**STATION 1**

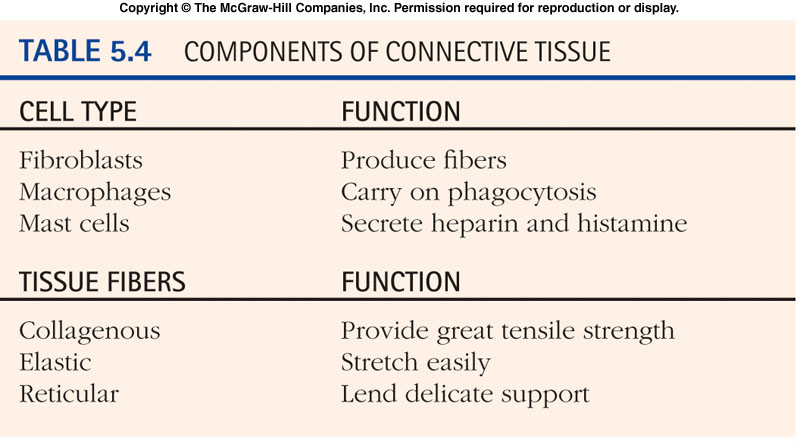
**Connective – General Characteristics**

*Use the information provided to fill in the chart in your notes.*

The most widespread, and the most varied of all the tissues is connective tissue. Existing in a variety of forms – ranging from tough cords to elastic sheets to fluid – connective tissue performs a variety of tasks. The overriding purposes of this seemingly diverse group of tissues are to connect the body together and to support, bind, or protect organs.

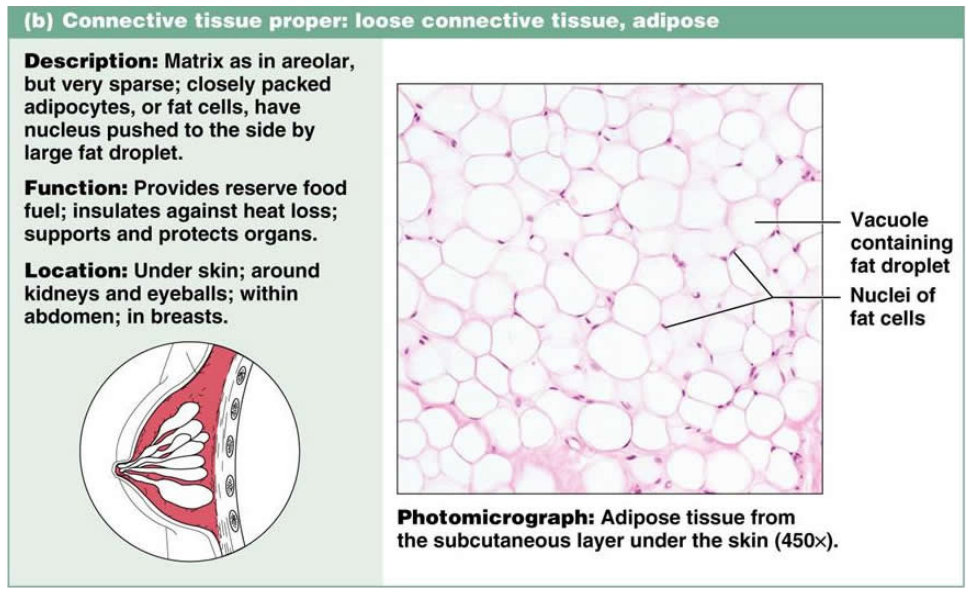
**Components of Connective Tissue**

The key component of connective tissue – called **extracellular matrix** – is what allows connective tissues to be so diverse. Extracellular matrix is the framework into which the cells of the tissue are embedded. The matrix consists of varying kinds and amounts of protein fibers and fluid; it’s the variation in composition that gives the tissue its characteristics. For example, the matrix of blood is fluid; it contains many cells but no fibers. In contrast, the matrix of bone contains few cells and many fibers, making it hard and brittle.

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**STATION 2**

**Connective Tissue Chart – Adipose**

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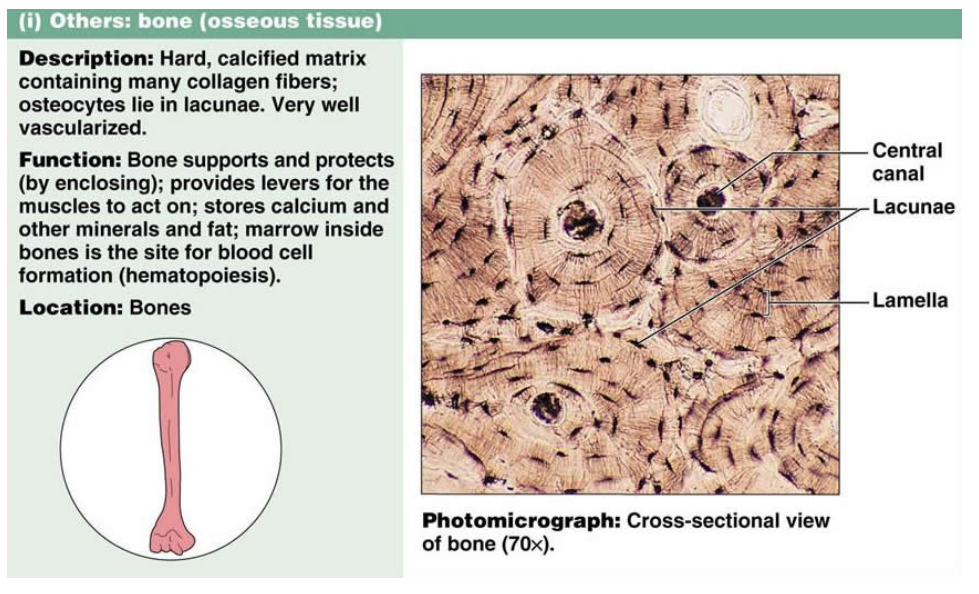
**Description –** closely packed adipocytes (adipo- = fat, -cyte = cell), nucleus is pushed off to the side

**Functions** – provides reserve food fuel, insulates against heat loss, supports and protects organs

**Location** – under the skin, surrounding the kidney and heart, around the eyeball

**STATION 2**

**Connective Tissue Chart – Bone**

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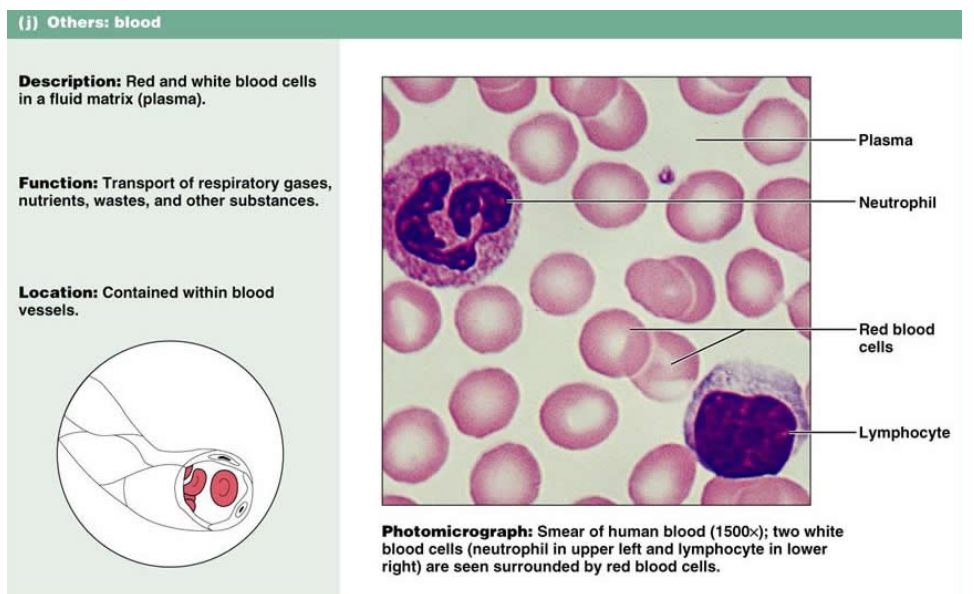
**Description -** made of a hard, calcified matrix, several collagenous fibers, osteocytes (oste- = bone, -cyte = cell)

**Functions** – supports and protects (encloses organs), provides levers and attachment points for muscles, calcium storage, bone marrow allows for blood cell formation

**Location** – bones of the skeletal system

**STATION 2**

**Connective Tissue Chart – Blood**

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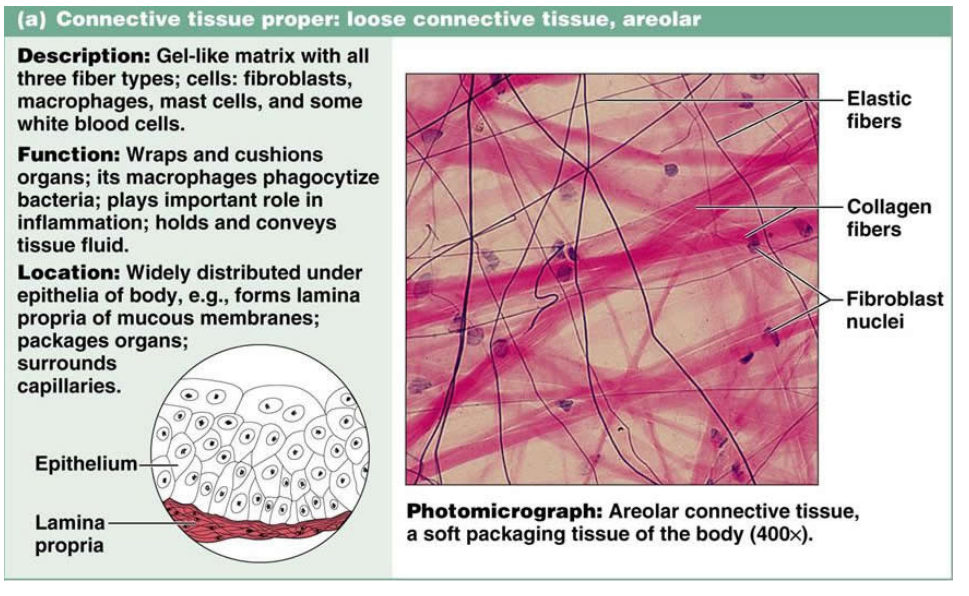
**Description -** made of a liquid matrix (plasma), and red and white blood cells

**Functions** – transportation of respiratory gases (oxygen and carbon dioxide), nutrients, and waste

**Location** – contained in the blood vessels and the heart

**STATION 2**

**Connective Tissue Chart – Loose Connective**

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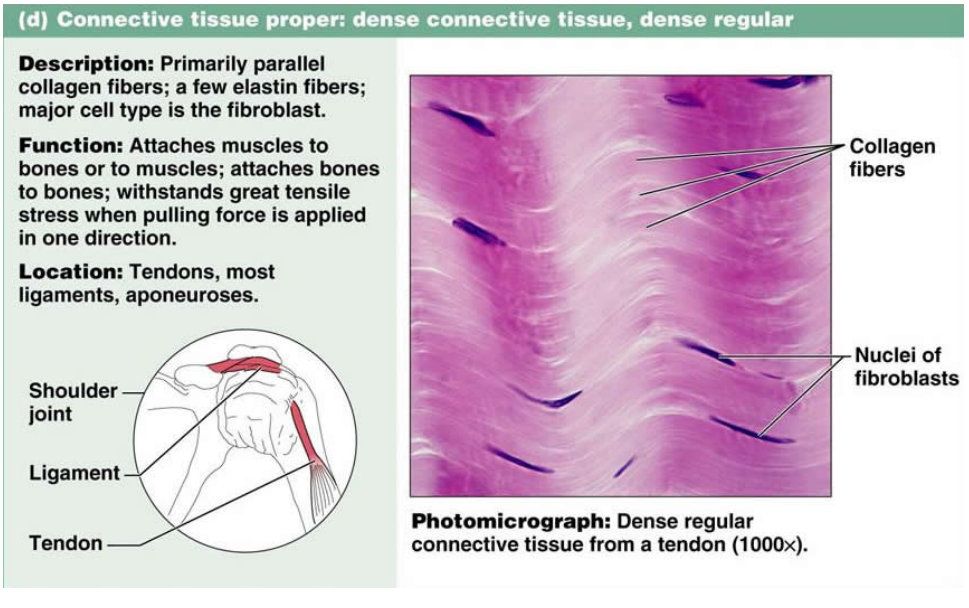
**Description -** made of a gel matrix, collagenous and elastic fibers, fibroblasts and macrophages

**Functions** – attaches skin to deep organs, wraps and cushions organs, fills spaces between muscles, under most epithelial layers (blood vessels nourish epithelial cells)

**Location** – beneath skin and epithelial tissue, between muscles and organs

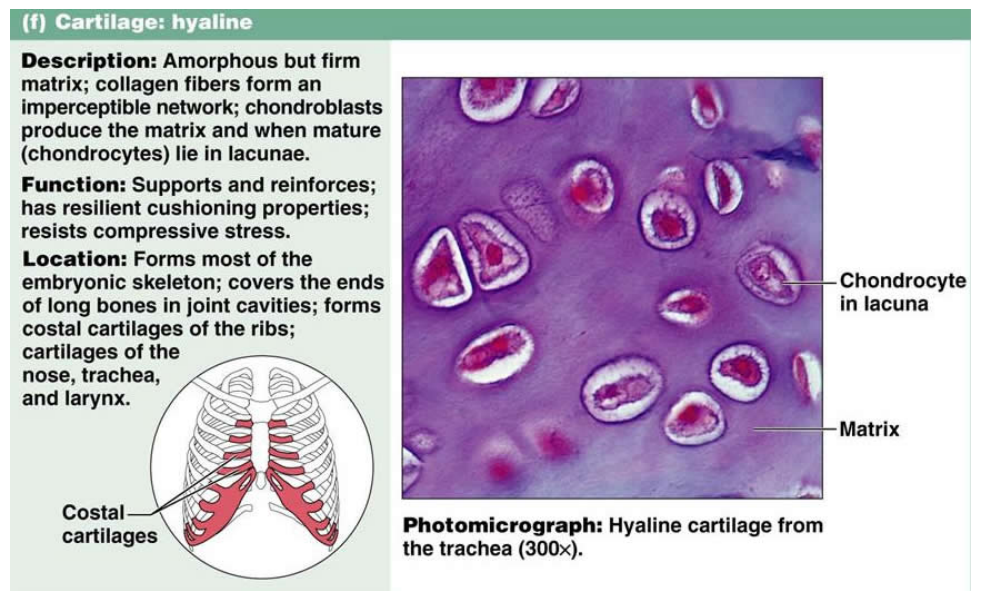
**STATION 2**

**Connective Tissue Chart – Dense Connective**

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**STATION 2**

**Connective Tissue Chart – Hyaline Cartilage**

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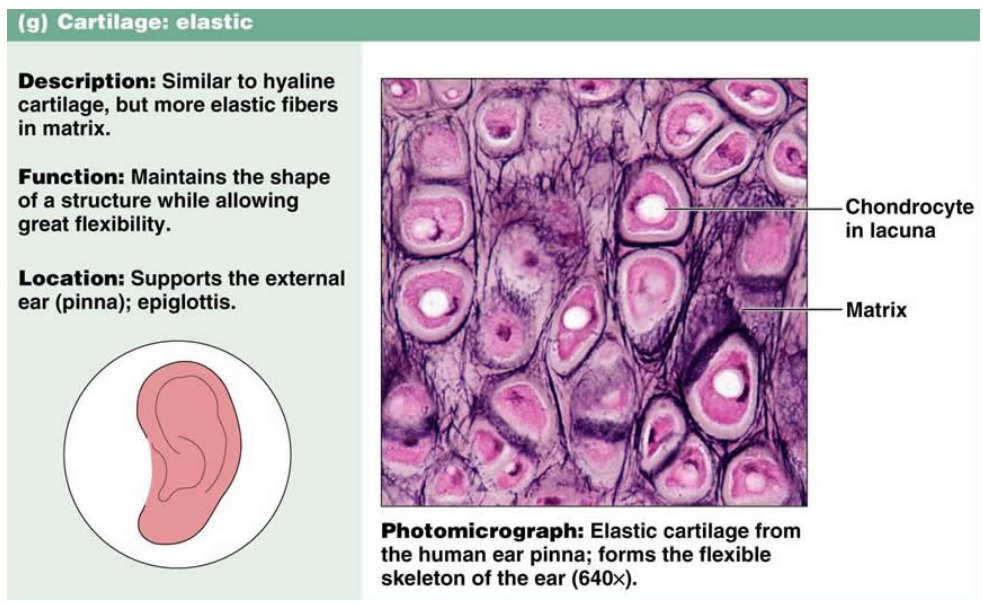
**Description -** made of a firm matrix with chondrocytes   
(chondro- = cartilage, -cyte = cell)

**Functions** – support, protection (resists compression), provide framework

**Location** – ends of bones in joints, costal cartilage in ribs, nose, trachea

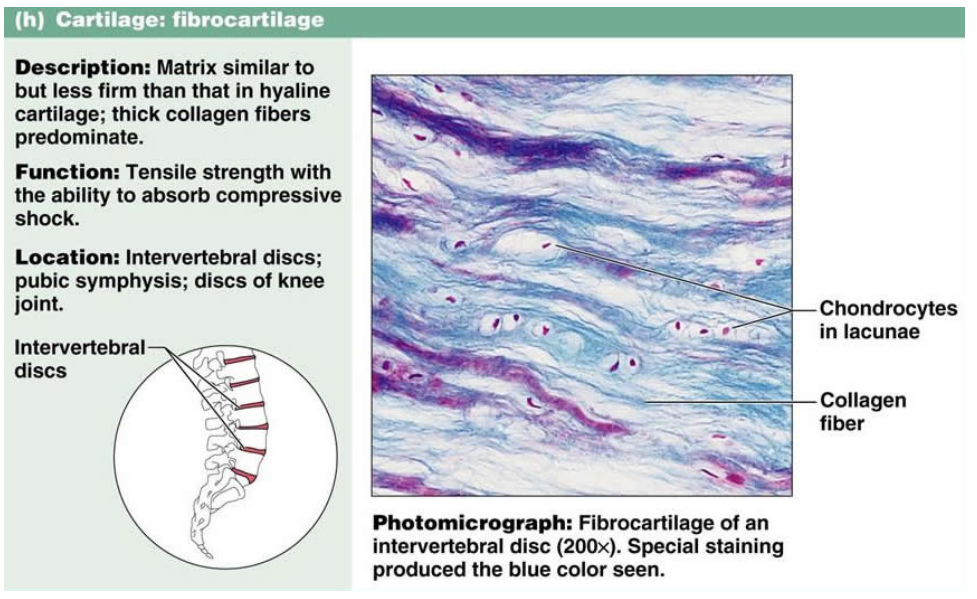
**STATION 2**

**Connective Tissue Chart – Elastic Cartilage**

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**STATION 2**

**Connective Tissue Chart – Fibrocartilage**



**Description -** Made of a firm matrix with chondrocytes   
(chondro- = cartilage, -cyte = cell) and collagenous fibers