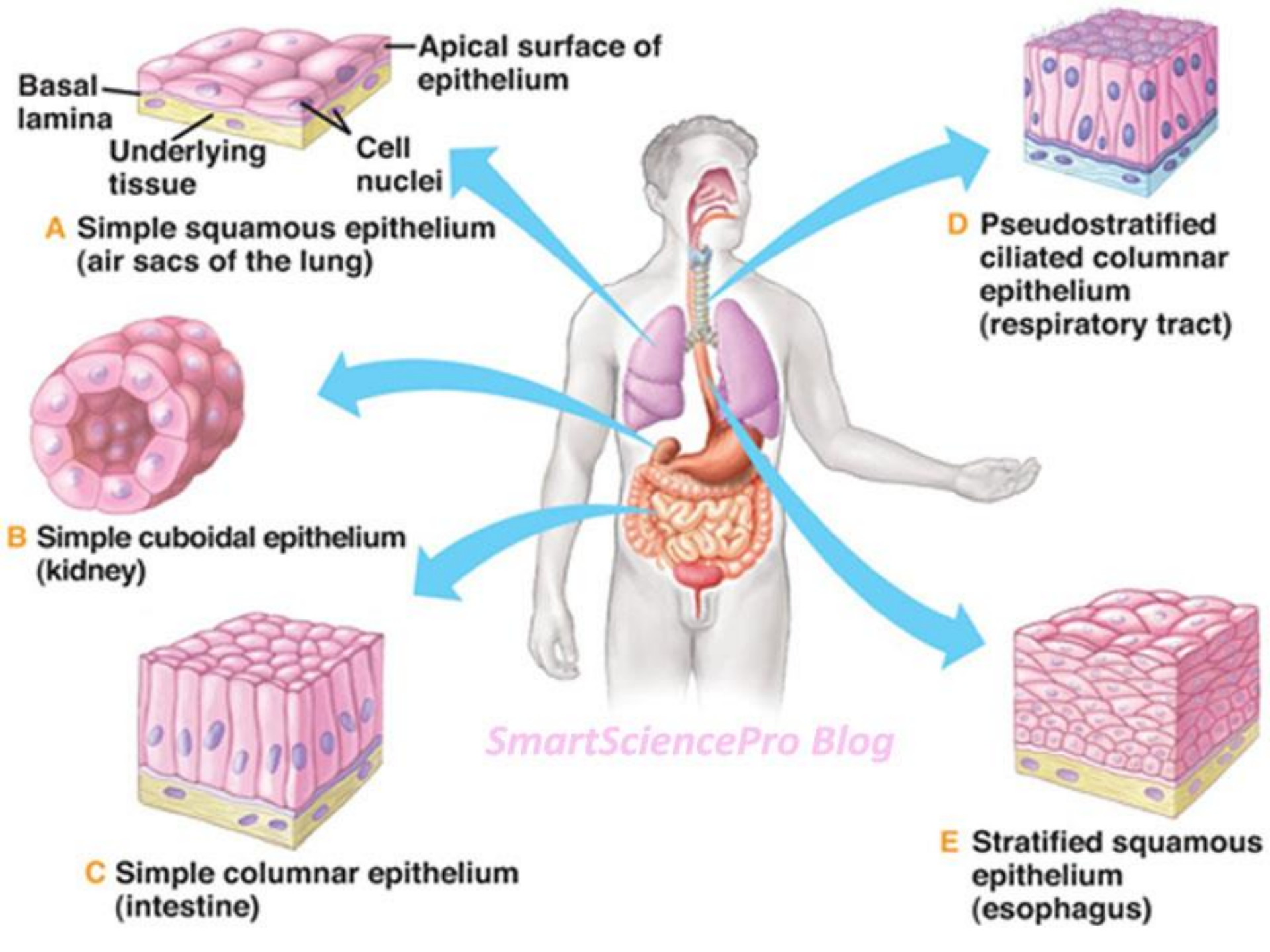
e tissue occurs

August 31, 2015

Epithelial tissue – Covers the surface of the body and is the main tissue in the skin. It forms the lining of the intestinal, respiratory, circulatory, and urinary tracts, as well as that of other body cavities.

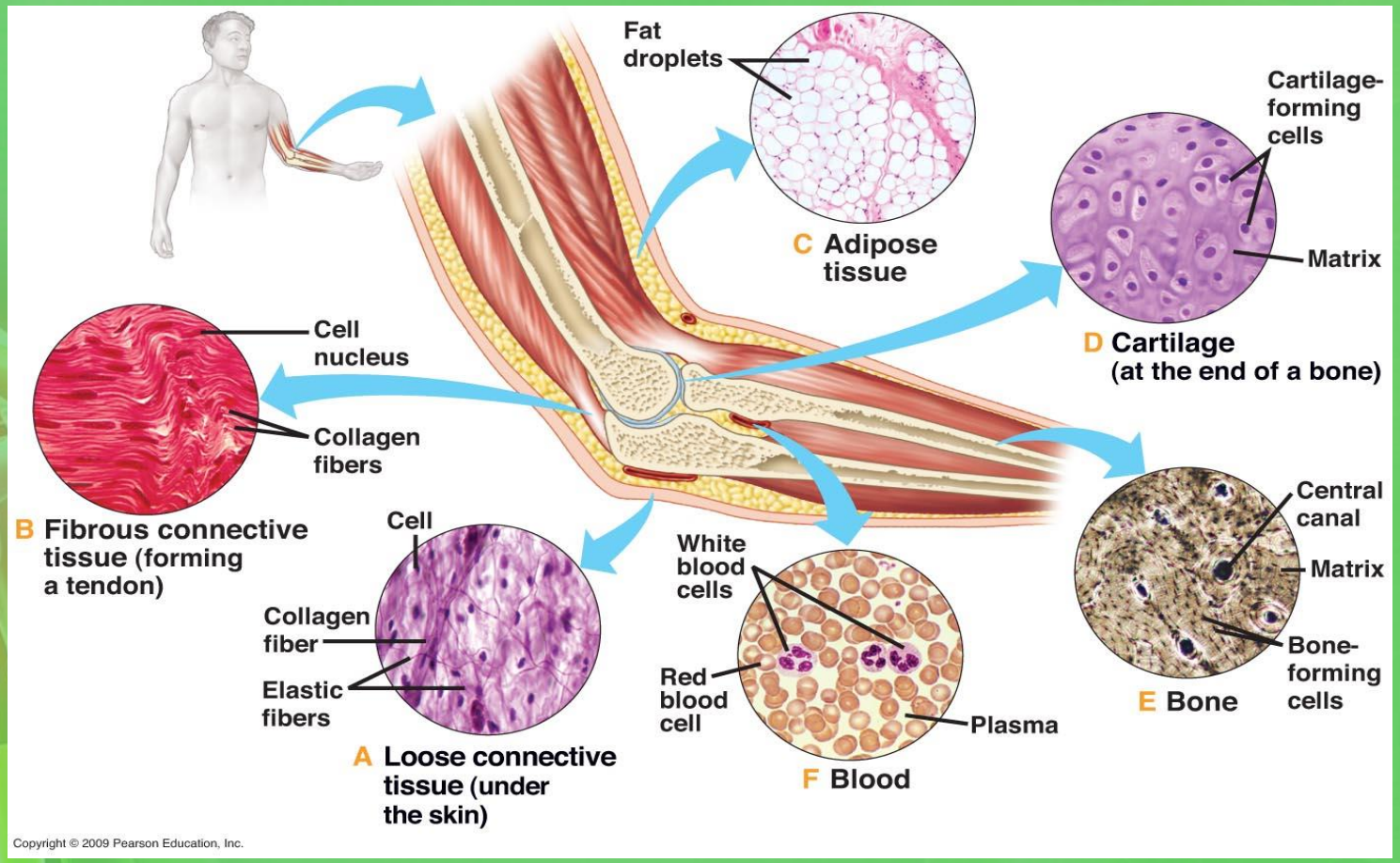
- Epithelial tissue also forms the body glands, where it specializes to produce specific secretions for the body, such as mucus and digestive juices.




Apical surface of epithelium
Basal lamina
Underlying tissue
Cell nuclei
A Simple squamous epithelium (air sacs of the lung)
D Pseudostratified ciliated columnar epithelium (respiratory tract)
B Simple cuboidal epithelium (kidney)
C Simple columnar epithelium (intestine)
E Stratified squamous epithelium (esophagus)
SmartSciencePro Blog

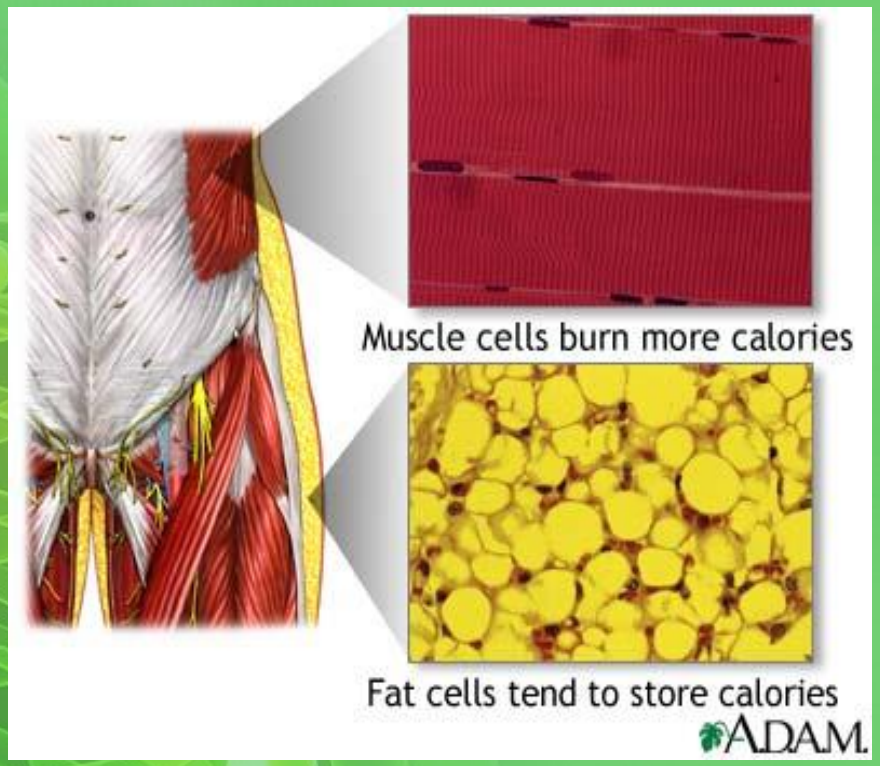
August 31, 2015

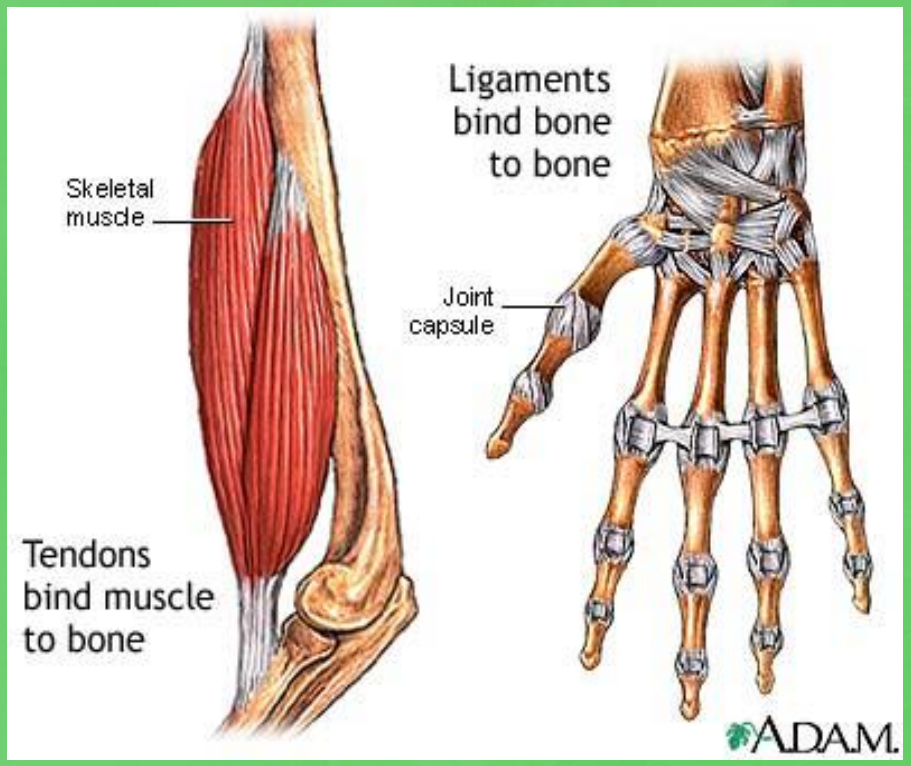
Connective tissue – The supporting fabric of organs and other body parts. (There are 2 main classes of connective tissue: soft, hard)



-**Soft connective tissue = 2 types**

1. **Adipose (fatty) tissue – stores fat as a food reserve or source of energy; insulates the body; fills area between tissue fibers; and acts as padding.**
2. **Fibrous tissue – ligaments and tendons (help hold body structures together)**

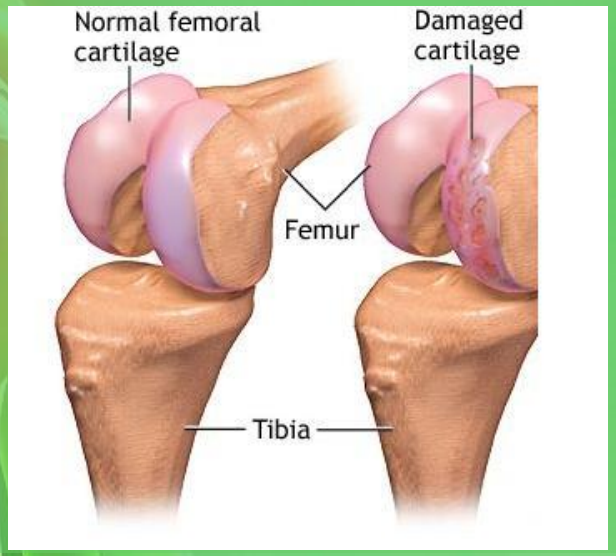


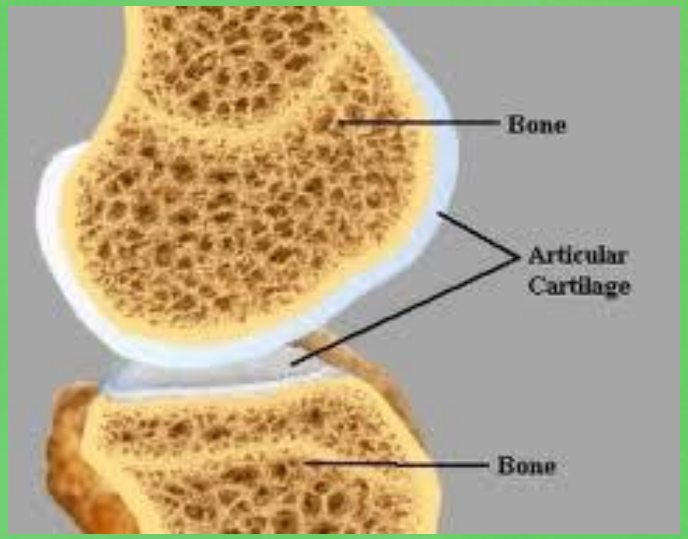


-Hard connective tissue = cartilage and bone

1. Cartilage – tough, elastic material that is found between the bones of the spine and at the end of long bones. (acts as a shock absorber and allows for flexibility)
   - also found in the nose, ears, and larynx (voice box), to provide form or shaping.

2. Bone – similar to cartilage but has calcium salts, nerves, and blood vessels. Often called *osseous tissue.*
   - bone helps form the rigid structure of the human body.

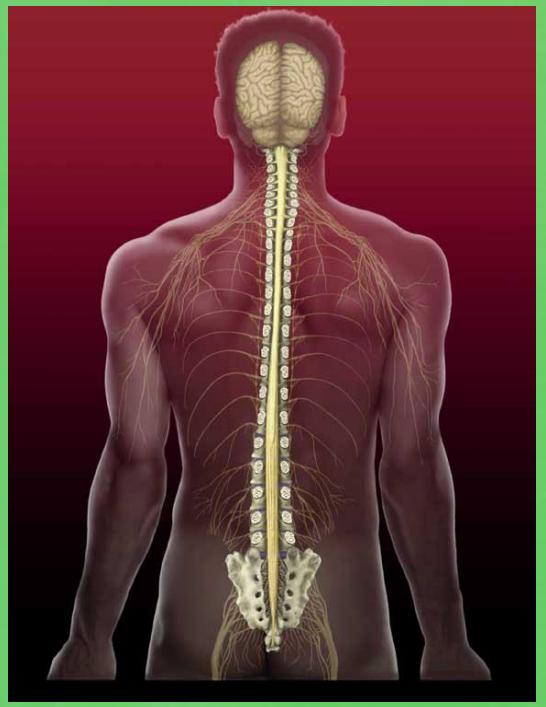




September 2, 2015

Nerve tissue – Made up of neurons. Controls and coordinates body activities by transmitting messages throughout the body.

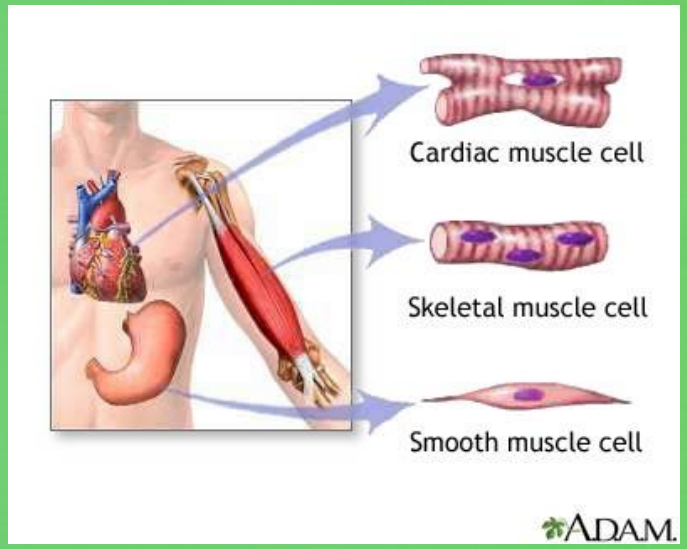
- The nerves, brain, and spinal cord are composed of nerve tissue.

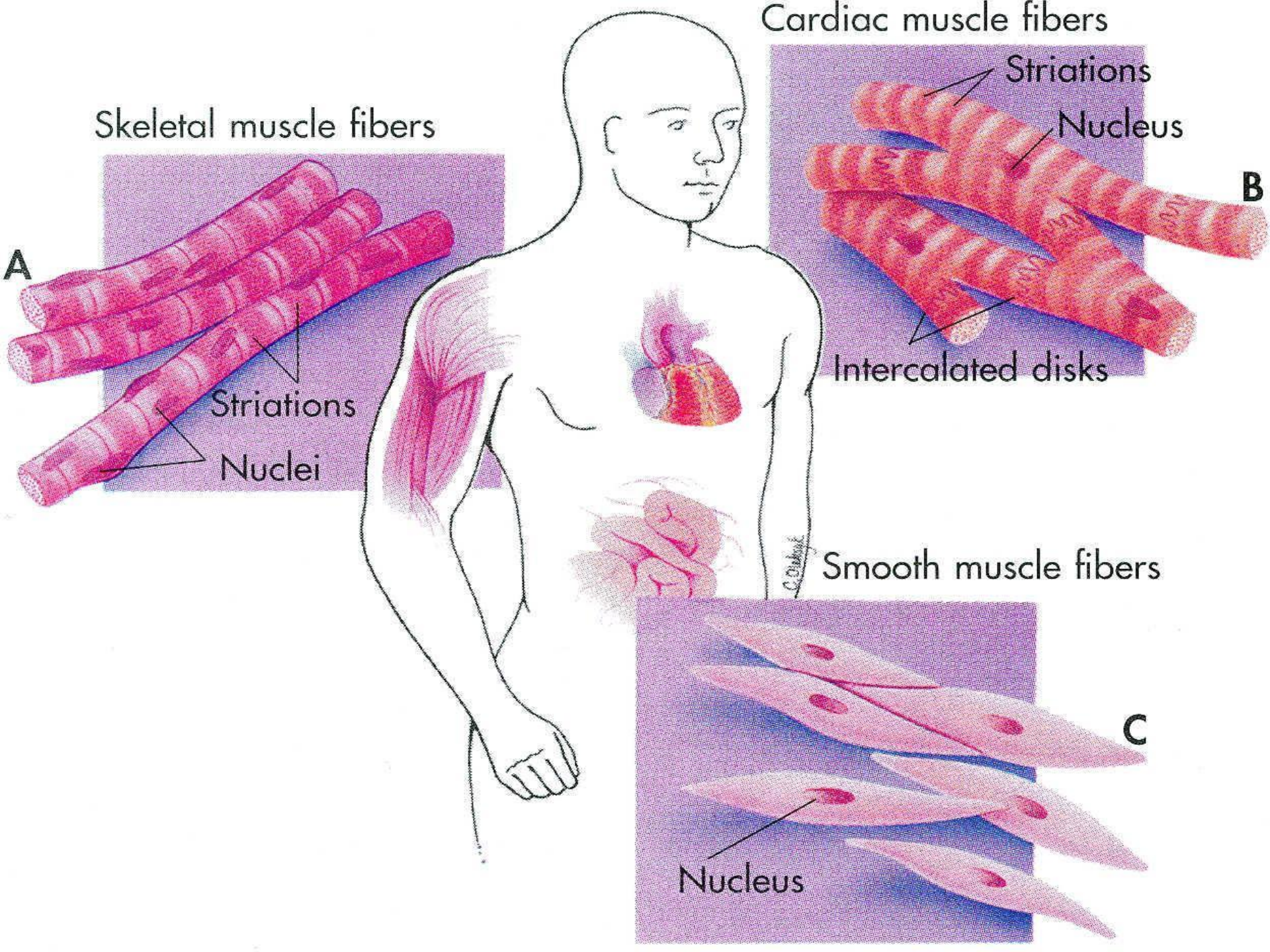


September 3, 2015

Muscle tissue – Produces power and movement by contraction of muscle fibers. There are 3 main kinds of muscle tissue.

-Skeletal muscle – attaches to the bones and provides for movement of the body.
-Cardiac muscle – causes the heart to beat.
-Visceral (smooth) muscle – is present in the walls of the respiratory, digestive, urinary tract, and blood vessels.




Skeletal muscle fibers
A
Striations
Nuclei
Cardiac muscle fibers
Striations
Nucleus
B
Intercalated disks
Smooth muscle fibers
C
Nucleus