

Module 4: Skeletal System Histology and Movement

Vocabulary:

Anatomical Position - The position acquired when one stands erect with the feet facing forward, the upper limbs hanging at the sides, and the palms facing forward with the thumbs to the outside (115)

Callus - A mass of tissue that connects the ends of a broken bone (105)

Hematoma - A localized mass of blood that is confined to an organ or some definable space (105)

Osteoblast - A bone forming cell (97)

Osteoclast - A large, multinucleated cell that breaks down bone (97)

Osteocyte - A mature bone cell surrounded by bone matrix (97)

Topics:

- Introduction (97)
- Bone Histology (97)
- Experiment 4.1 (99)
- Cancellous and Compact Bone Histology (100)
- Experiment 4.2 (101)
- Bone Growth and Bone Remodeling (103)
- Bone Homeostasis (107)
- The Three Major Types of Joints in the Skeleton (110)
- Motion and Terms of Movement (115)
- Study
- Test

Notes:

Module 5: Muscle Histology and Physiology

Vocabulary:

All-or-none law of skeletal muscle contraction - An individual muscle fiber contracts with equal force in response to each action potential (143)

Maximal Stimulus - A stimulus which is strong enough to create action potentials in all the motor neurons innervating a whole muscle (144)

Motor Unit - One motor neuron and all the muscle fibers it innervates (141)

Muscle Tone - The state of partial contraction in a muscle, even when the muscle is not being used (145)

Neuron - The functional unit of the nervous system, a nerve cell (136)

Neurotransmitter - A chemical released by a neuron. This chemical travels across the synaptic cleft, allowing the neuron to communicate with another cell. (138)

Sarcomere - The repeating unit of myofibril (129)

Submaximal Stimuli - Stimuli of increasing strength that create more action potentials along more neurons (144)

Subthreshold Stimulus - A stimulus too small to create an action potential in a neuron (144)

Synapse - The interface between a nerve cell and another cell (137)

Threshold Stimulus - A stimulus strong enough to create one action potential in a neuron (144)

Topics:

- Introduction (125)
- Skeletal Muscle Structure (126)
- Experiment 5.1 (128)
- How a Muscle fiber Contracts (129)
- The Neuromuscular Junction in a Skeletal Muscle (136)
- How a Muscle Fiber Relaxes (140)
- Motor Units (141)
- Multiple Motor Unit Summation (143)
- Muscle Tone (145)
- Energy in Skeletal Muscle fibers (145)
- Summing Up (148)
- Study
- Test

Notes:

Module 6: The Skeletal Muscle System

Vocabulary:

Belly - The largest part of the muscle, which actually contains the muscle cells (156)

Extrinsic Hand Muscles - Muscles in the forearm which create motion in the hands (169)

Insertion - The point at which a muscle's tendon attaches to the moveable bone (156)

Intrinsic Hand Muscles - Muscles within the hand which create motion in the hand (169)

Mastication - The process of chewing (162)

Origin - The point at which a muscle's tendon attaches to the more stationary bone (156)

Topics:

- A Few General Terms and Principles (155)
- An Overview of the Skeletal Muscle System (158)
- Muscle Names (159)
- The Major Muscles of the Head and Face (161)
- Major Muscles of the Anterior Chest and Abdominal Wall (163)
- The Major Muscles of the Shoulder, Back, and Arm (164)
- Major Muscles of the Forearm (166)
- Muscles of the Hand (169)
- Major Muscles of the Thigh (169)
- Major Muscles of the Leg (172)
- The Muscles of the Foot (175)
- Summing Up (175)
- Study
- Test

Notes: