

Tissue Topics

- 1. 4 Tissues**
- 2. Review - biological levels**
- 3. Review - cells & tissues**
- 4. Integumentary Sys.**

4 Tissue Types

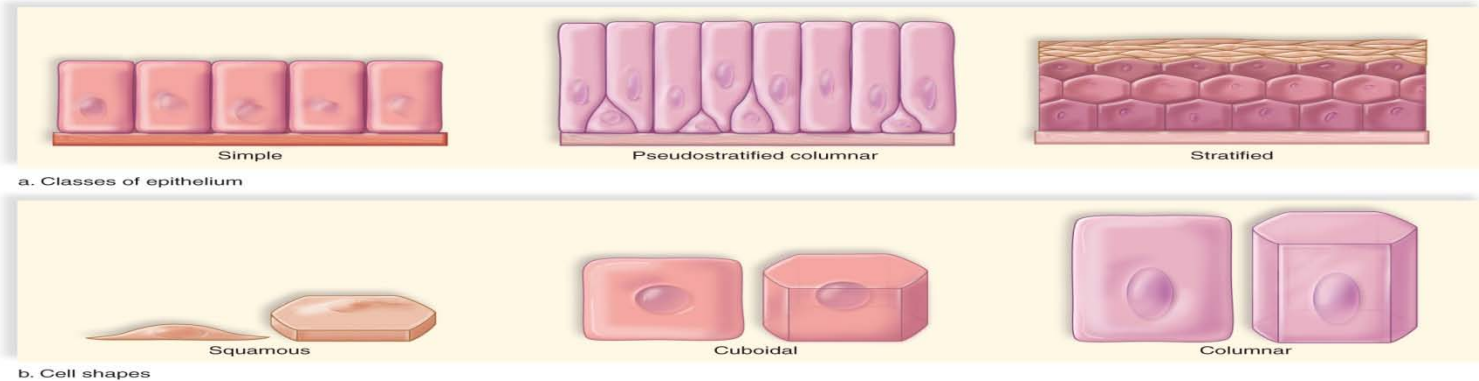
- 1) epithelial**
 - covering, secretions
- 2) connective**
 - connect, attach
- 3) muscle**
 - movement, heat
- 4) nervous**
 - coordinate activities

Epithelial Tissue

- 1) glands - produce secretions**
eg sweat or hormones
- 2) membranes - thin sheets of cells**
 - a) cover organs, eg ovary surface**
 - b) line hollow organs, eg line stomach**

Epithelial Membranes (1)

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a) # layers

- 1) simple = 1 layer
- 2) pseudostratified = apparently many layers
- 3) stratified = many layers

b) cell shape

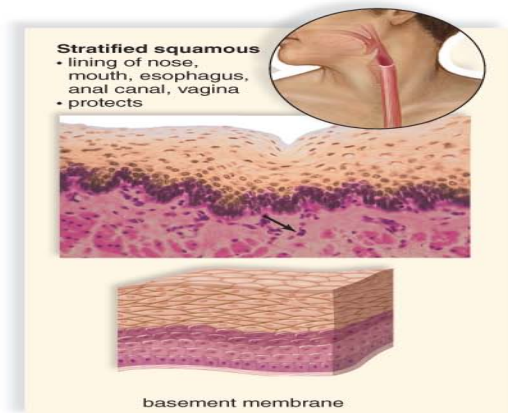
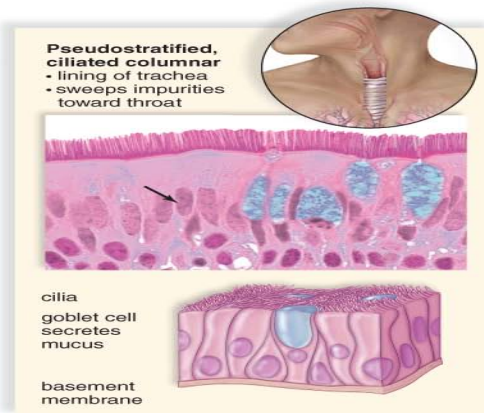
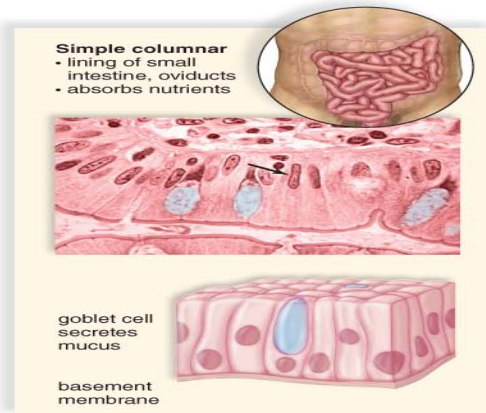
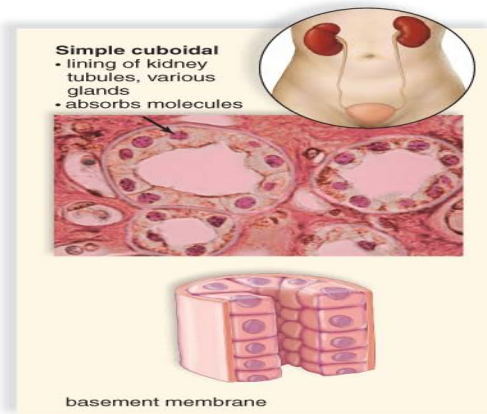
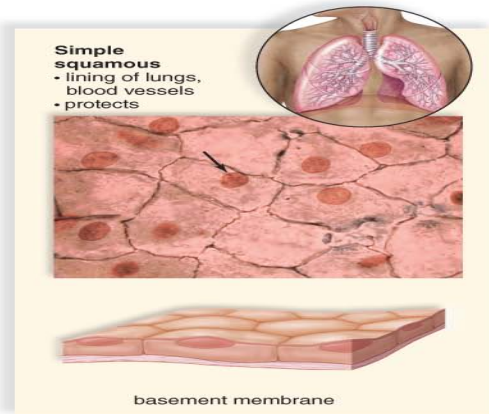
- 1) squamous = flat
- 2) cuboidal = like- cube, spherical
- 3) columnar = like column, cylindrical

Epithelial Membranes (2)

simple: squamous, cuboidal, columnar

stratified: pseudostratified columnar, stratified squamous

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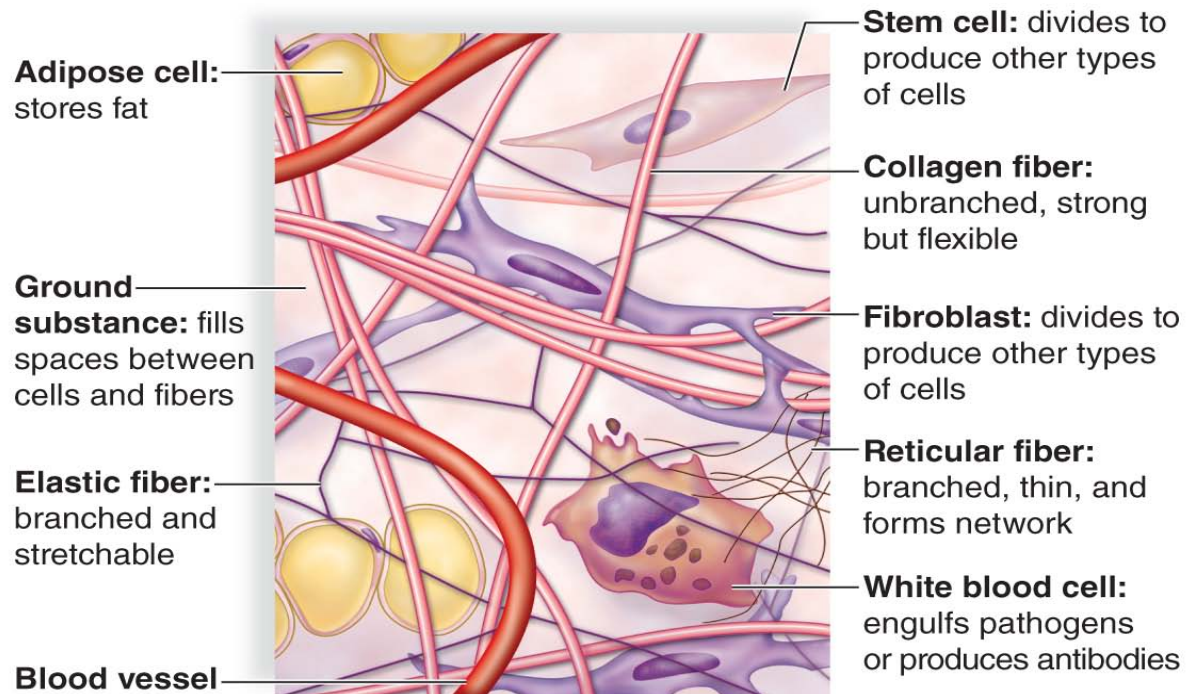


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Conn. Tissue Components

3: cells, ground substance, and fibers

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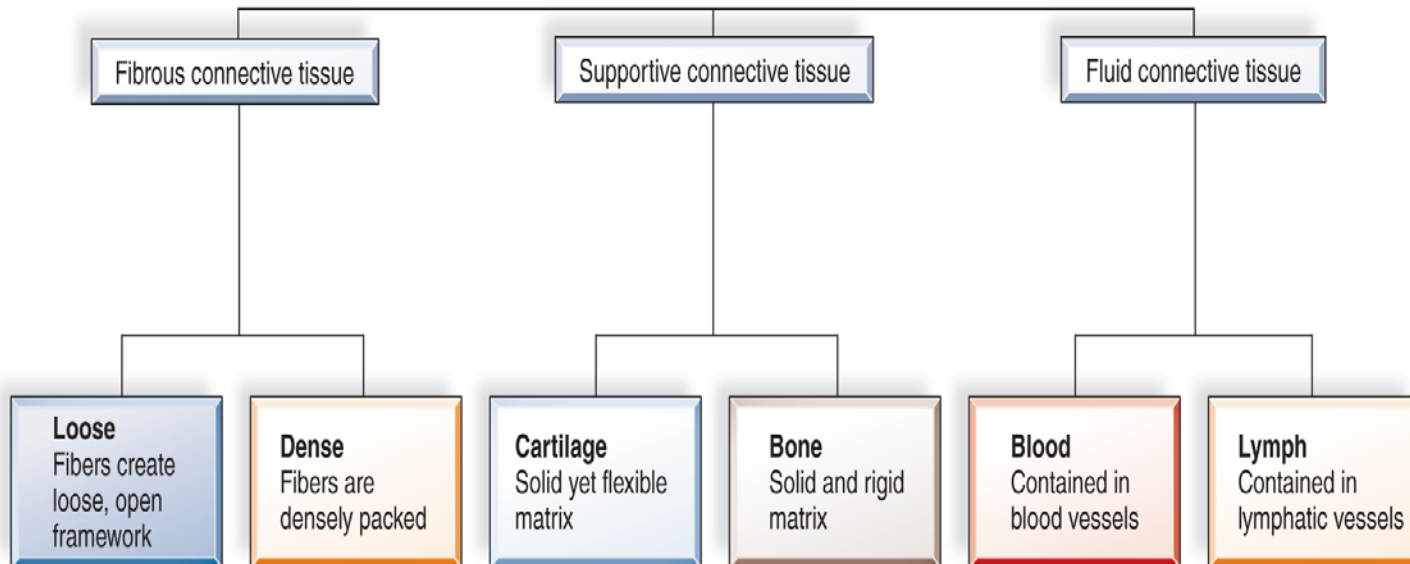


Connective Tissue

fibrous - loose fibrous, adipose, dense fibrous
supportive - cartilage (hyaline, elastic, fibrocartilage), bone
fluid - blood, lymph

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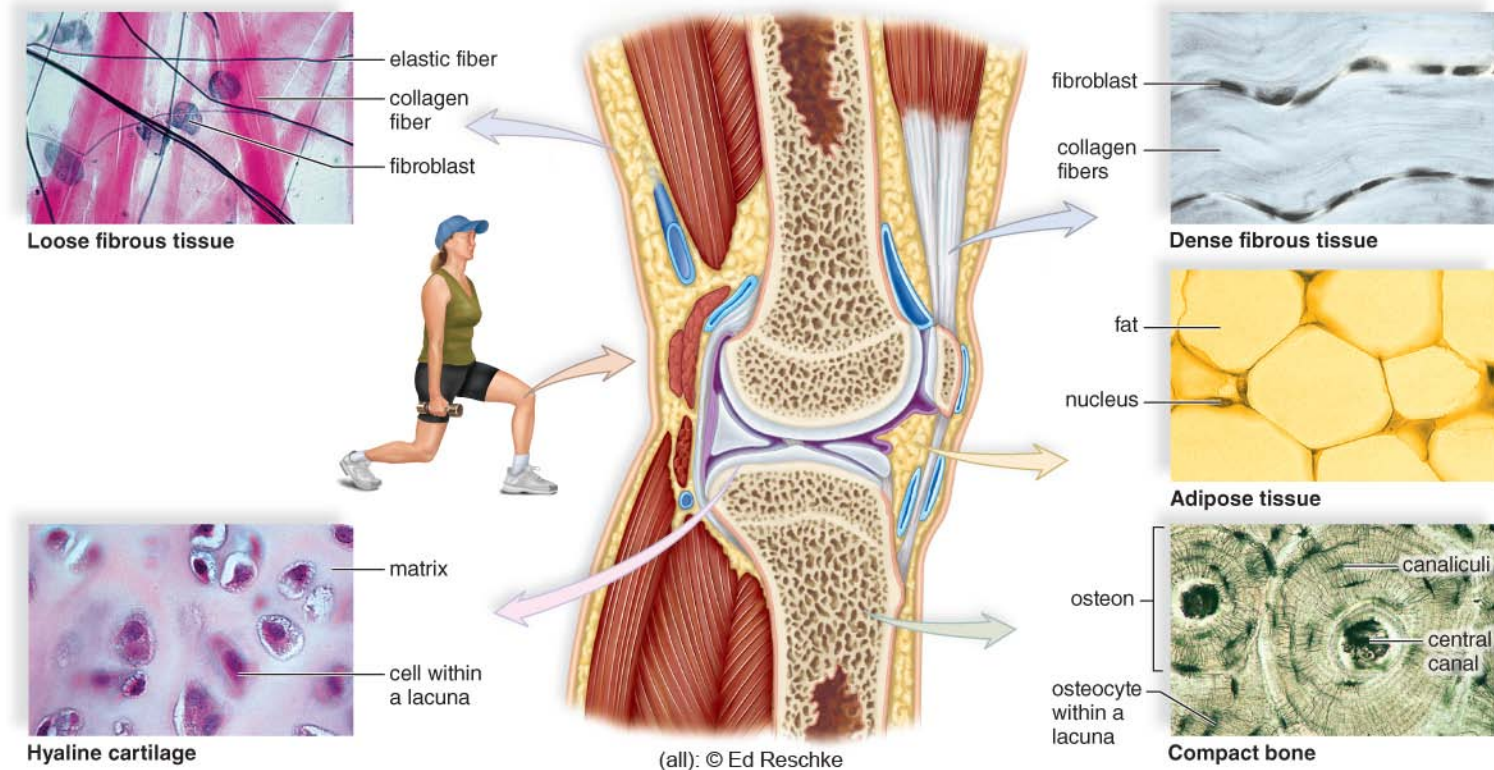
Types of Connective Tissue



Fibrous & Supportive Conn. Tissues

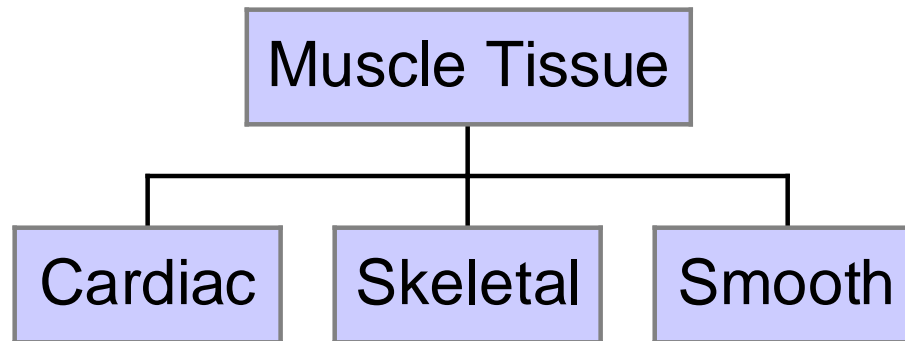
knee connective tissues - support, movement, strength

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Muscle Tissue

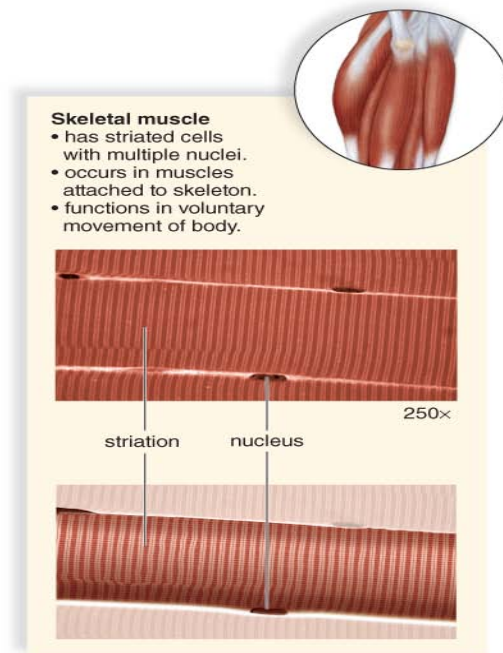
function: movement and body heat



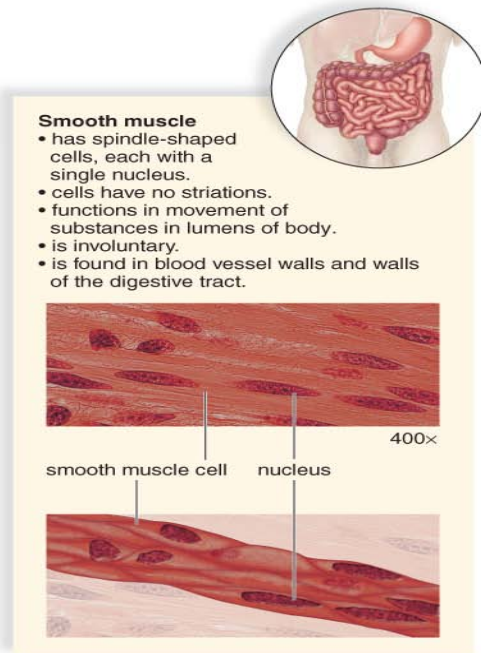
Muscles

skeletal: to bones, movement
cardiac: heart, blood flow
smooth: in organs, organ mvmt.

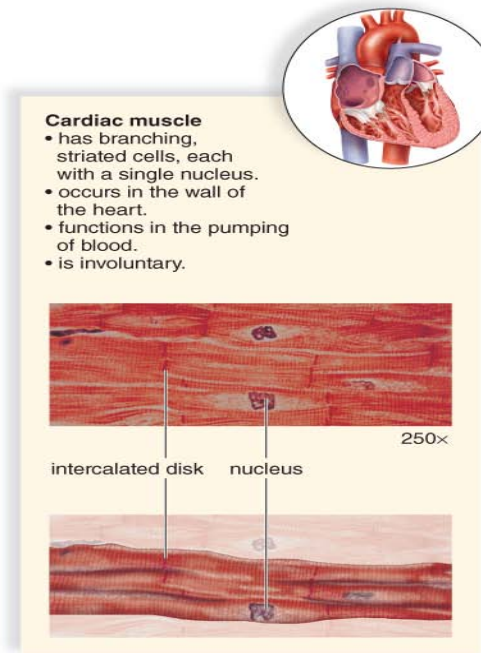
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a.



b.



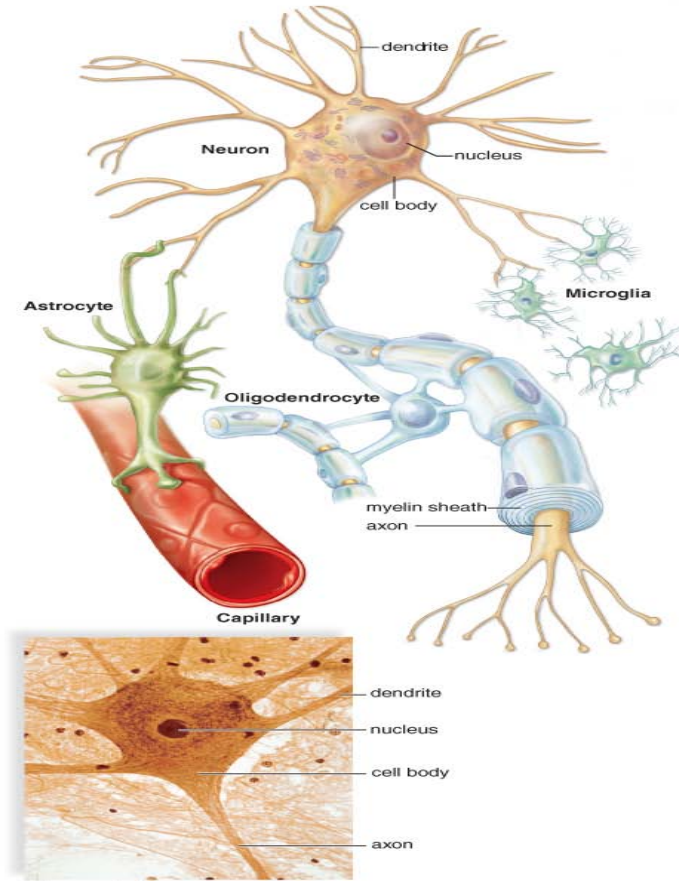
c.

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Nervous Tissue

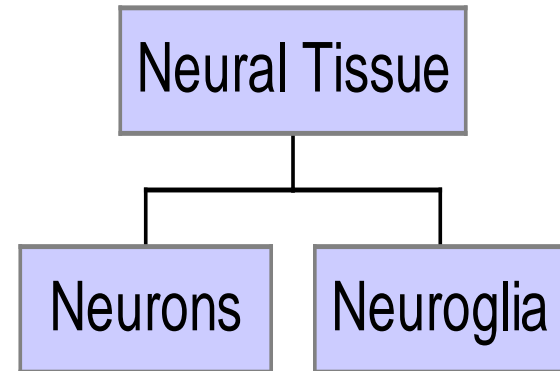
function: coordinate body activities, reasoning, memory

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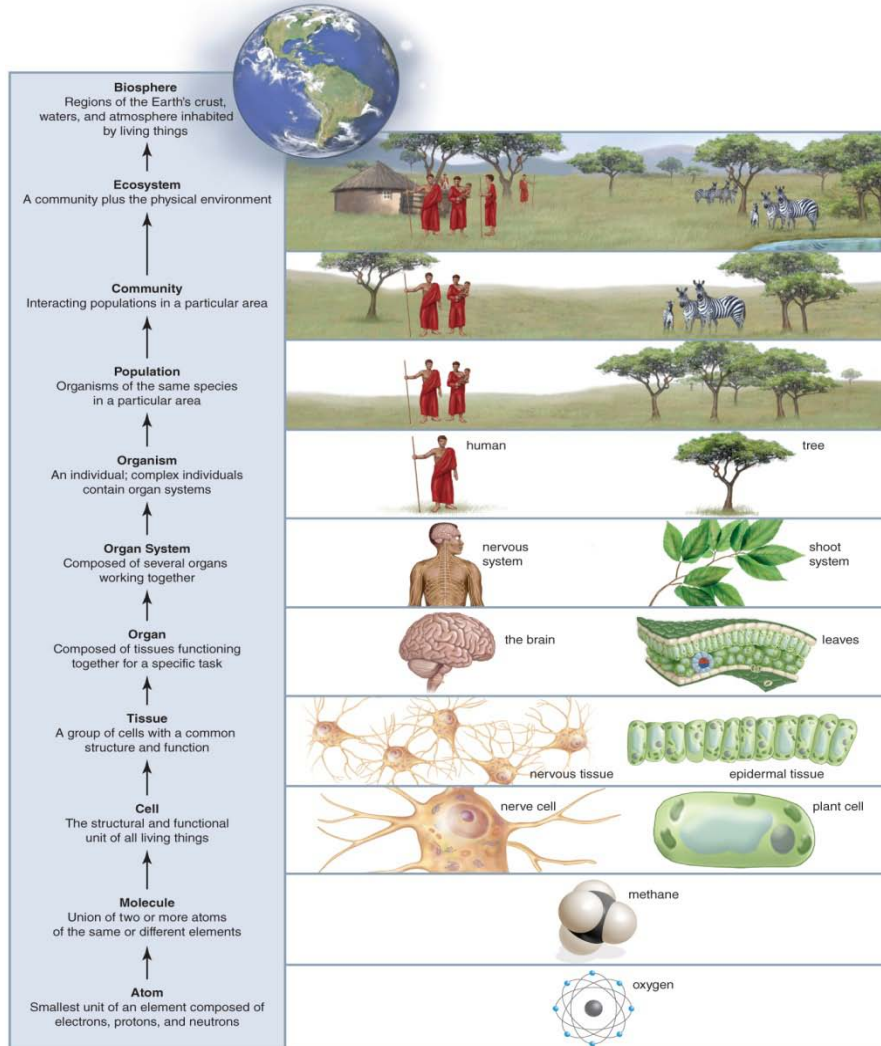
Micrograph of neuron

(bottom): © Ed Reschke



Review - Biol. Levels

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Biol level

atom, molecule,
cell, tissue, organ
organ system,
organism

Social level

organism, population,
community

Ecological level

community,
ecosystem, biosphere

Review: Cells to Organ Systems

cell:

- 1) evolution
- 2) organelles
- 3) cell transport
- 4) cell energy

tissues:

- 1) epithelial
- 2) connective
- 3) muscle
- 4) nervous

organ systems:

- 1) integumentary
- 2) 11 systems

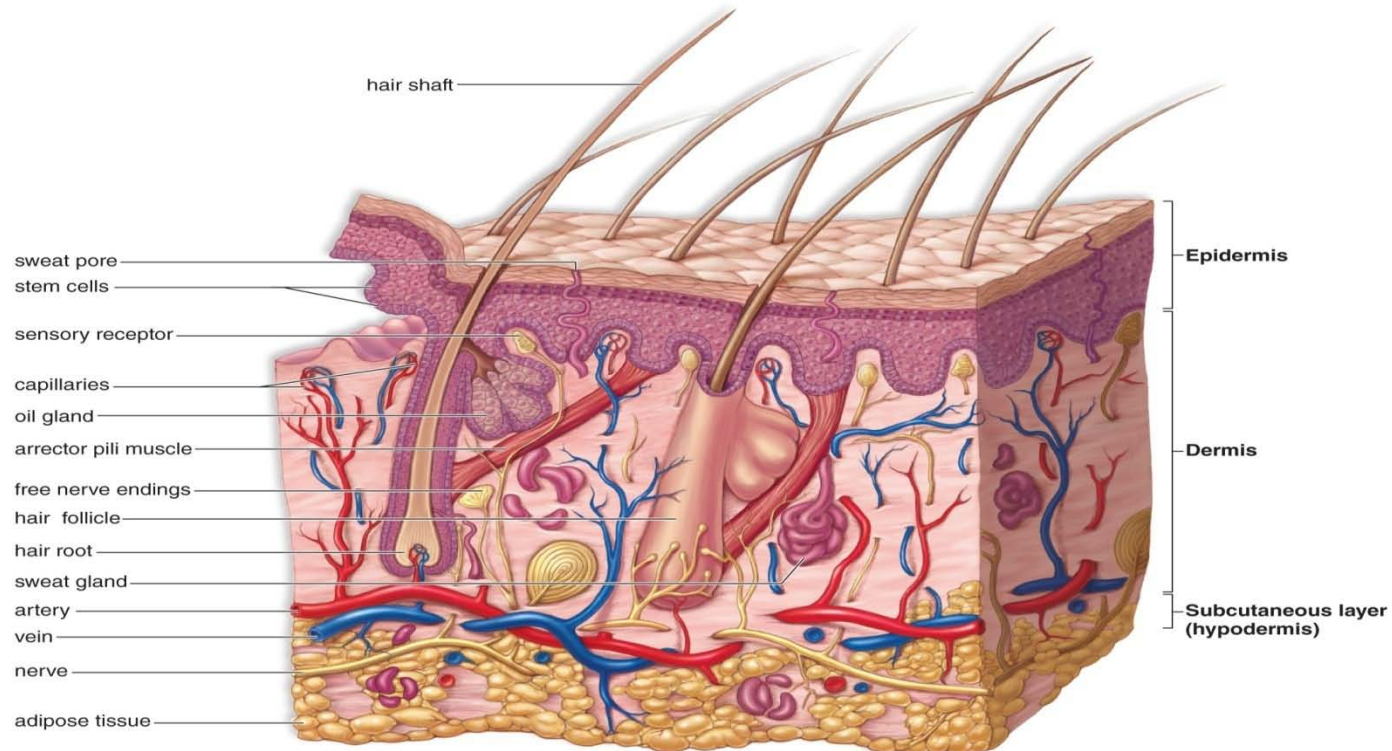
Integumentary System

skin: 20 sq ft, 15% body weight

function: protect, microbes, water loss, temp. reg., sensation

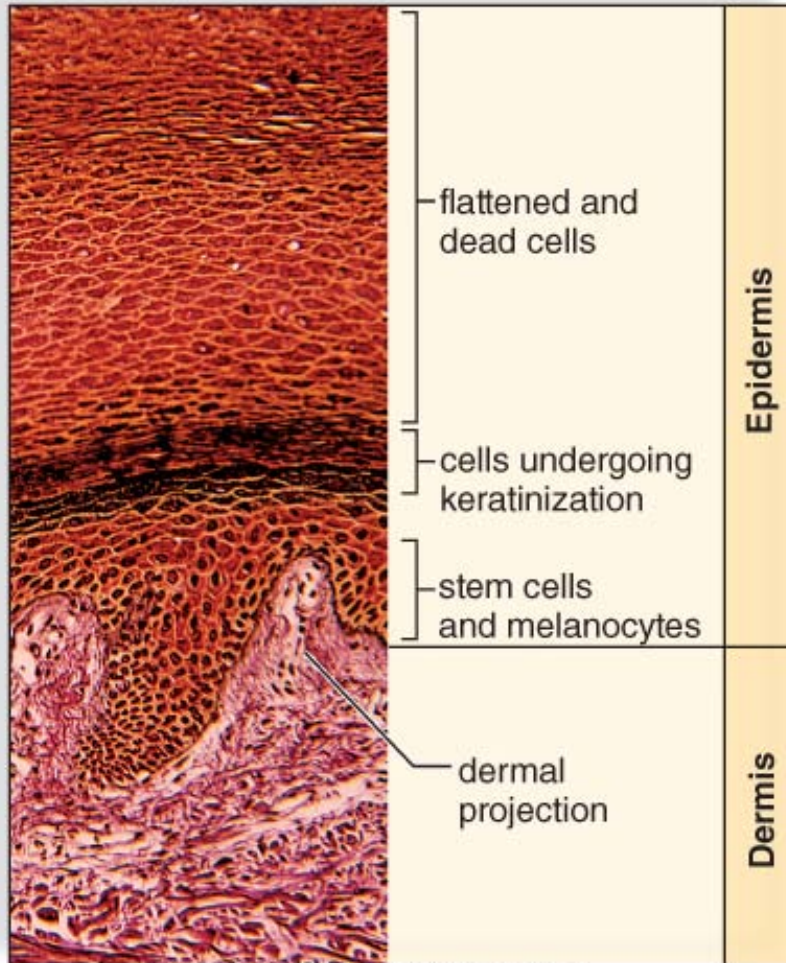
3 layers: epidermis, dermis, hypodermis

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Skin Layers

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outside (dead cells)
-> inside (live cells)

- 1) dead, flat cells**
- flakes, washes off
- 2) part dead cells**
w/ keratin
- harder cells
- 3) live stems cells**
& melanocytes
- color, towards sun
- 4) dermal projection**
- finger ridges
- finger prints