Unit 3 Study Guide: Tissues (Chapter 5)

* Define tissue
* What are the 4 major groups of tissues?
* **Epithelial tissue** 
  + Distinct surfaces: lateral, basal, apical
    - Always has a free surface
    - Basal surface connected to basement membrane
      * What does basement membrane consist of?
  + Characteristics of epithelial tissue (see notes)
    - Ex. Avascularity- why would this be important?
    - Ex. Regeneration- why would this be important?
  + Epithelial functions
  + Structures
    - Basement membrane
    - Intercellular junctions
      * Tight, adhering, desmosomes, and gap junctions
        + What is a function of each one?
  + Classification of epithelial tissue
    - Two-part name:
      * First part is based on number of layers
        + Simple
        + Stratified
        + Pseudostratified
      * Second part is based on shape
        + Squamous
        + Cuboidal
        + Columnar
        + Transitional
    - Simple squamous
      * Where found
      * Function?
      * Identify via illustration or real image
    - Simple cuboidal
      * Where found
      * Function?
      * Identify via illustration or real image
    - Simple columnar
      * Where found
      * Function?
      * Identify via illustration or real image
      * Ciliated vs. nonciliated (be able to identify)
      * Goblet cells (identify and explain function)
    - Pseudostratified columnar
      * Where found
      * Function?
      * Identify via illustration or real image
      * Ciliated vs. nonciliated (be able to identify)
    - Stratified squamous
      * Where found
      * Function?
      * Identify via illustration or real image
    - Stratified cuboidal
      * Where found
      * Function?
      * Identify via illustration or real image
    - Stratified columnar
      * Where found
      * Function?
      * Identify via illustration or real image
    - Transitional epithelium
      * Where found
      * Function?
      * Identify via illustration or real image
  + Glandular epithelium
    - Function
    - Exocrine vs. endocrine
    - Simple vs. compound (identify and describe)
      * Tubular vs. alveolar (identify)
    - Merocrine, holocrine, apocrine
* **Connective Tissue**
  + Functions
  + Matrix
  + Major cell types
    - Fixed cells
      * Ex. Fibroblast, mast cell
    - Wandering cells
      * Ex. Macrophage
  + Connective tissue fibers
    - Collagenous fibers
      * Dense vs. loose in terms of amount of collagen
    - Elastic fibers
    - Reticular
  + Categories of connective tissue
    - Connective tissue proper
      * Loose connective tissue, adipose, reticular, dense, and elastic
    - Specialized connective tissue
      * Blood, bone, and cartilage
  + Loose connective tissue/areolar
    - Function
    - Identification
  + Adipose
    - Function
  + Identification
    - Adipocyte
  + Dense connective tissue
    - Irregular vs. regular
      * Identification and function
  + Elastic connective tissue
  + Cartilage
    - Chondrocyte
    - Function
    - Identification
    - Hyaline, elastic, fibrocartilage
      * Identify
  + Bone
    - Most rigid connective tissue
    - Functions
    - Osteocyte
    - Lamellae
    - Haversian canals
    - Osteon/Haversian system
    - Label and identify all structures
  + Blood
    - Fluid matrix called plasma
    - White blood cells, red blood cells, platelets
* **Muscle Tissue**
  + Muscle cells=muscle fibers
  + Three types: cardiac, skeletal, smooth
  + Skeletal muscle
    - Function
    - Identification
    - Striations
    - Voluntary or involuntary?
    - Multinucleated
  + Smooth muscle
    - Lack striations
    - Function
    - Identification
    - Involuntary
    - Spindle-shaped
    - Centrally located nucleus
  + Cardiac muscle
    - Striations
    - Only the heart
    - Cells joined end-to-end
    - Junction between cells= intercalated disc
    - Involuntary
    - Function
    - Identification
* **Nervous Tissue**
  + Brain, spinal cord, peripheral nerves
  + Function
  + Neurons- what do these do?
  + Neuroglial cells- what do these do?
* **Membranes**
  + Definition of an organ
  + Epithelial membranes
    - Serous
    - Mucus
    - Cutaneous