

Tissue Level of Organization  
Chapter Four Study Guide  
Tortora & Derrickson

1. What is histology?
2. How is tissue defined?
3. What are the four different types of tissue? Describe their structure and functions?
4. What is the significance of the relationship between cells and their matrix between the tissue types?
5. What other terms are used to describe the extracellular material?
6. What are the characteristics of epithelial tissue?
7. What is the most common structural criteria used to describe epithelial cells?
8. What are the different shapes of epithelial cells?
9. What is the difference between non-keratinized and keratinized epithelial cells?  
Give Examples
10. What is connective tissue?
11. What are the three different types of protein fibers found in fibrous connective tissue?
12. What are glycosaminoglycans (GAG)? What is the most abundant GAG? Where do we find it?
13. What are proteoglycans (PG)? Where are they located? What type of molecule is associated with proteoglycans?
14. How are fibers in connective tissue arranged?
15. How may you describe the connective tissue fibers in tendons and ligaments?  
How are the fibers arranged differently to form capsules around organs?
16. What type of tissue is fat? What type of cells store fat? What term is used to describe fat cells and fat tissue?
17. What is cartilage?
18. What are the three different types of cartilage? Give examples and their locations.
19. What type of cartilage form the "C" shaped structures in the trachea?
20. What 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, canalicul, lamellae, and central canal.
24. Why is blood classified as connective tissue?
25. How is nervous tissue characterized?
26. How is muscle tissue characterized?
27. What are the three types of muscle cells? Characteristics.
28. What are cell junctions? Structure and function.
29. What is a gland?
30. What is the most common tissue type to form glands?
31. What is the difference between a secretion and an excretion?
32. What is the difference between an endocrine and exocrine glands?

33. 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?
34. What is the difference between a merocrine and holocrine gland?
35. Define the following terms: hyperplasia / hypertrophy / neoplasia / metaplasia
36. What term describes how the epithelial lining of the trachea changes after chronic cigarette smoking?
37. What is regeneration?
38. What is fibrosis?
39. What are the stages of healing a skin wound?
40. Describe the following membranes: mucous, serous, synovial, and cutaneous.