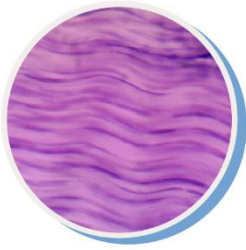


TOPIC: INTRODUCTION TO CONNECTIVE TISSUE

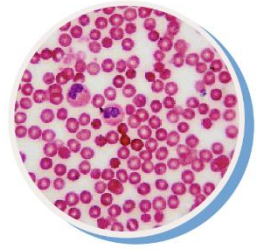
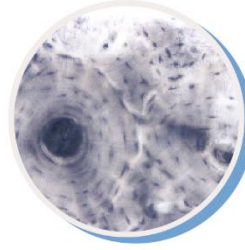
- **Connective Tissue:** the most abundant, widely distributed, & _____ tissue class.



Connective Tissue Proper



Cartilage



- However, despite the diversity, all connective tissues have the following in common:

1) derived from embryonic _____ & 2) *cells* occupy far _____ space than their ECM.

Structure of Connective Tissue

- Connective tissues have the most *prominent* _____.

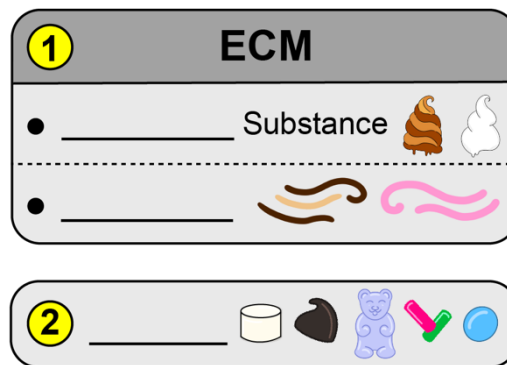
1 Extracellular Matrix (ECM): material _____ cells made of *ground substance* & *protein fibers*.

- **Ground Substance:** unstructured material between cells & fibers, ranges in viscosity (solid → liquid).
- **Protein Fibers:** different fibers contribute to tissue's physical properties: strength, flexibility, recoil.

2 Cells: cells secrete and maintain the ECM and support specialized functions of the connective tissue.

- **“-blast” cells:** immature cells that actively _____ & secrete ECM (E.g., *Fibroblasts*).
- **“-cyte” cells:** mature cells that *maintain* ECM (E.g., *Fibrocytes*).

EXAMPLE: How is connective tissue like ice-cream with different toppings *mixed* in?



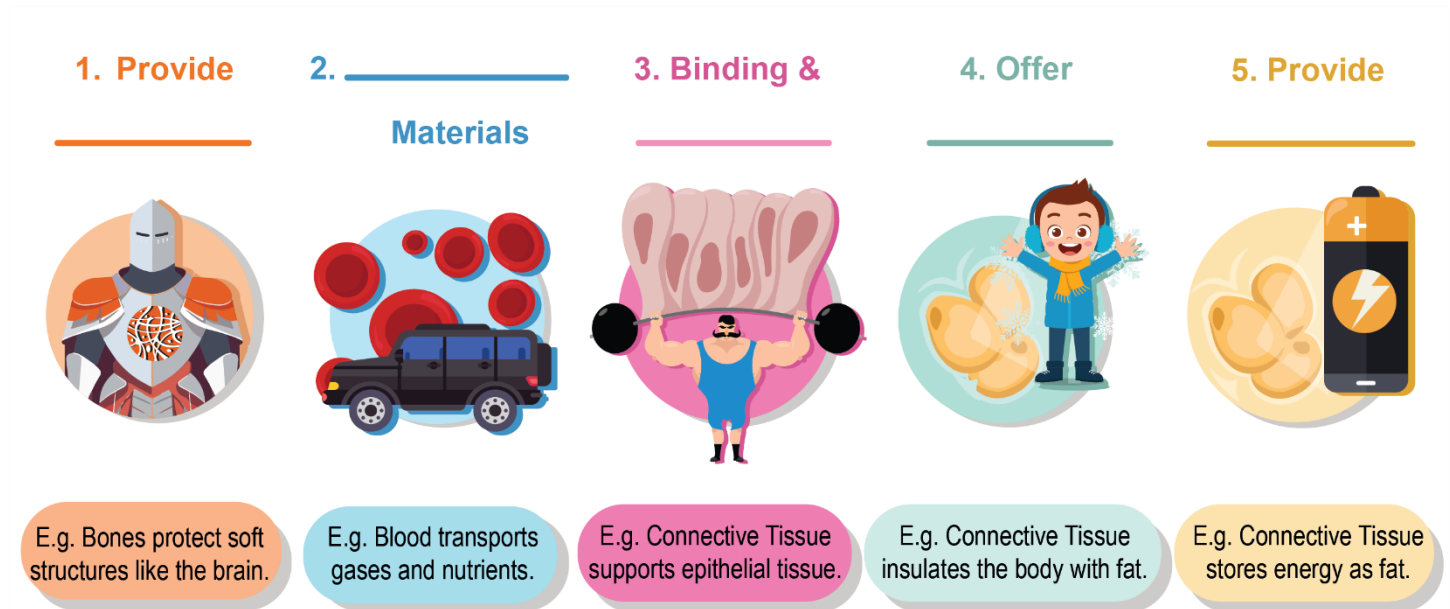
PRACTICE: What part of connective tissue takes up most of the volume?

- a) Extracellular Matrix b) Cells c) Epithelium d) Glands

TOPIC: INTRODUCTION TO CONNECTIVE TISSUE

Functions of Connective Tissue

- Connective tissue functions are very _____ but *can be* grouped into 5 main functions:



Functions: Epithelial vs. Connective Tissue

- Epithelial & connective tissue are both _____ in function & may seem to overlap a bit: let's compare them!

Epithelial Tissue	Function	Connective Tissue
	Protection	
	Transport	
Epithelial and nervous tissue work together to allow sensations.	Sensation	
Glands secrete products.	Secretion	
	Support	
	Insulation	Fat insulates the body.
	Storage	Bones store calcium.

TOPIC: INTRODUCTION TO CONNECTIVE TISSUE

EXAMPLE: What type of tissue is responsible for support of the body?

- a) Epithelial Tissue
- b) Connective Tissue
- c) Muscle Tissue
- d) Nervous Tissue

PRACTICE: During a dissection, a student comes across a tissue they don't recognize. They note it makes the internal structure of the spleen (an organ of the immune system that filters blood) and when they examine a section under the microscope, they see long dark branched structures, small circular cells, and a significant amount of ECM. What type of tissue could this be?

- a) Nervous Tissue
- b) Muscle Tissue
- c) Epithelial Tissue
- d) Connective Tissue

PRACTICE: Both epithelial and connective tissue are involved in transport of materials in the body. How do their functions differ?

- a) Epithelial tissue provides a mechanism of transport while connective tissue regulates transport.
- b) Epithelial tissue facilitates diffusion while connective tissue uses active transport.
- c) Epithelial tissue regulates transport while connective tissue provides a mechanism for transport.
- d) Epithelial tissue transports nutrients while connective tissue transports hormones.