

Tissue Level of Organization
Chapter Four Study Guide
Tortora & Derrickson

1. What is histology?
2. What is tissue? Significance?
3. What are the four tissue types? Structure and functions?
4. What is the significance of the relationship between the tissues cells and tissue matrix?
5. What other terms may be used to describe the “extracellular material”?
6. What criteria is used to define epithelial tissue? First criteria? Second criteria? More?
7. What are the most common shapes of epithelial cells? General arrangement of cells?
8. What is the difference between non-keratinized and keratinized epithelial cells? Give Examples
9. What is connective tissue?
10. What determines the “characteristics” of a particular type of connective tissue?
11. What are the three types of protein fibers in fibrous connective tissue?
12. What is hyaluronic acid? Nickname?
13. What are proteoglycans (PG)?
14. How may the extracellular fibers in connective tissue be arranged?
15. How are the tendon's and ligament's extracellular fibers aligned?
16. How are the fibers in #15 arranged differently when they surround the skeletal muscle organ?
17. What tissue type is fat? What is the name of the cell that stores fat? Tissue called?
18. What tissue type is cartilage?
19. What are the three different types of cartilage? Give examples and their locations.
20. What type of cartilage form the “C” shaped structures in the trachea?
21. What tissue type is bone?
22. What is the difference between spongy and compact bone?
23. What is an osteon?
24. Identify the following structures of an osteon: osteocyte, osteoblast, osteoclast, lacunae, canalicul, lamellae, and central canal, periosteum, endosteum.
25. Why type of tissue is blood? Why?
26. What is blood's matrix called?
27. How single word best describes nervous tissue? Explain
28. How single word best describes muscle tissue? Explain
29. What are the three different types of muscle cells? Characteristics.
30. What are cell junctions? Structure and function.
31. What is a gland?
32. What tissue type form most glands?
33. What is the difference between a secretion and an excretion?
34. How are endocrine and exocrine glands different?

35. 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? What do they secrete?
36. What is the difference between a merocrine, apocrine, and holocrine gland?
37. Define the following terms: hyperplasia / hypertrophy / neoplasia / metaplasia
38. What term describes how the epithelial lining of the trachea changes after chronic cigarette smoking?
39. What is regeneration?
40. What is fibrosis? When is this likely to occur?
41. What is inflammation? Significance?
42. Describe the following membranes: mucous, serous, synovial, and cutaneous.
43. How is the tissue structure of mucous and serous membranes different? Draw and label.