

Tissue Level of Organization  
Chapter Four Study Guide  
Tortora & Derrickson

1. What is tissue?
2. What is histology?
3. What are the four tissue types? Structure and functions?
4. What is the significance of the relationship between cells and matrix? How does this differ between tissue types?
5. What are other terms that describe the extracellular material?
6. What structural criteria is used to describe epithelial cells?
7. What are the different shapes of epithelial cells?
8. What is the difference between non-keratinized and keratinized epithelial cells?  
Locations?
9. What structural criteria is used to describe connective tissue?
10. What three different protein fibers are found in connective tissue extracellular matrix?
11. What are glycosaminoglycans (GAG)? What is the most abundant GAG?  
Location?
12. What are proteoglycans (PG)? Where are they located? What type of molecule is associated with proteoglycans?
13. How are connective tissue fibers orientated? Significance?
14. How are connective tissue fibers orientated in tendons and ligaments?
15. How are connective tissue fibers orientated in a capsule surrounding an organ?
16. What type of tissue is fat?
17. What type of cells store fat?
18. What type of tissue is cartilage?
19. What are the three different types of cartilage? Give examples and their locations.
20. What type of tissue is bone?
21. What is the difference between spongy and compact bone?
22. What is an osteon?
23. Identify the following structures of an osteon: osteocyte, osteoblast, osteoclast, lacunae, canaliculi, lamellae, and central canal.
24. Why is blood classified as connective tissue?
25. What is the function of nervous tissue?
26. How is nervous tissue characterized?
27. What are the three types of muscle cells? Characteristics of each muscle type?
28. How is muscle tissue characterized?
29. What are cell junctions? What tissue type are associated with cell junctions?  
Structure and function.
30. What is a gland?
31. What tissue type is commonly associated with glands?
32. What is the difference between a secretion and an excretion?
33. What is the difference between an endocrine and exocrine glands?

34. Glands can be multicellular or unicellular structures. What is an example of a unicellular gland that looks like a “wine glass”? Where are they located?
35. What is the difference between a merocrine gland, holocrine gland, and apocrine gland?
36. Define the following terms: atrophy / hypertrophy/ hyperplasia / metaplasia / neoplasia.
37. What term describes how the epithelial lining of the trachea changes after chronic cigarette smoking?
38. What is regeneration?
39. What is fibrosis?
40. What are the stages of healing a skin wound?
41. Describe the following membranes: mucous, serous, synovial, and cutaneous.