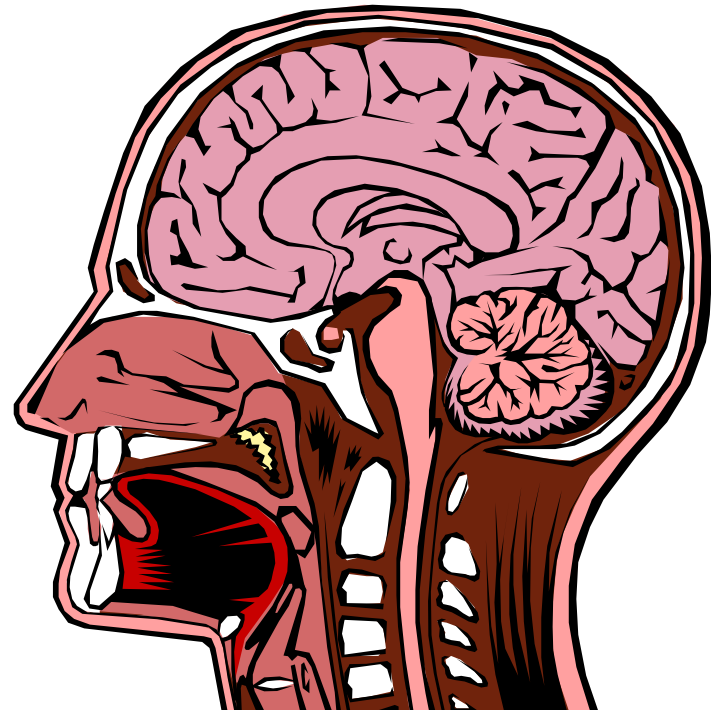


CHAPTER 13

Bones, Muscles, Skin

SECTION 1

- Body Organization and Homeostasis



Levels of Organization



List the 4 levels from
Basic to Complex...

1. _____

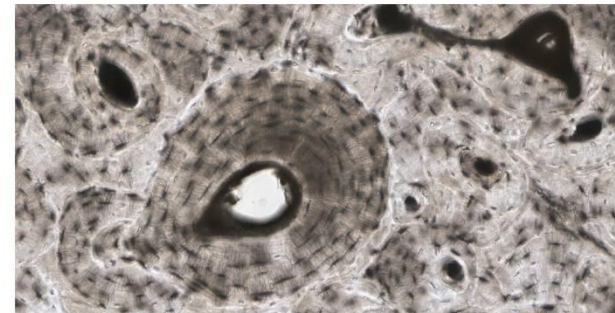
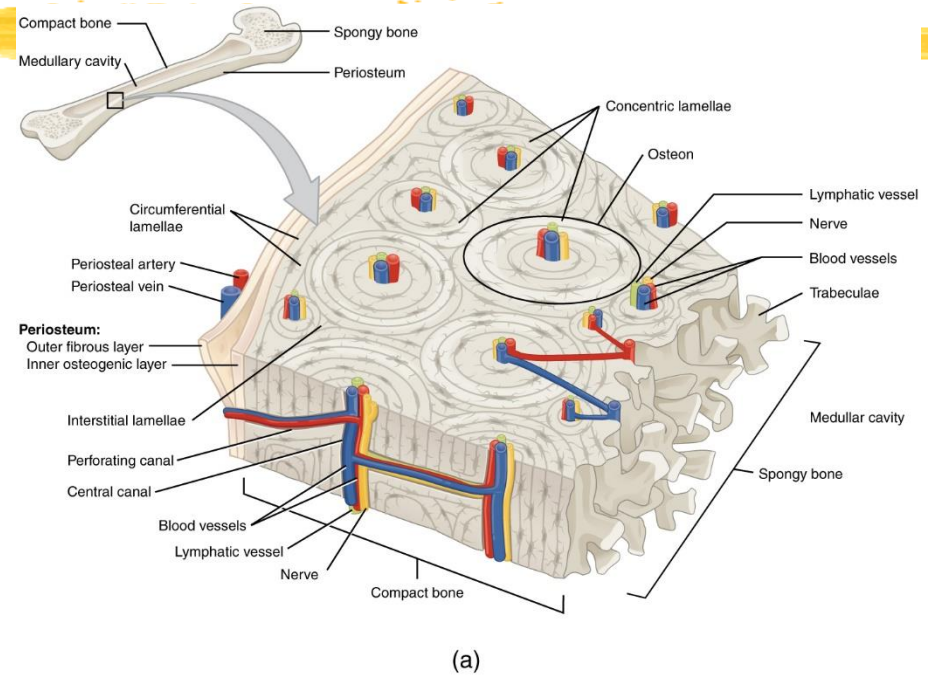
2. _____

3. _____

4. _____

CELLS

- Basic unit in living thing
- Main Parts:
 - _____ = outside boundary of cell
 - _____ = control center
 - _____ = jellylike substance inside cell

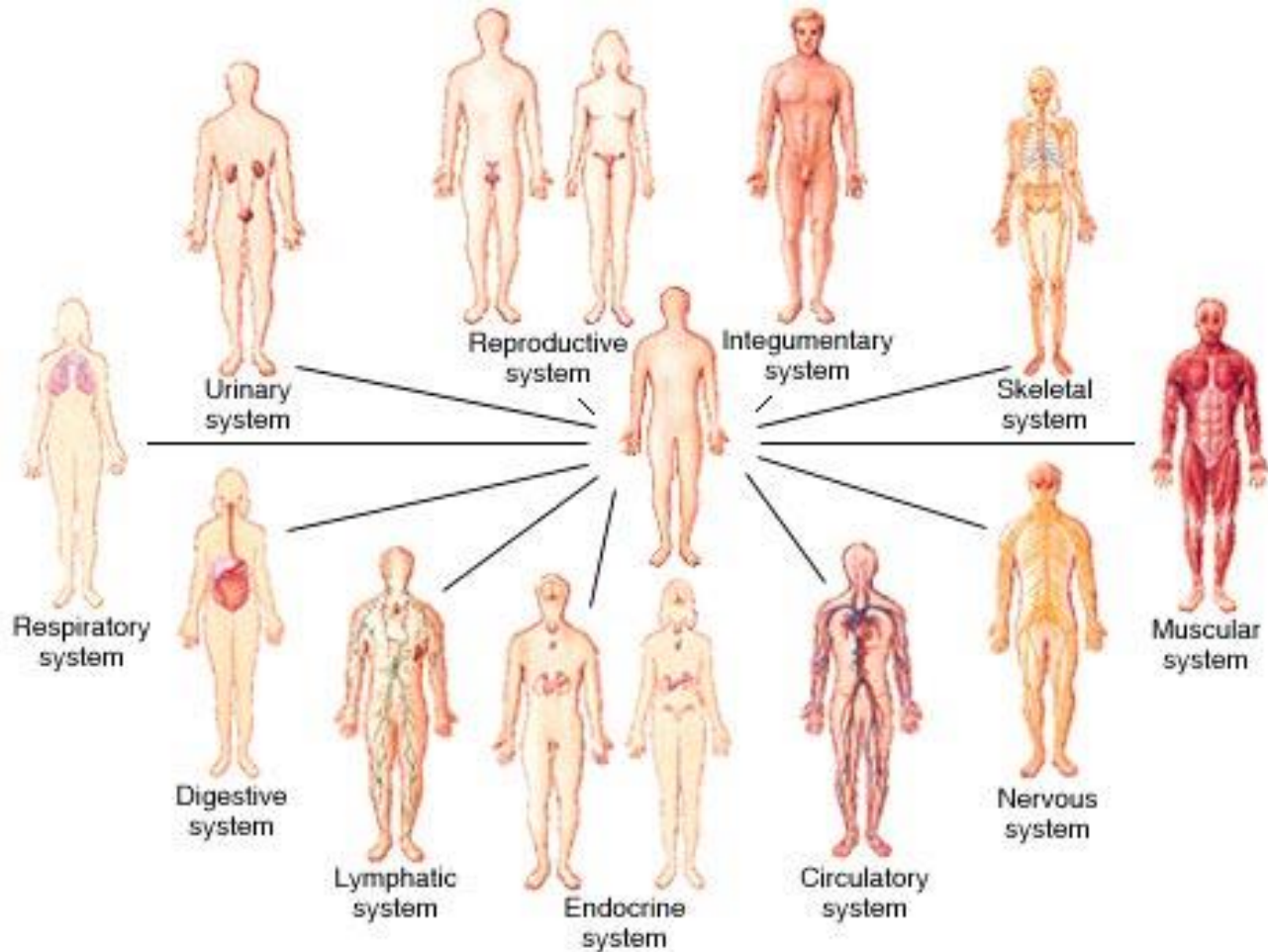


Tissues



- _____ = contracts (or shortens) to create movement
- _____ = provides support for your body and connects all its parts
- _____ = carries messages back and forth between the brain and spinal cord
- _____ = protective covering (skin) as well as lines cavities and hollow spaces

Systems and Functions



Homeostasis

Examples:

- thirst + urinating occurs for _____ control
- hunger occurs for _____ control
- shivering + sweating for _____ control

_____ = reaction of a threat to homeostasis maintenance

Energy



Cellular Respiration = source of **energy** for cells

Write the chemical equation for cellular respiration:



LIST THE 5 FUNCTIONS OF THE SKELETAL SYSTEM

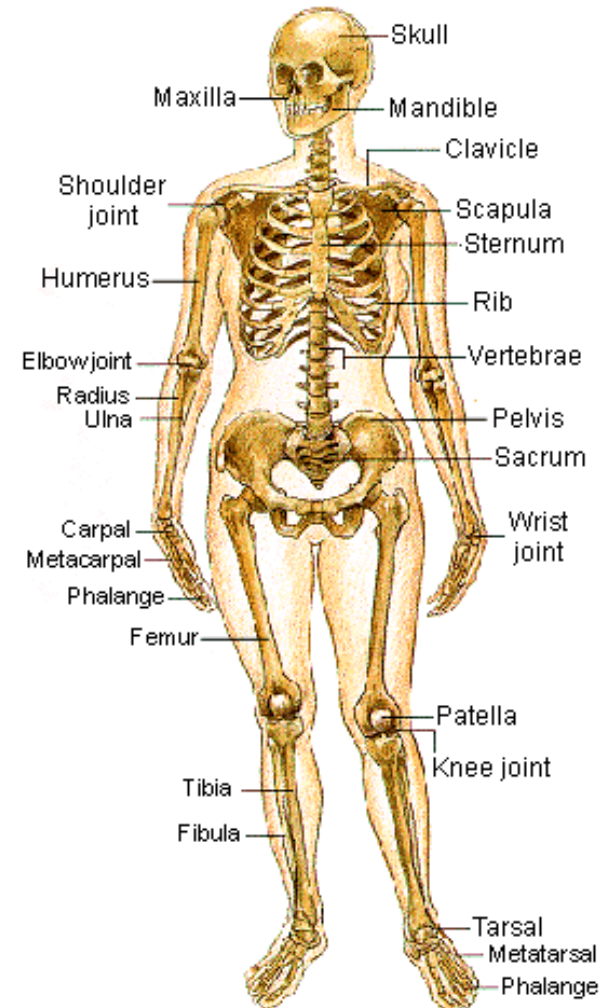
1.

2.

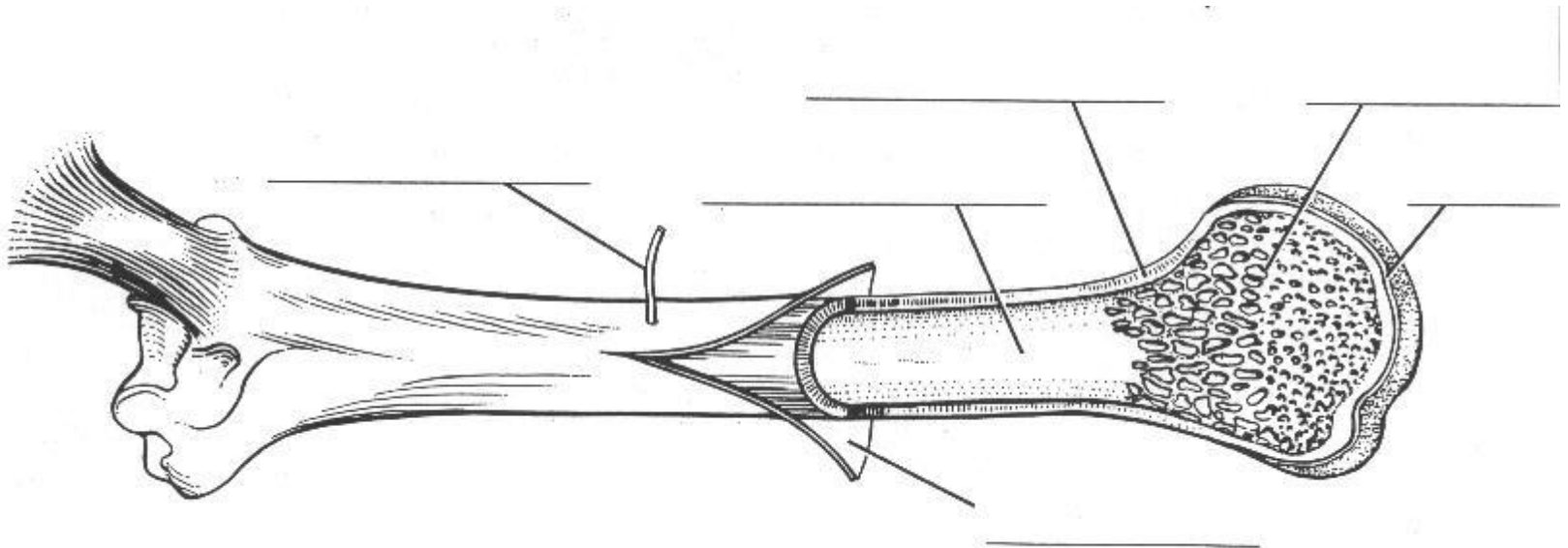
3.

4.

5.



**IN THE NEXT FEW SLIDES, CAN YOU LABEL
THE BONE BELOW ACCORDING TO THE
DESCRIPTIONS PROVIDED?**



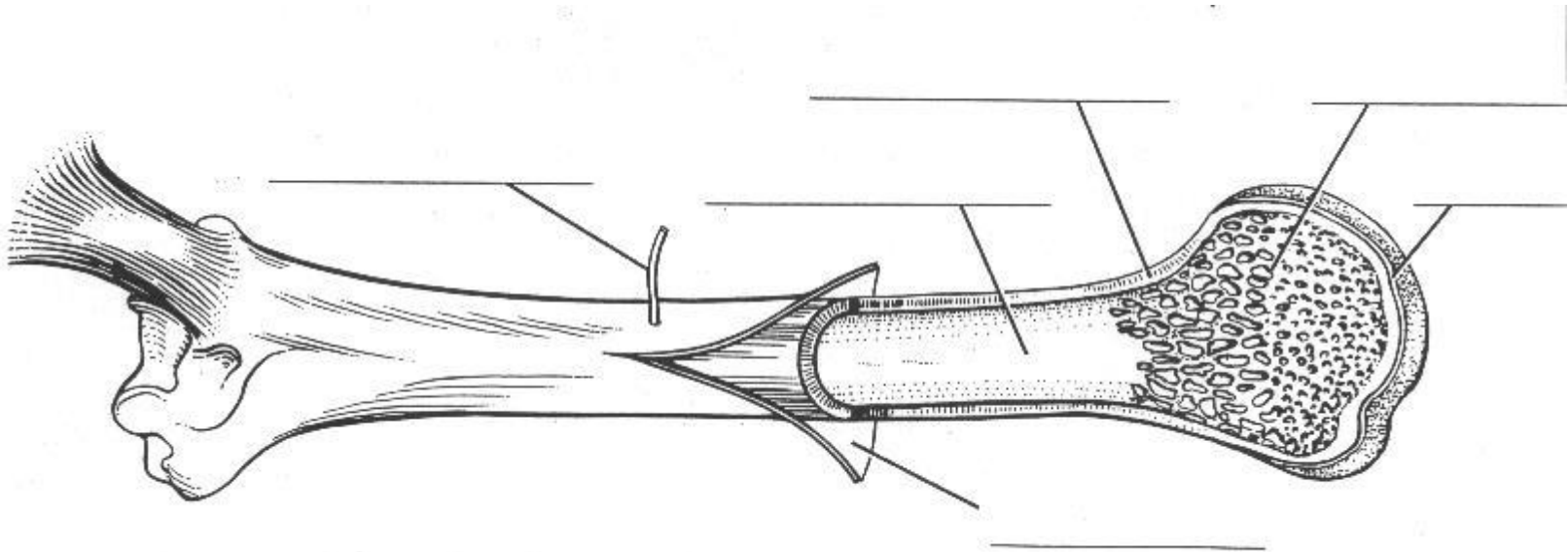
BONE PARTS: PERIOSTEUM

“Peri” means around, osteum means bone

It covers & protects

growth & repair

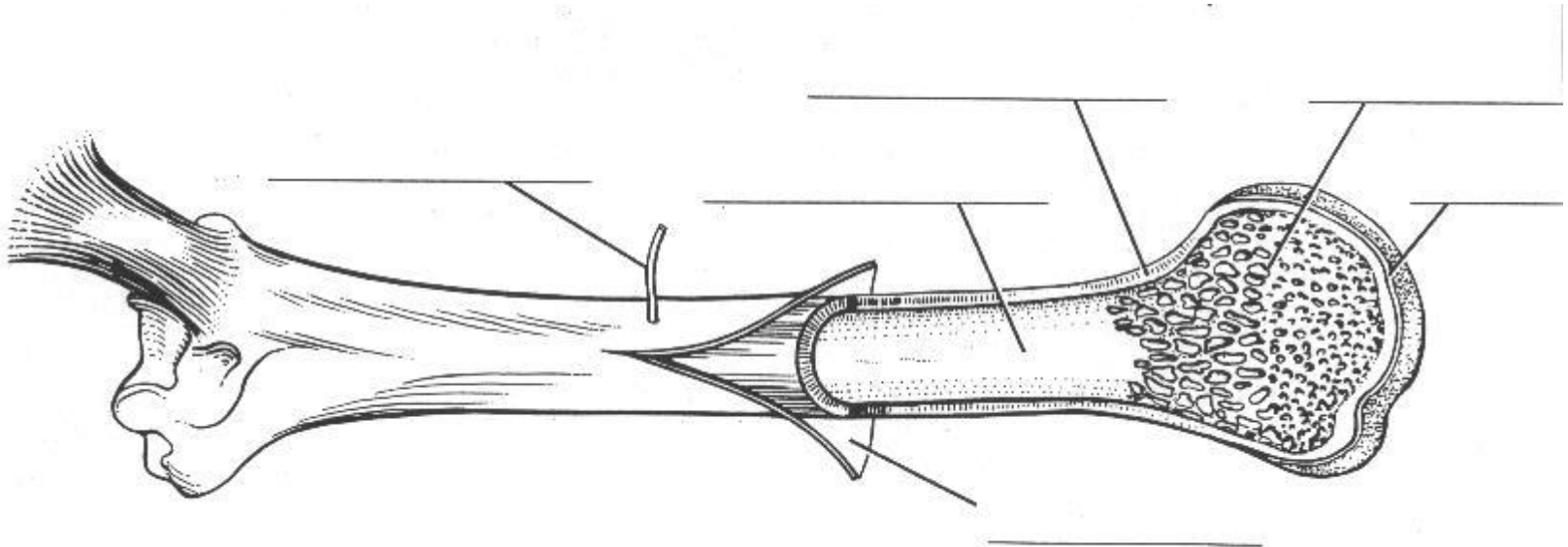
The blood supply enters this layer of protections



COMPACT BONE

Dense outside of bone:

- Ca & P (hardness)
- elastic fibers (flexibility)

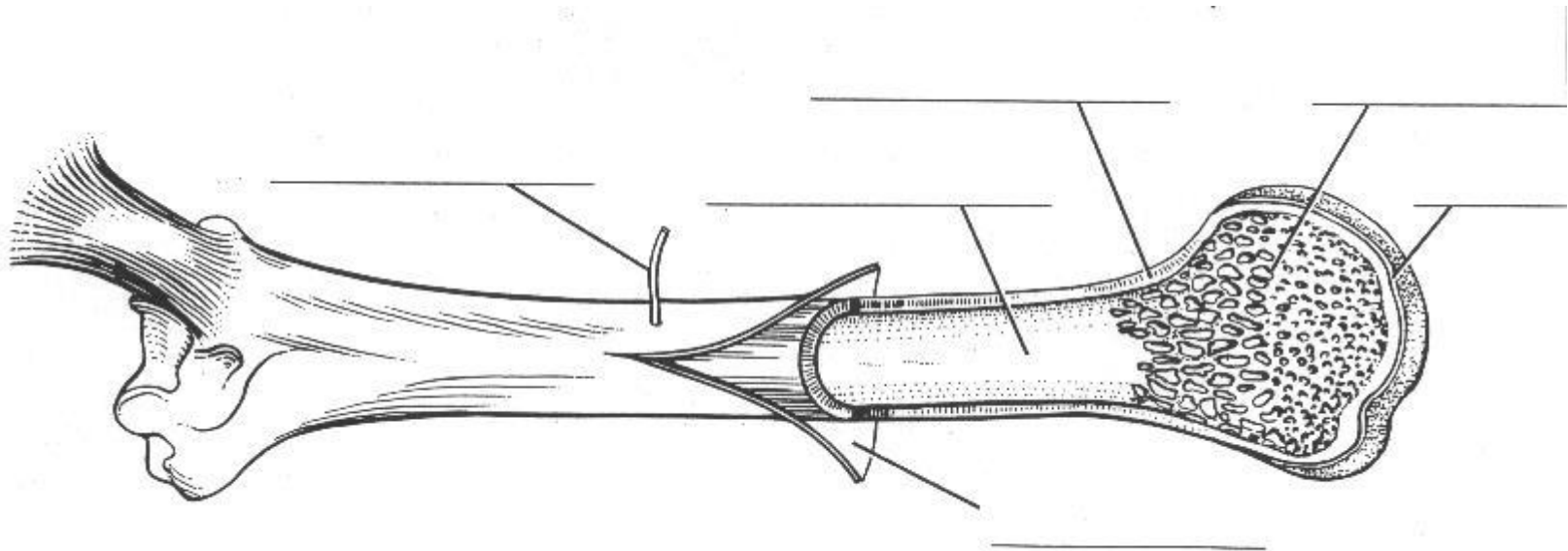


SPONGY BONE

open spaces (lightweight)

contains red marrow

- makes blood cells

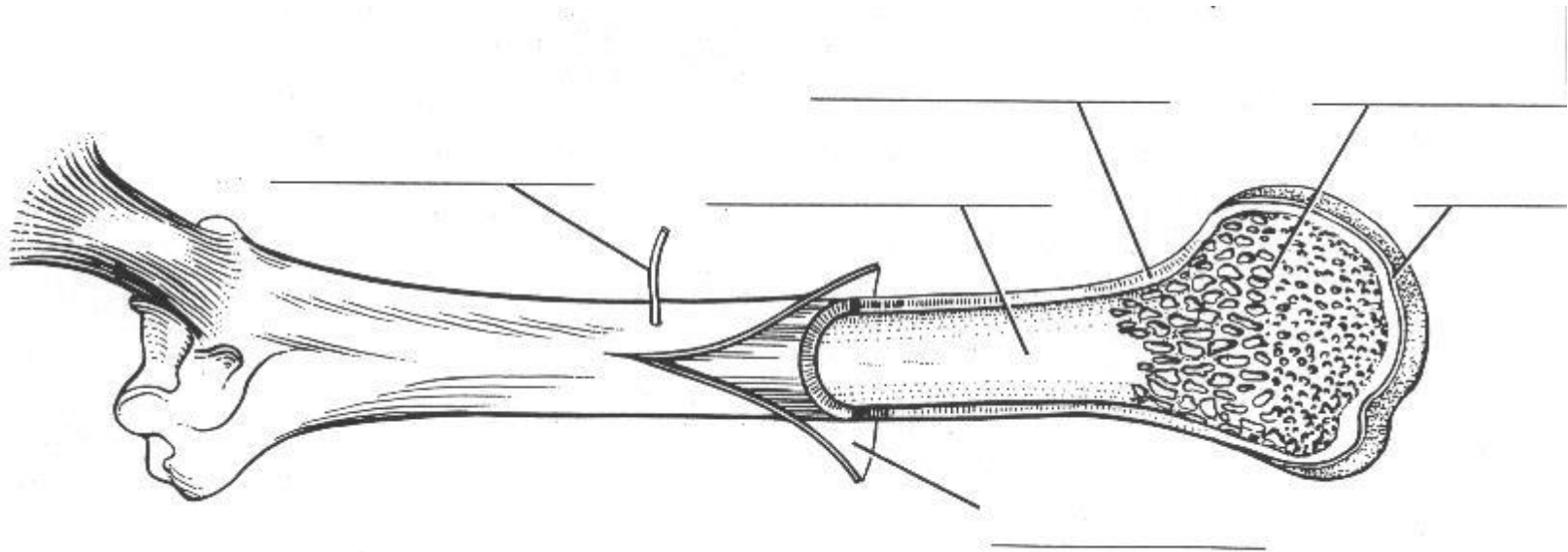


MARROW CAVITY

hollow center

contains yellow marrow

- fat storage

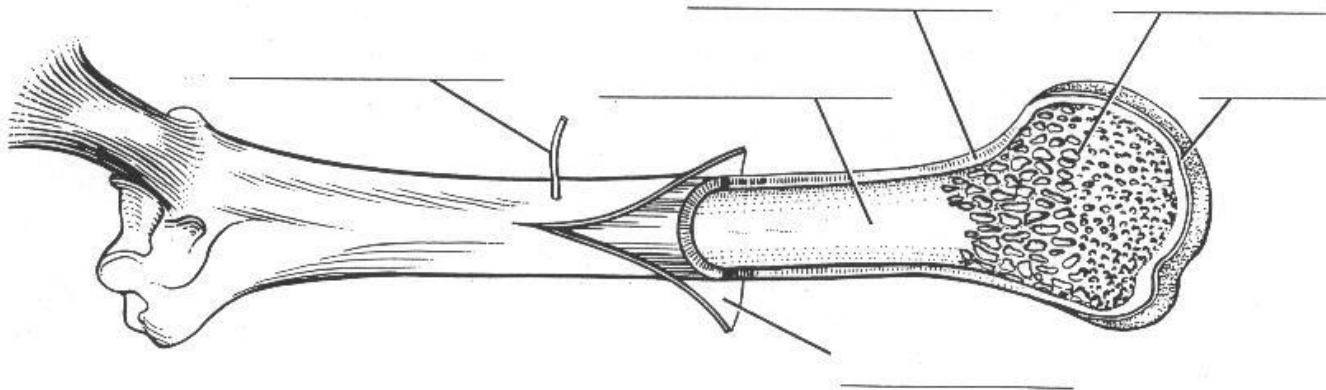


CARTILAGE

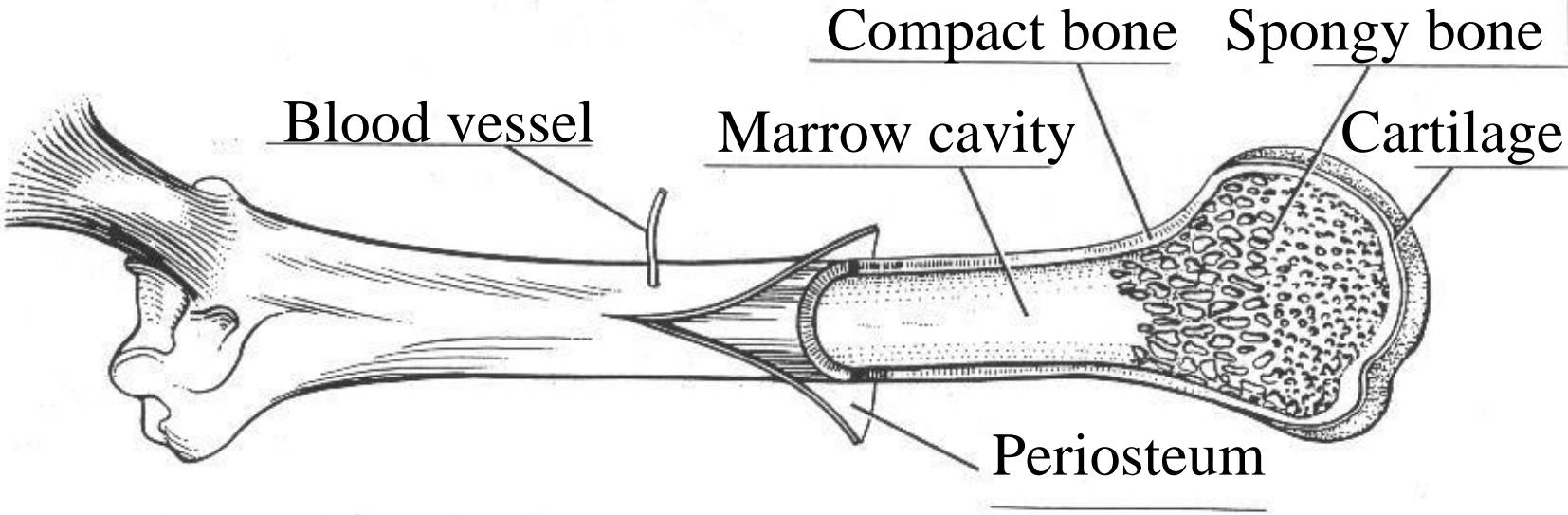
Flexible

absorbs shock; cushions

makes movement easier



LONG BONE ANSWER KEY



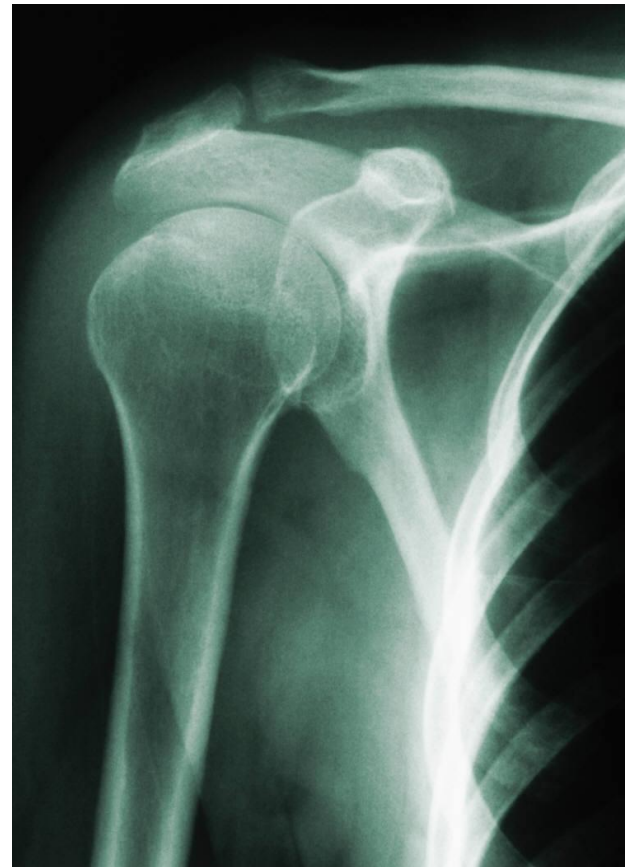
JOINT = 2 OR MORE BONES COMING TOGETHER

Fixed

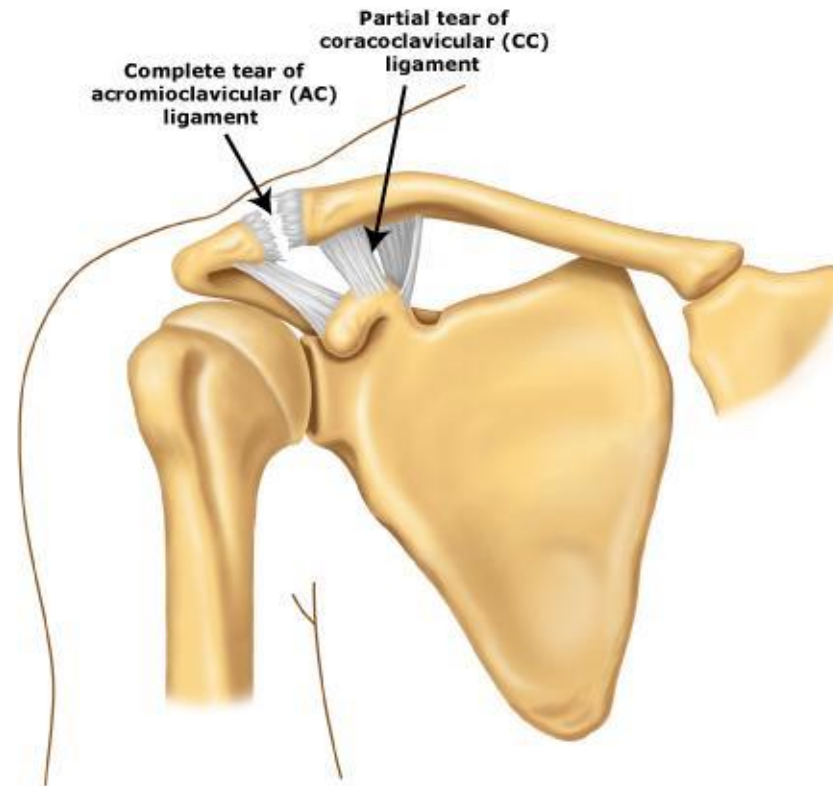
- Are _____
- ex: skull, teeth

Movable

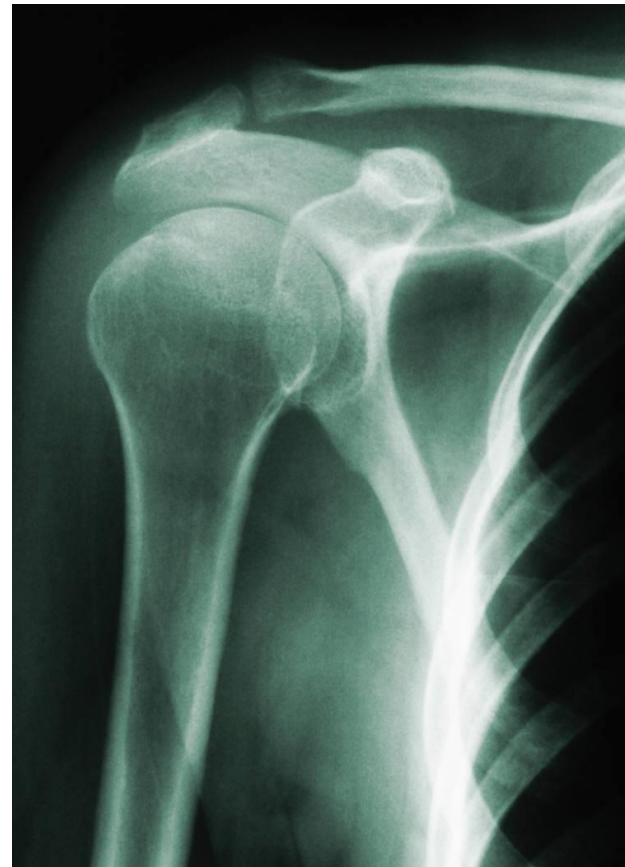
1. _____ head+neck
2. _____ - shoulder
3. _____ - elbow
4. _____ - wrist
5. _____ - base of thumb
6. _____ - base of fingers



LIGAMENTS- TOUGH CONNECTIVE TISSUE THAT CONNECTS BONE TO BONE



1. What type of joint is this?
2. Which bones are involved?



**GIVE THE GENERAL NAME OF THE BONES IN THE
X-RAY BELOW**

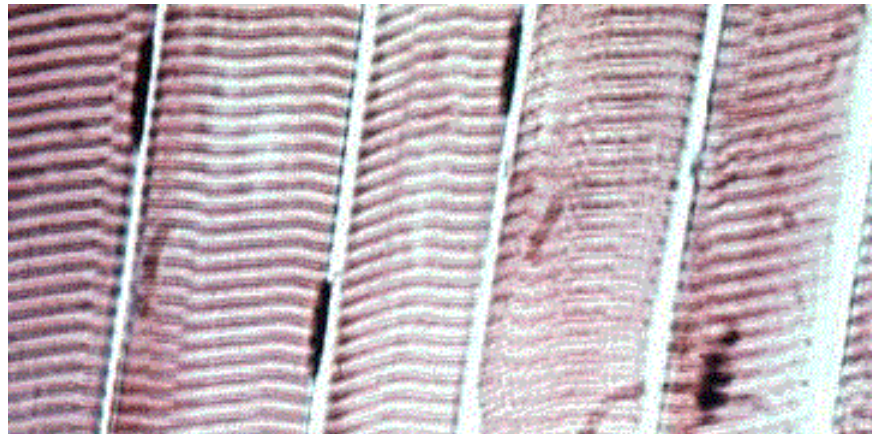
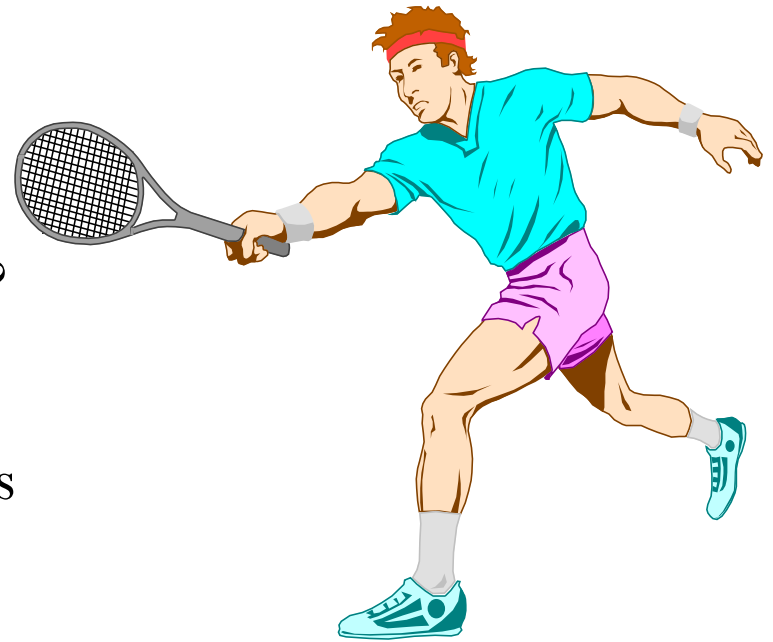


MUSCULAR SYSTEM



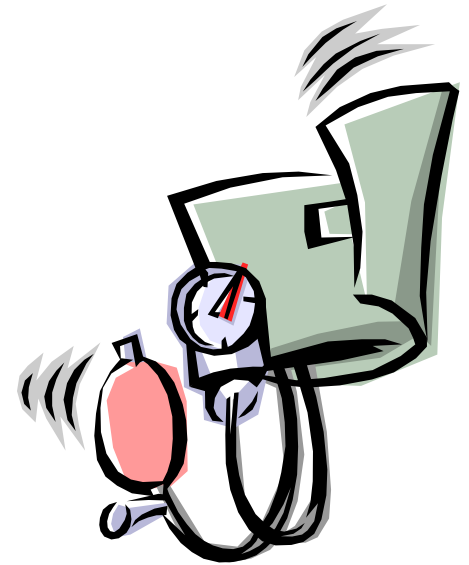
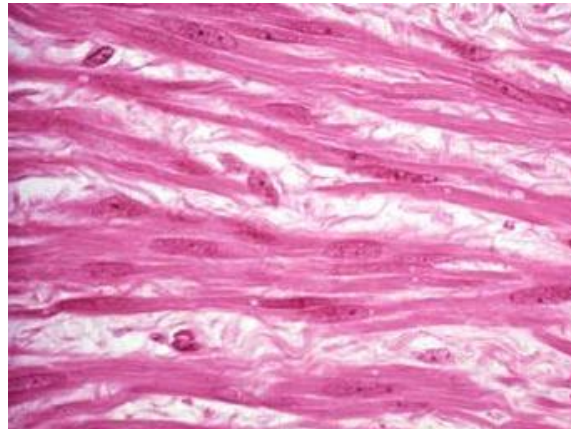
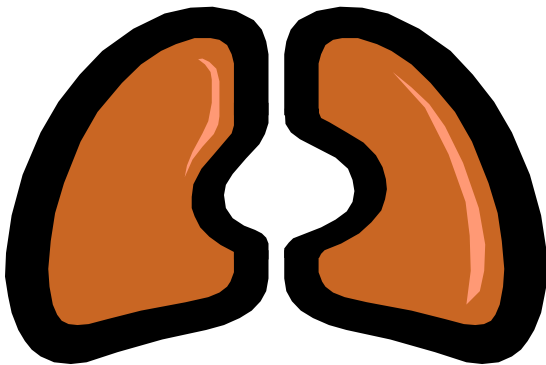
Skeletal Muscle

- moves bones- How?
- Striated- what does that mean?
- voluntary
- contraction only -work in pairs
- react quickly; tire easily
- Multi-nucleated- Why?



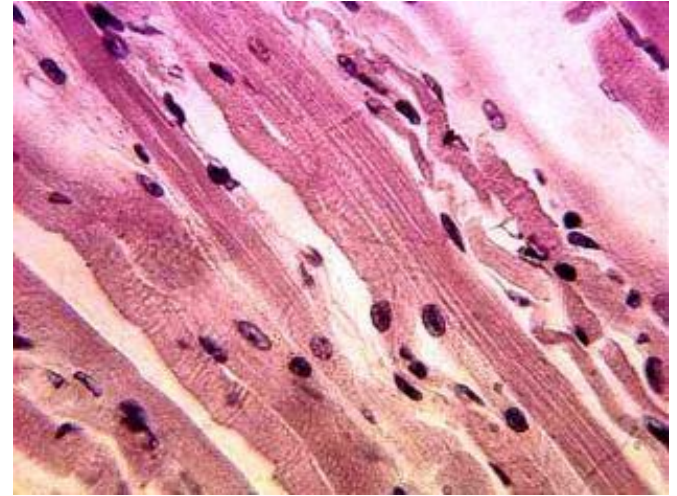
Smooth Muscle

- Moves internal organs
 - breathing, blood pressure, digestive system
- Not striated
- Involuntary
- Reacts slowly; tires slowly

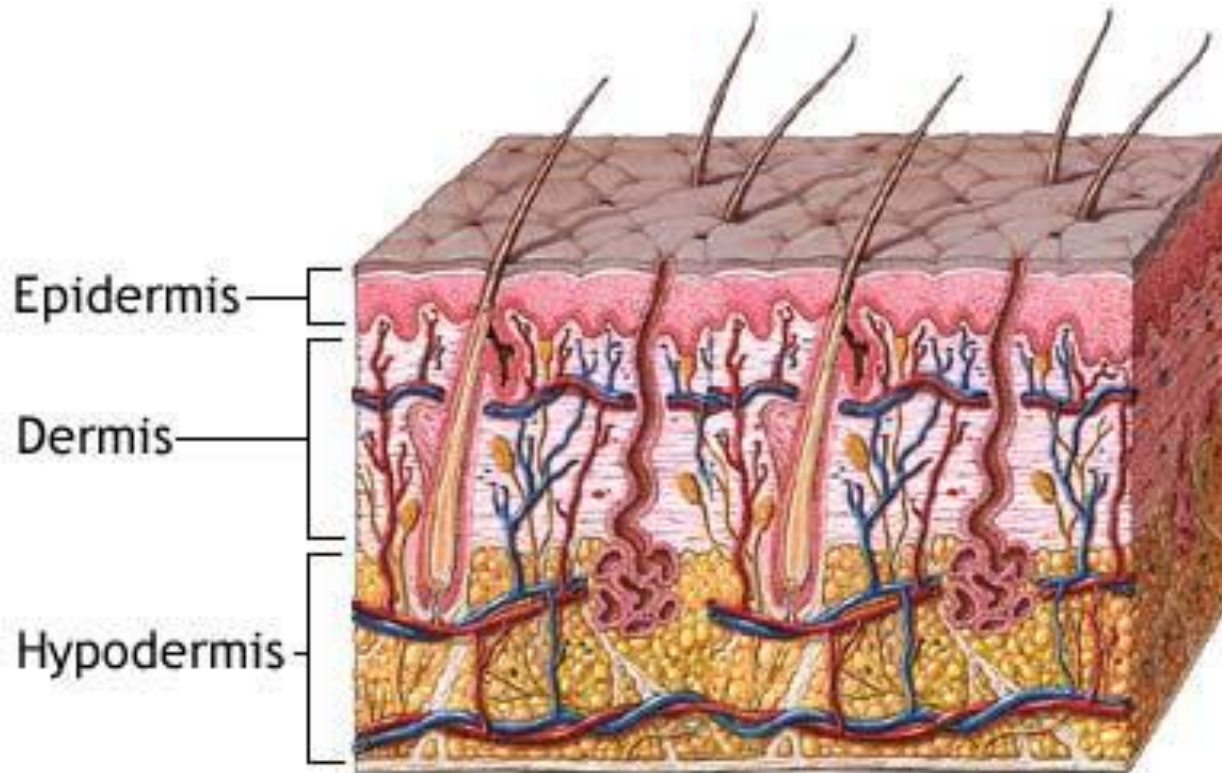


Cardiac Muscle

- Heart muscle
- Striated and branched
- Involuntary
- Reacts quickly
- Does not tire

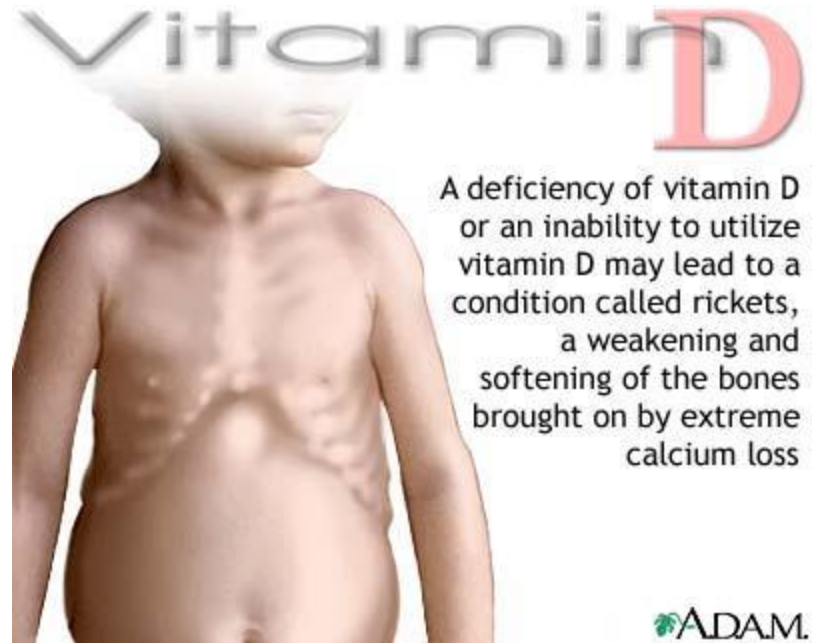


The Skin



Functions of the Skin

1. Protection
2. Maintaining Temperature
3. Eliminating Wastes
4. Gathering Info
5. Producing Vitamin D



A deficiency of vitamin D or an inability to utilize vitamin D may lead to a condition called rickets, a weakening and softening of the bones brought on by extreme calcium loss

Layers of the Skin

A. Epidermis

A. Outer layer of skin

B. Contains Melanin

A. Pigment that gives skin its color

B. Dermis









A. Inner layer of skin

B. Contains Pores (openings for sweat)

C. Contains Follicles (hair growth structure)

Caring for Your Skin

- **Healthful Diet**- how could this affect skin health?
- **Keeping Skin Clean**- how could this affect skin health?
- **Limiting Sun Exposure**- why? How does sun exposure affect our skin?

Normal Mole	Melanoma	Sign	Characteristic
		Asymmetry	when half of the mole does not match the other half
		Border	when the border (edges) of the mole are ragged or irregular
		Color	when the color of the mole varies throughout
		Diameter	if the mole's diameter is larger than a pencil's eraser

Photographs Used By Permission: National Cancer Institute