**Anatomy Worksheet 1**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Anatomical Landmarks, Epithelial and Connective Tissues**

**Exercise 1. 1)** Anatomical Landmarks: Match each term (letter) once with its description below.

**A.** Sural **D.** Antebrachium **G.** Popliteal **J.** Gluteus **L.** Crural

**B.** Inguinal **E.** Olecranon **H.** Cranial **K.** Axilla **M.** Manus

**C.** Antecubital **F.** Femoral **I.** Patellar **L.** Pollex **N.** Tarsus

**1.** \_\_\_ The forearm region of the body. **7.** \_\_\_ Refers to the ankle region.

**2.** \_\_\_ Term for the hand. **8.** \_\_\_ Region of the leg.

**3.** \_\_\_ Region of the back of the knee. **9.** \_\_\_ Term for the skull and associated structures.

**4.** \_\_\_ Often called the groin region. **10.** \_\_\_ The back of the leg, or the calf region.

**5.** \_\_\_ Refers to the back of the elbow. **11.** \_\_\_ The thigh region of the body.

**6.** \_\_\_ The front region of the elbow. **12.** \_\_\_ The front knee region.

**2)** Make a quick sketch below of a pencil cut: **a)** perpendicular to its longitudinal axis, and **b)** in its longitudinal plane. **a)**  **b)**

**Exercise 2.** Epithelial Tissue Descriptions

**1.** Define the term Tissue:

**2.** Listand describe five common ***characteristics*** (not functions) of all epithelial tissue:

1)

2)

3)

4)

5)

**Epithelial Tissue Fill-Ins**

1) The epithelium found in your mouth is named: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2) The entire structure that attaches epithelium to underlying CT is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

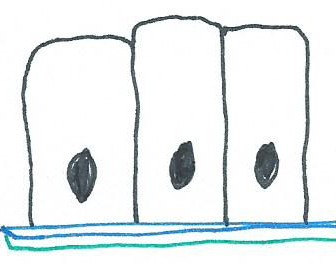
3) In serous membranes, the type of epithelium is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

4) Multicellular exocrine glands that contain branching ducts are classified as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ glands.

5) Endocrine glands, such as the pancreas and thyroid, are made from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ tissue.

6) Cell attachments at apical end to prevent passage of unwanted things are \_\_\_\_\_\_\_\_\_\_\_\_\_­\_\_\_\_\_\_\_\_\_\_.

**3.** For each of these epithelial tissues shown, give details of the following: **a)** The number of cell layers, shape of exposed cell layer and location and shape of nucleus in (most) cells; **b)** the major function of the tissue; and **c)** a specific example of the location of this tissue in the body.



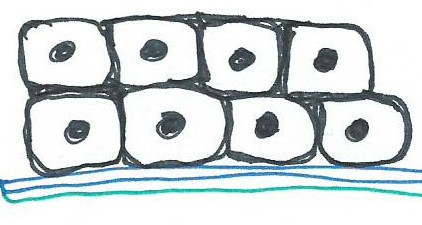
**1)** Simple columnar epithelium

a)

b)

c)

**2)** Stratified cuboidal epithelium

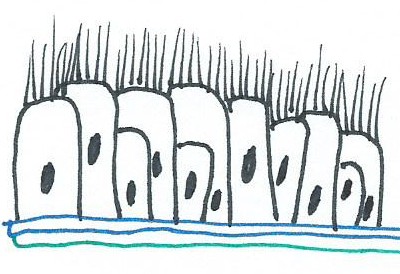


a)

b)

c)

**3)** Pseudostratified ciliated columnar epithelium



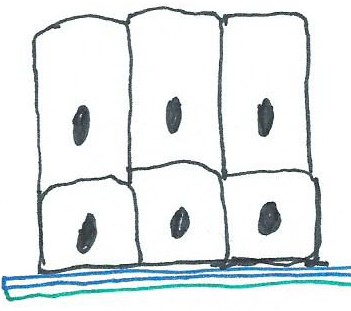
a)

b)

c)

**4)** Simple squamous epithelium

a)



b)

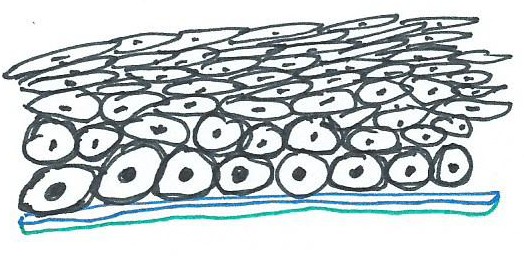
c)

**5)** Stratified columnar epithelium

a)

b)

c)



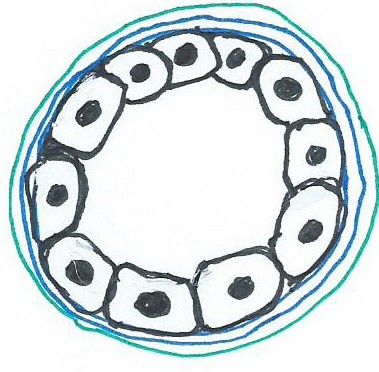
**6)** Stratified squamous epithelium

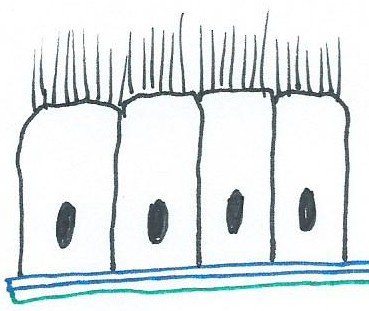
a)

b)

c)

a) b)





**7)** Name the tissues **a)** and **b)** below and an example of where they would be located

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Exercise 3. Connective Tissue Descriptions and Fill-ins**

**1.** List the 3 *elements* that all connective tissues have in common:

1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**2.** Name the two types of fluid connective tissue: 1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and 2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**3.** What connective tissue (CT) is found in: **1)** the deep layer of the dermis of the skin; **2)** the spleen.

1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and 2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**4. Histamine**, which dilates small blood vessels during inflammation, is secreted by \_\_\_\_\_\_\_\_\_\_\_\_\_\_ cells.

**5.** What is the major distinction between Loose and Dense CT? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**6.** List the 3 types of Loose CT, 2 places where they’re found in the body (location) and their functions.

**1)**

**2)**

**3)**

**7.** Name 3 examples of Dense CT, 2 places where they’re found in the body (location) and functions.

**1)**

**2)**

**3)**

**8.** List and briefly describe the 3 different types of *Cartilage* and where are they found in the body.

**1)**

**2)**

**3)**

**9.** For **Elastic Cartilage**, list the following: **1)** specializedcells; **2)** fibers; and 3**)** ground substance in.

**1)**

**2)**

**3)**

**Exercise 4.** Muscle Tissue

**1)** The 3 types of muscle in the body are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**2)** Fill-in the blank with the appropriate type of muscle tissue for each statement:

a) striated and voluntary \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. b) striated and involuntary \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

c) non-striated and involuntary \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. d) has intercalated discs \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

e) has multiple nuclei \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. f) found in blood vessels \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

g) what type of muscle makes the hairs on your arm "stand on end"? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

h) heart is made of this muscle \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. i) the stomach has this muscle \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

j) what specific type of muscle makes up most of the muscle in your arms? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Exercise 5.** Epithelial and Connective Tissues: Match each term (letter) with its description below.

A. Transitional Epi.

B. Adipose CT

C. Simple cuboidal Epi.

D. Dense irregular CT

E. Simple columnar Epi.

F. Macrophage

G. Stratified squamous Epi.

H. Fibroblast

I. Pseudostratified columnar

K. Cartilage CT

L. Mast cell

M. Simple squamous Epi.

1. \_\_\_ Lines inner surface of the stomach and intestine
2. \_\_\_ Lines urinary tract, as in the urinary bladder, permitting distention when full
3. \_\_\_ Lines the mouth; present on outer surface of skin
4. \_\_\_ Single layer of cube-shaped cells; found in kidney tubules and ducts of some glands
5. \_\_\_ Lines air sacs of lungs (alveoli) where thin cells are required for gases diffusion (exchange)
6. \_\_\_ Not a true stratified tissue; all cells on basement membrane, but some do not reach surface
7. \_\_\_ Stores fat and provides energy storage and insulation
8. \_\_\_ Phagocytic cell; engulfs bacteria and cleans up debris; important during infection
9. \_\_\_ Produces collagen and elastic fibers in injured tissue
10. \_\_\_ Cell found in CT and in walls of blood vessels; produces histamine to dilates blood vessels
11. \_\_\_ Contains lacunae and chondrocytes
12. \_\_\_ Forms fasciae and dermis of skin

**Exercise 6.** Multiple Choice Questions for Epithelial and Connective Tissue.

**1.** Simple squamous epithelial tissue that lines the heart, blood vessels, and lymphatic vessels is “called”

**a)** transitional **b)** adipose **c)** endothelium **d)** mesothelium **e)** reticular

**2.** Stratified epithelium is usually found in areas of the body where the principal function is

**a)** filtration **b)** absorption **c)** secretion **d)** diffusion **e)** protection

**3.** If ciliated epithelium were destroyed by disease, it would cause the biggest problem in which system?

**a)** digestive **b)** respiratory **c)** skeletal **d)** cardiovascular

**4.** A gland

**a)** is either exocrine or endocrine **b)** may be single celled or multicellular **c)** consists of epithelial tissue

**d)** is described by all of the preceding statements

**5.** Which of the following statements is not correct?

**a)** Simple squamous epithelium lines blood vessels **b)** Transitional epithelium is found in the bladder

**c)** Endothelium is composed of cuboidal cells **d)** Ciliated epithelium is found in the respiratory system

**6.** Torn ligaments would involve damage to which connective tissue?

**a)** dense regular **b)** reticular **c)** elastic **d)** areolar **e)** dense irregular

**7.** Which statement best describes connective tissue?

**a)** It usually contains a large amount of matrix. **b)** It's always arranged in a single layer of cells.

**c)** It's primarily concerned with making secretions. **d)** It usually lines body cavities.

**8.** A sublingual gland contains a branched duct and flask-like secretory portions, thus it’s classified as

**a)** simple coiled tubular **b)** compound acinar **c)** simple acinar **d)** compound tubular **e)** endocrine

**9.** Which tissue forms articular cartilage and costal cartilage?

**a)** fibrocartilage **b)** elastic cartilage **c)** adipose **d)** hyaline cartilage **e)** reticular cartilage

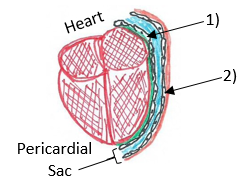
**10.** Membranes that line cavities that open directly to the exterior are called \_\_\_\_\_\_\_\_\_\_\_ membranes.

**a)** synovial **b)** serous **c)** mucous **d)** cutaneous **e)** exocrine

**Thoughtful Questions:** Try to be as comprehensive in your answer as you can.

**1.** What functional problem might occur if the digestive tract were lined with stratified squamous epithelium instead of simple columnar epithelium?

**2.** There are always two (2) components to a **serous membrane**: Identify them below.



1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**3.** What if I asked you to tell me the position of the heart in relation to the diaphragm? You might say it’s \_\_\_\_\_\_\_\_\_\_\_\_\_. Then I’d say, “Nu uh, not when I’m lying in the sun getting my precious vitamin D!” Take this opportunity to explain to me why the anatomical position is used as a frame of reference?