Body Tissues

 A. Tissues are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 B. Four primary tissues types:

 1. \_\_\_\_\_\_\_\_\_\_\_\_ (covering)

 2. \_\_\_\_\_\_\_\_\_\_\_\_ (support)

 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (control)

 4. \_\_\_\_\_\_\_\_\_\_\_\_ (movement)

Epithelium

 A. Found in different areas of the body, such as\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, body linings, and glandular tissue.

 B. Functions are for \_\_\_\_\_\_\_\_\_\_\_\_\_ (skin), \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (small intestine), filtration (kidneys), and \_\_\_\_\_\_\_\_\_\_\_ (glands).

 C. Characteristics of epithelial tissue include:

 1. Cells fit closely together

 2. Tissue layer always has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (the apical surface) that is exposed to the

cavity of an internal organ or the body’s exterior.

 3. The lower surface is bound by a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (these tissues have no blood supply of their own)

 5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ if nourished.

 D. Classification of epithelium

 1. Number of cell layers

 a. \_\_\_\_\_\_\_\_\_\_\_ - one layer

 b. \_\_\_\_\_\_\_\_\_\_\_- more than one layer



 2. Shape of cells

 a. \_\_\_\_\_\_\_\_\_\_\_- flattened

 b. \_\_\_\_\_\_\_\_\_\_\_- cube shaped

 c. \_\_\_\_\_\_\_\_\_\_\_\_- column- like



Types of Epithelium

  

  

Connective Tissue

 A. Found everywhere in the body, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and widely distributed tissue.

 B. Functions include: binding tissues together, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 C. Characteristics of connective tissue:

 1. Variations in blood supply- some tissue types are well vascularized (have good blood supply),

while some have a poor blood supply (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_). Cartilage is avascular.

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- the nonliving material that surrounds the tissue. (This is what makes connective tissue so different from other tissues.)

a. Matrix is composed of a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (water, protein, and other molecules) and \_\_\_\_\_\_\_\_\_ (collagen, elastic, reticular).

 b. The matrix allows connective tissue to act as a soft packing tissue around organs

(adipose tissue), to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_ (bones, tendons and ligaments).

 D. Connective tissue types:

1. Bone (osseous) - composed of \_\_\_\_\_\_\_\_\_\_\_\_\_, hard matrix, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ , large numbers of collagen fibers.

 a. used to protect and support the body



 2. Hyaline Cartilage- most common type of cartilage, composed of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 a. Entire \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is hyaline cartilage, but by the time of birth, most cartilage

is replaced by bone.



 3. Elastic cartilage- provides \_\_\_\_\_\_\_\_\_\_\_\_\_

 a. Example- supports the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 4. Fibrocartilage- highly compressible

 a. Example- forms cushion-like \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



 5. Dense connective tissue- main\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ fibers which form strong rope-like structures, (the collagen producing cells are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

 a. Example- \_\_\_\_\_\_\_\_\_\_\_ (attach muscle to bone), \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (attach bone to bone)



 6. Areolar connective tissue-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ connective tissue that serves as a kind of universal packing material between other tissues.

 a. contains all fiber types,

 b. can \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (this is the tissue that swells causing edema)

 c. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and “glue” that holds internal organs together



 7. Adipose tissue- commonly \_\_\_\_\_\_\_\_\_\_\_\_\_\_

 a. matrix is Areolar tissue in which fat globules are predominate

 b. these cells contain large \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 c. functions to \_\_\_\_\_\_\_\_\_\_\_ the body, \_\_\_\_\_\_\_\_\_\_\_\_ organs, and serves as a site of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



 8. Reticular connective tissue-delicate network of interwoven fibers

 a. forms internal network of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (lymph nodes, spleen, and bone marrow)



 9. Blood- blood cells surrounded by a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 a. fibers are visible during \_\_\_\_\_\_\_\_\_\_\_

 b. functions as the transport vehicle for materials



VI. Muscle Tissue

 A. Functions to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 B. Three types are:

 1. Skeletal muscle- voluntary, \_\_\_\_\_\_\_\_\_\_

 2. Smooth muscle – involuntary, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 3. Cardiac muscle- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, only in heart, striated

 i. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are the junctions that allow heart cells to rapidly conduct electrical impulses through the heart.

VII. Nervous Tissue-

 A. Neurons and nerve support cells

 B. Functions to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to other areas of body



 C. Located in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ such as the brain, spinal cord and nerves

VIII. Tissue Repair (Wound Healing)

 A. Two types of tissue repair:

 1. Tissue regeneration is the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by the same kind of cells

 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ occurs when repair by dense fibrous connective tissue called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ forms. Fibrosis occurs in cardiac and nervous tissues of the body.

 B. The type of tissue repair depends on the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 C. Steps in Tissue repair

 1. Capillaries become very \_\_\_\_\_\_\_\_\_\_\_\_\_

 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and other substances seep into the injured area.

 3. A clot is constructed to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (when the clot dries and hardens this forms the scab)

 4. Formation of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (delicate tissue that is made of new capillaries that grow into the damaged area)

 a. this tissue also contains \_\_\_\_\_\_\_\_\_\_\_\_\_\_ that synthesize \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that bride the gap

 5.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; this covers an underlying layer of fibrosis (the scar)

 D. The regeneration of tissue

 1. Tissues that regenerate easily: \_\_\_\_\_\_\_\_\_\_\_\_\_, fibrous connective, and bone

 2. Tissues that regenerate poorly: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 3. Tissues that are replaced largely with\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: cardiac and nervous tissue within the brain and spinal cord. Scar tissue lacks the normal flexibility of tissues which hinders the functioning.

 E. As we age there is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of most tissues. The epithelia thin, the amount of collagen in the body declines which makes tissue repair less efficient, and nervous tissues begins to atrophy.