What is Connective Tissue?

Worksheet

Connective tissue is a tissue type composed of cells dispersed in a large amount of extracellular matrix, providing structural support, binding, transport, and protection throughout the body.

Questions

1. Which fiber type gives connective tissue the most tensile strength?

A) Elastic fibers
B) Collagen fibers
C) Reticular fibers
D) Muscle fibers

2. Which connective tissue has a liquid extracellular matrix?

A) Bone
B) Cartilage
C) Blood
D) Tendon

3. What cell type produces the fibers and ground substance of connective tissue?

A) Osteocyte
B) Fibroblast
C) Neuron
D) Myocyte

4. Which connective tissue is found in tendons and provides high resistance to pulling forces?

A) Loose connective tissue
B) Adipose tissue
C) Dense regular connective tissue
D) Reticular tissue

5. Identify the connective tissue that connects muscle to bone and must resist strong pulling forces.

6. Which connective tissue cushions organs, stores energy, and insulates the body?

7. What connective tissue forms the rigid but slightly flexible framework of the nose and ear?

8. Define: What is connective tissue?

9. Define: What are the three components of extracellular matrix?

10. Define: Name three types of connective tissue proper.

Answer Key

1. B) Collagen fibers - Collagen fibers are strong and resist pulling forces.

2. C) Blood - Blood's matrix is plasma, a liquid, unlike the solid matrices of bone and cartilage.

3. B) Fibroblast - Fibroblasts secrete collagen, elastin, and ground substance.

4. C) Dense regular connective tissue - Dense regular connective tissue has tightly packed, parallel collagen fibers ideal for tendons.

5. This tissue needs high tensile strength. Densely packed parallel collagen fibers provide this strength. Answer: Dense regular connective tissue (tendon).

6. Cushioning and energy storage point to fat-storing cells. These cells are called adipocytes. The tissue made mostly of adipocytes is adipose tissue.

7. The structure must be firm yet flexible, unlike bone. This matches the properties of cartilage. Specifically, elastic cartilage, found in the ear and epiglottis.

8. A tissue type made of cells scattered in an abundant extracellular matrix that supports, binds, and protects other tissues.

9. Ground substance, fibers (collagen, elastic, reticular), and cells.

10. Loose (areolar), dense (regular/irregular), and adipose tissue.