

## Tissues

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1. 4 major types of tissues.
2. 6 types of epithelial tissue and an example of where each is found.
3. 9 types of connective tissue and an example of where each is found.
4. 3 types of cartilage and where each is found.
5. 2 parts of matrix; compare fibers and ground substance with regard to shape and purpose.
6. Which specific tissue types contain fibroblasts? chondrocytes? osteoblasts?
7. 3 types of muscle; compare structure (striations, nuclei, branching and intercalated discs).
8. Purpose of branching and intercalated discs.
9. 5 locations of smooth muscle.
10. Compare neuroglia and neurons.
11. What are the senses that can cause a neuronal receptor to electrically excite (fire and action potential)?
12. Compare a motor neuron and sensory neuron with regard to location of cell body and neuronal receptors.

## **Answers:Tissues**

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1. 4 major types of tissues.

### **Epithelial, Connective, Muscle, Nervous**

2. 6 types of epithelial tissue and an example of where each is found.

- **Simple squamous epithelium:** Alveoli of lungs, capillaries
- **Stratified squamous epithelium:** Epidermis of skin
- **Simple Columnar epithelium:** Lining intestines
- **Simple Cuboidal epithelium:** Makes up glands, kidney tubules
- **Pseudostratified ciliated columnar epithelium:** Lining bronchii
- **Transitional:** stretchy, lines bladder

3. 9 types of connective tissue and an example of where each is found.

- **Hyaline cartilage connective:** tracheal cartilages, nose, costal cartilages, articular cartilage
- **Fibrocartilage connective:** intervertebral discs and pubic symphysis
- **Elastic cartilage connective:** ear and epiglottis
- **Dense fibrous regular connective:** tendons and ligaments
- **Dense fibrous irregular connective:** dermis of the skin
- **Blood connective:** blood
- **Osseous connective:** bone
- **Areolar connective:** dermis of the skin; under mucous membranes
- **Adipose connective:** fat around organs and hypodermis of skin (subcutaneous fat)

4. 3 types of cartilage and where each is found.

- **Hyaline cartilage connective:** tracheal cartilages, nose, costal cartilages, articular cartilage
- **Fibrocartilage connective:** intervertebral discs and pubic symphysis
- **Elastic cartilage connective:** ear and epiglottis

5. 2 parts of matrix; compare fibers and ground substance with regard to shape and purpose.

- **Fibers:** long and threadlike, provide strength and resist tearing
- **Ground Substance:** globular glycoproteins help tissue hold water

6. Which specific tissue types contain fibroblasts? chondrocytes? osteoblasts?

- **fibroblasts:** dense fibrous, areolar; **chondrocytes:** cartilage; **osteoblasts:** bone

7. 3 types of muscle; compare structure (striations, nuclei, branching and intercalated discs).

- **Skeletal—striations; multi-nucleated**
- **Cardiac—striations; uni-nucleated; branching; intercalated discs**
- **Smooth—no striations; uni-nucleated**

8. Purpose of branching and intercalated discs.

**Both of these structural differences allow the electrical signals to travel through the cardiac muscles without impediment. This ensures the heart muscle can beat as a coordinated unit (rather than fibrillating!)**

9. 5 locations of smooth muscle.

**uterus; GI tract, blood vessels, ureters, bronchi, surrounding glands, bladder**

10. Compare neuroglia and neurons.

### **Neuroglia care for the neurons. Neurons fire action potentials.**

11. What are the senses that can cause a neuronal receptor to electrically excite (fire and action potential)?

- **Nociception (pain)**
- **Proprioception (where limbs are in space)**
- **Touch**
- **Stretch**
- **Special Senses: Light, Sound, Taste, Smell**

12. Compare a motor neuron and sensory neuron with regard to location of cell body and neuronal receptors.

**Motor neurons fire action potentials from their cell body out to the end of the axon.**

**Sensory neurons fire their action potentials from out in the periphery of the body, and the action potential travels up toward the cell body.**