

## Chapter 4 Anatomy Study Guide

1. Explain the difference between a **tissue** and an **organ**.

2. Identify the four major categories of tissues (*epithelial, connective, muscle, and nervous*) based on the given functions and/or other characteristics:

<i>Tissue that is classified based on the shape of cells</i> _____	<i>Tissue that has an extensive extracellular matrix</i> _____	<i>Tissue that undergoes mitosis on continuous basis</i> _____	<i>Tissue that contains no blood vessels</i> _____	<i>Tissue that has a free surface on one side</i> _____
<i>Tissue that covers and protects surfaces and lines cavities</i> _____	<i>Tissue that can contract when stimulated</i> _____	<i>Tissue that has the most diverse types of cells</i> _____	<i>Tissue that is associated with cilia</i> _____	<i>Tissue that coordinates and regulates body functions</i> _____
<i>Tissue that has cells (chondrocytes) in the lacunae</i> _____	<i>Tissue that is associated with goblet cells</i> _____	<i>Tissue that would be studied by osteology</i> _____	<i>Tissue associated with osteocytes that reside in lacunae</i> _____	

3. Distinguish between the **simple** and **stratified** epithelial tissues.

4. Explain the differences between a **simple columnar** epithelium and **pseudostratified** epithelium.

5. Distinguish between **stratified squamous** epithelium and **transitional** epithelium.

6. What are **goblet cells**? In which tissues are they found?

7. Identify epithelial tissue type (*simple squamous epithelium, simple cuboidal epithelium, simple columnar epithelium, stratified squamous epithelium, stratified cuboidal epithelium, stratified columnar epithelium, pseudostratified epithelium, transitional epithelium*) based on its description, location and function. (see chart!)

Made up of a single row of cells of the same height and width _____	Composed of many disorganized layers of irregular cells and allow stretching _____	May contain goblet cells and cilia _____ _____ _____	Composed of a single layer of tall cells where some cells do not reach the surface _____	Tissue that has cube like cells which become flattened at the surface _____
Tissue found as the outer layer of the skin _____	Made up of one layer of flattened thin cells specialized for diffusion _____	A selectively permeable barrier that regulates what substances can enter or leave the cell _____	A double membrane that allows only certain substances to leave the nucleus _____	A network of tubes and channels that is used to transport material throughout the cell _____

8. Identify connective tissue type (*areolar, adipose, dense regular, dense irregular, hyaline cartilage, elastic cartilage, fibrocartilage, bone, and blood*) based on its description. (see chart!)

Contains fibroblasts surrounded by bundles of collagen fibers that no organization _____	Which tissue has an appearance of plastic or glass without visible fibers? _____	Which tissue contains a jelly-like ground matrix with collagen, elastin, and reticular fibers found between dispersed fibroblasts? _____	Which tissue consists of enlarged cells with very little matrix in between? _____	Which tissue contains osteocytes surrounded by a calcified matrix of collagen fibers? _____
Tissue is also called fat _____	Contains a variety of cells in the liquid matrix _____	Which cartilage is the most common in the human body? _____	Contains chondrocytes surrounded by many clearly visible collagen fibers _____	Which cartilage is the most flexible? _____

9. Identify components of the blood as *red blood cells, white blood cells, or platelets* based on description & function.

Which cells protect from diseases? _____	Which cells carry oxygen to cells? _____	Which cells involved with blood clotting? _____	Which cells do not have nuclei? _____	Which cells have large nuclei? _____
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10. What are **lacunae**? In which tissues are they found?

13. Distinguish between *cardiac muscle, smooth muscle, and skeletal muscle* tissues based on their characteristics, location and function. (see chart!)

Muscle tissue with branched cells _____	Muscle that is striated and voluntary _____	Muscle that is nonstriated and involuntary _____	Muscle that is striated and involuntary _____	Solution that causes no change in the cell size _____
Tissue in which cells have many nuclei _____	Tissue made up of spindle-shaped cells _____	Contain cells that are cylindrical in shape _____	Muscle that provides movement in the walls of the internal organs _____	Muscle tissue attached to bones _____

14. Identify each cell or component of the tissues based on their description and/or location.

<i>Cells that produce collagen fibers</i> _____	<i>Fibers that provide a delicate support as it forms a network of fine fibers</i> _____	<i>Cells that provide support and nourishment to neurons</i> _____	<i>Fibers that allow a tissue to return to its original shape after stretching</i> _____	<i>Mature bone cells that are found within calcified matrix</i> _____
<i>Name of cartilage cells</i> _____	<i>Cells that conduct impulses</i> _____	<i>Fibers that are thick and strong</i> _____	<i>Chambers within which cartilage and bone cells reside</i> _____	<i>Extracellular space in connective tissues</i> _____

15. Why is a **membrane** considered to be an organ?

16. Distinguish between *mucous, synovial, cutaneous, serous membranes, and meninges*

<i>Membranes that line tubular organs that open to the outside</i> _____	<i>Membranes that line ventral body cavities</i> _____	<i>Membranes that line dorsal body cavities</i> _____	<i>Membranes associated with joints</i> _____	<i>Membranes that provide an outer covering to the body</i> _____
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17. Distinguish between *peritoneum, pleura, and pericardium*.

<i>Serous membranes around the lungs</i> _____	<i>Serous membranes that surround many organs of abdominopelvic cavity</i> _____	<i>Serous membrane that is associated with the heart</i> _____
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