

Classification of Tissues

Tissue Structure and Function: General Review

1. Define *tissue*: Specialized Group / Collection of Cells which
specific functional role(s).

2. Use the key choices to identify the major tissue types described below.

Key: connective epithelium muscular nervous

Epithelium

1. lines body cavities and covers the body's external surface

Muscular

2. pumps blood, flushes urine out of the body, allows one to swing a bat

Nervous

3. transmits waves of excitation

CT

4. anchors and packages body organs

Epithelium

5. cells may absorb, protect, or form a filtering membrane

Nervous

6. most involved in regulating body functions quickly

Muscular

7. major function is to contract

CT

8. the most durable tissue type

Nervous

9. abundant nonliving extracellular matrix

10. forms nerves

Epithelial Tissue

3. On what bases are epithelial tissues classified? Shape Numbers of Layers

Even Functional

4. How is the function of an epithelium reflected in its arrangement?

1 Stratified Function Protection

5. Where is ciliated epithelium found?

Pseudostratified in Respiratory Tract

What role does it play?

Propel Mucus and Particles Away of the Lungs

Up + Out

6. Transitional epithelium is actually stratified squamous epithelium, but there is something special about it.

How does it differ structurally from other stratified squamous epithelia? Stretches + Resists Tension, when relax apical cells are cuboidal

How does this structural difference reflect its function in the body? Allows it to hold and contain urine, preventing it from backing up

7. Respond to the following with the key choices.

Key: pseudostratified ciliated columnar simple cuboidal stratified squamous
 simple columnar simple squamous transitional

- Stratified Squamous 1. best suited for areas subject to friction
- Pseudo Stratified Ciliated 2. propels substances across its surface
- Simple Squamous 3. most suited for rapid diffusion
- Simple Cuboidal 4. tubules of the kidney
- Pseudostratified 5. lines much of the respiratory tract
- Transitional 6. stretches
- Simple Columnar 7. lines the small and large intestines
- Stratified Squamous 8. lining of the esophagus
- Transitional 9. lining of the bladder
- Simple Squamous 10. Alveolar sacs (air sacs) of the lungs

Connective Tissue

8. What is the makeup of the matrix in connective tissues? _____

9. How are the functions of connective tissue reflected in its structure? _____

EPITHELIAL TISSUES

PART A

Match the tissues in column A with the characteristics in column B. Place the letter of your choice in the space provided. (Some answers may be used more than once.)

Column A

- a. Simple columnar epithelium
- b. Simple cuboidal epithelium
- c. Simple squamous epithelium
- d. Pseudostratified columnar epithelium
- e. Stratified squamous epithelium
- f. Transitional epithelium

Column B

- F/E 1. Consists of several layers of cube-shaped and elongated cells
- D 2. Commonly possesses cilia that move sex cells and mucus
- C 3. Single layer of flattened cells
- D 4. Nuclei located at different levels within cells
- C 5. Forms walls of capillaries and air sacs of lungs
- D 6. Forms linings of respiratory passages
- E 7. Younger cells cuboidal, older cells flattened
- F 8. Forms inner lining of urinary bladder
- B 9. Lines kidney tubules and ducts of salivary glands
- A 10. Forms lining of stomach and intestines
- A 11. Nuclei located near basement membrane
- E 12. Forms lining of oral cavity, anal canal, and vagina

Name That Epithelial Tissue!!

1. Forms the outer layer of your skin Keratinized Stratified Squamous
2. Lines the passage of the respiratory system Pseudostratified Ciliated
3. Thin tissues where substances can diffuse across easily Simple Squamous
4. A good site for oxygen and carbon dioxide exchange Simple Squamous
5. Functions in secretion and absorption and lines the kidneys Simple Cuboidal
6. Secretes digestive fluids to help absorb digested food Simple Columnar
7. Found in both male and female reproductive systems in areas where egg and sperm formation occurs. Simple Columnar (Tends to be ciliated)
8. Found making up the wall of blood vessels Simple Squamous
9. The nucleus is found near the basement membrane Simple Columnar
10. Lines your trachea and sinuses (Respiratory) Pseudostratified Ciliated
11. Located in sweat and mammary glands with extra protection Stratified Cuboidal
12. Have cilia that help in moving substances Simple Columnar Pseudostratified
13. Lines the stomach and intestines Simple Columnar
14. They have a sticky substance that helps trap dust and move it out of your airways Pseudostratified
15. They have goblet cells Pseudostratified + Simple Columnar
16. Produces a tough dry protective material that keeps out water and other substances Keratinized Stratified Squamous
17. Can be stretched or unstretched and stops the urine from going backwards into your system Transitional