

# GENERAL BIOLOGY

## Intro to Animal Structure/Function

1. A group of cells with a common structure and function is called a:
  - a. Membrane
  - b. Muscle
  - c. Tissue
  - d. Epithelium
  - e. Skin
  
2. The human body contains four main tissue types. Name them:
  
  
  
  
  
  
  
  
  
  
3. A type of epithelium that secretes a moist, lubricating substance is known as a:
  - a. Serous membrane
  - b. Mesentary
  - c. Matrix
  - d. Mucous membrane
  - e. Squamous membrane
  
  
  
  
  
  
  
  
  
  
4. What are the three shapes of epithelial cells? Sketch each shape below.
  
  
  
  
  
  
  
  
  
  
5. In addition, epithelial tissue can be composed of a single layer or many layers. A single layer is termed \_\_\_\_\_ and a multi-layered epithelium is known as \_\_\_\_\_.
  
  
  
  
  
  
  
  
  
  
6. The free surface of an epithelial membrane is exposed to:
  - a. The blood stream
  - b. The atmosphere
  - c. Bone
  - d. A & B
  - e. A & C
  - f. All of the above
  
  
  
  
  
  
  
  
  
  
7. The opposite of the free surface, or the area where the cells are attached, is called the \_\_\_\_\_.
  
  
  
  
  
  
  
  
  
  
8. **T/F** The skin is composed of simple squamous epithelium.

9. **T/F** Pseudostratified ciliated columnar epithelium could be found in the nose.
10. Define the prefix **pseudo-**.
11. The main function of \_\_\_\_\_ tissue is to bind, support, and encase other tissues.
12. A specialized form of loose connective tissue that serves as padding, insulation, and an energy reserve is:
- a. Cartilage
  - b. Elastic tissue
  - c. Bone
  - d. Muscle
  - e. Adipose
13. This type of connective tissue makes up the skeleton of sharks and human embryos:
- a. Adipose
  - b. Bone
  - c. Cartilage
  - d. Muscle
  - e. Ligaments
14. This tissue provides support and attachment sights for muscles:
- a. The skin
  - b. Cartilage
  - c. Adipose
  - d. Ligaments
  - e. Bone
15. Tendons and ligaments are examples of:
- a. Cardiac muscle
  - b. Elastic connective tissue
  - c. Cartilage
  - d. Dense regular connective tissue
  - e. Loose connective tissue
16. The nonliving, extracellular substance between cells is known as:
- a. A mucous membrane
  - b. A serous membrane
  - c. Matrix
  - d. Mesentary
  - e. Viscera

17. \_\_\_\_\_ tissue senses change in the surrounding environment, conducting receptive and responsive impulses throughout the body.
18. The cells that make up this tissue (from #17) are called \_\_\_\_\_ . They are specifically designed to conduct impulses.
19. Visceral or \_\_\_\_\_ muscle is found in:
- a. The digestive tract
  - b. Large blood vessels
  - c. The Urinary bladder
  - d. A & B
  - e. A & C
  - f. All of the above
  - G. None of the above
20. List three aspects of cardiac muscle which aid in tissue identification.
21. Cardiac muscle is found in:
- a. The lungs
  - b. The walls of large arteries
  - c. The heart
  - d. The Spleen
  - e. A & C
22. Skeletal muscle is:
- a. Striated
  - b. Involuntary
  - c. Voluntary
  - d. Multi-nucleated
  - e. A & C
  - f. B & D
  - g. A, C, and D

23. A group of tissues working together to perform a common function is known as:
- a. An organ
  - b. A system
  - c. A set point
  - d. A population
  - e. B & D
24. Which type of muscle is involuntary?
25. Name all of the types of connective tissue. Give an example of each and where that example could be found in the body.
26. Red blood cells are constructed in:
- a. Yellow bone marrow
  - b. Red bone marrow
  - c. The spleen
  - d. The heart
  - e. Adipose tissue
  - f. A & D
27. The strongest protein fibers in connective tissue are:
- a. Elastic fibers
  - b. Collagen fibers
  - c. Reticular fibers
  - d. Fibrocytes
  - e. Macrophages
28. The repeating subunits of bone, composed of a concentric mineralized structure surrounding a central canal, are called:
- a. Osteocytes
  - b. Matrix systems
  - c. Mesentary
  - d. Haversian systems
  - e. Chondrocytes
29. Many organs are supported by a double-layered membrane of connective tissue called:
- a. Squamous membrane
  - b. Organ systems
  - c. Mesenteries
  - d. Retroperitoneums

30. Humans have two main cavities, an upper\_\_\_\_\_cavity, and a lower\_\_\_\_\_cavity. These cavities are divided by a flat muscle called the \_\_\_\_\_.
31. In your own words define **homeostasis**.
32. What is **negative** feedback? Why is it important in maintaining homeostasis? Draw an example of a system like this-show where feedback would typically occur.
33. What is **positive** feedback? Give an example of when positive feedback would be used in the human body.
34. What is interstitial fluid? Why is it important to the tissues in the body?

**INTRO TO ANIMAL STRUCTURE/FUNCTION  
ANSWER KEY**

1. C
2. Epithelial, connective, nervous, muscle
3. D
4. See text - columnar, cuboidal, squamous
5. Simple  
Stratified
6. D - free surface always faces a liquid or gas (eg. atmosphere)
7. Basement membrane or basilar surface
8. F - Stratified squamous
9. T
10. "False", as in pseudostratified - not true stratified
11. Connective
12. E
13. C
14. E
15. D

(animal)

16. C
17. Nervous
18. Neurons
19. Smooth, F
20. Strations, branching, intercalated discs
21. C
22. G
23. A
24. Smooth and cardiac  
Some people may have minimal levels of control over cardiac muscle - Buddhist monks and deep sea divers
25. Adipose - pacing around heart, deposits in buttocks, hips  
Bone - skull, femur, etc.  
Blood - you guess!  
Loose Connective Tissue (areolar) - attaches skin to underlying tissue, fills spaces between organs  
Dense Irregular C.T. - dermis layer of skin  
Dense Regular C.T. - Tendons, ligaments  
Cartilage - nose, ear, between ribs and sternum, at ends of long bones
26. B
27. B  
(animal)

28. D
29. C
30. Thoracic, abdominopelvic, diaphragm
31. The balanced internal environment of the body;  
the automatic tendency of an organism to maintain such  
a steady state
32. -used to maintain homeostasis  
    -involves several components:           ex: pulled muscle  
        1. controlled system                    pain  
        2. set point  
        3. receptor  
        4. processing center  
-the body reacts when it senses negative changes  
because it wants to reach homeostasis
33. Maximizes rather than minimizes the difference between the  
actual and the set point level of a variable (causes the  
level of a variable to change in the same direction as the  
initial change) example: child birth
34. -the fluid between the cell or body parts  
-bathes the tissues with nutrients and oxygen