

Do Now Unit 6 Musculoskeletal System

- When compared to the bones of the appendicular skeleton, the bones of the axial skeleton better function in;
 - movement
 - protection
 - blood cell production
 - mineral storage
 - all of the above
- What are the areas between bones called that allow for various types of movements?
 - tendons
 - joints
 - intercalated discs
 - catilage
 - bursa
- The stored minerals in the bones;
 - remain in the bones forever
 - are released into the bloodstream as needed
 - are used to make blood cells
 - remain stored in the marrow of the long bones
 - include potassium, nitrogen, and hydrogen
- The yellow marrow within bones stores;
 - blood cells
 - calcium
 - fat
 - nerve endings
 - hemoglobin
- Which structure of bone functions in the formation of blood cells?
 - blood vessels
 - marrow
 - compact bone
 - medullary cavity
 - periosteum
- The process of blood cell formation is called;
 - hematosis
 - hemoglobin
 - hematopoiesis
 - hematoma
 - hematocrit
- When limbs or other body parts move, bones and muscles interact as simple machines called;
 - levers
 - inclined ramps
 - catapults
 - wheel and pulley
 - wedges
- Bones;
 - provide points of attachment for muscles
 - protect and support softer tissues
 - produce blood cells
 - store inorganic cells
 - all of the above
- Which of the following is NOT part of bone tissue?
 - calcium phosphate
 - osteocytes
 - collagen
 - keratin protein
 - blood vessels
- Which of the following is TRUE regarding a difference between spongy bone and compact bone?
 - they have different types of bone marrow
 - they are made out of different types of tissues
 - they have different sizes of bone cells
 - they have different arrangements of bone cells
 - all of the above
- What is located at the epiphyses of the bones to reduce friction in joints?
 - ligaments
 - marrow
 - tendons
 - cartilage
 - adipose tissue
- The formation of bone is called _____.
 - ossification
 - osteoporosis
 - osteomyelitis
 - osteofomation
 - osteodeposition
- What type of connective tissue connects bone to bone?
 - cartilage
 - tendons
 - areolar
 - ligaments
 - reticular
- The presence of an epiphyseal plate indicates that the bone is;
 - broken
 - dead
 - increasing in diameter
 - lengthening
 - done growing

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15. Although _____ looks dense and solid, a microscope reveals that it is riddled with passageways that serve as conduits for nerves, blood vessels, and lymphatic vessels.
- A) spongy bone B) red bone marrow
C) compact bone D) the periosteum
E) yellow marrow
16. Bone forming cells that become active and deposit bony matrix around themselves, forming spongy bone tissue in all directions are known as;
- A) osteoblasts B) osteocytes
C) ossifies D) osteons
E) osteoclasts
17. Bone cells are called;
- A) osteons B) osteocytes
C) endosteums D) lacunas
E) canaliculis
18. The human skeleton has _____ bones.
- A) 302 B) 206 C) 450 D) 112 E) 346
19. Bone is a type of _____ tissue.
- A) epithelial B) muscle
C) connective D) nervous
20. Which of the following is the most complete list of what bones consist of?
- A) bone tissue, cartilage, dense connective tissue, blood, nervous tissue
B) smooth muscle tissue, cartilage, areolar tissue, adipose tissue
C) blood, bone tissue, areolar tissue, reticular connective tissue
D) cartilage, skeletal muscle tissue, bone tissue, adipose tissue
E) adipose tissue, nervous tissue, blood, cartilage
21. The following features are characteristics of _____ joints: articular cartilage, reinforcing ligaments, nerves and blood vessels, articular capsule.
- A) Synovial B) Fibrous
C) Cartilaginous D) Amphiarthrotic
E) Synarthrotic
22. Amphiarthrotic means _____.
- A) Slightly movable B) Immovable
C) Freely movable
23. Diarthrotic means _____.
- A) Slightly movable B) Immovable
C) Freely movable
24. Synarthrotic means _____.
- A) Slightly movable B) Immovable
C) Freely movable
25. When you rotate your head *no*, you are using a _____ joint.
- A) hinge B) pivot
C) saddle D) ball-and-socket
E) gliding
26. Which type of joint provides the widest range of motion?
- A) gliding B) ball-and-socket
C) hinge D) pivot
E) condylar
27. Correctly order the major steps in repair of a fracture.
1. Spongy bone forms in regions close to developing blood vessels, and fibrocartilage forms in more distant regions
 2. A bony callus replaces fibrocartilage
 3. Osteoclasts remove excess bony tissue
 4. Blood escapes from ruptured blood vessels and forms a hematoma
- A) 1, 3, 2, 4 B) 4, 1, 2, 3
C) 3, 2, 1, 4 D) 1, 2, 4, 3
E) 4, 2, 3, 1

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28. When a bone breaks;
- A) the medullary cavity loses all of its yellow marrow which takes about 6 months to be replenished
 - B) there is no bleeding or pain because bones lack nerve endings and blood vessels
 - C) osteoclasts form new bone tissue, but it will never be able to look similar to the original bone
 - D) blood vessels in it rupture, and the periosteum is likely to tear
 - E) the bone marrow leaks out of the bone, potentially causing a fatal blood clot
29. A woman who is 76 suffered a broken hip after a minor fall. She would most likely be diagnosed with;
- A) rickets
 - B) gouty arthritis
 - C) lyme disease
 - D) osteomyelitis
 - E) osteoporosis
30. Which type of muscle tissue can contract rapidly, but tires easily and must rest after short periods of activity?
- A) skeletal
 - B) smooth
 - C) cardiac
 - D) smooth and skeletal
 - E) cardiac and skeletal
31. Locomotion and manipulation of the body is the result of the joint effort of the muscular system and _____ system.
- A) integumentary
 - B) digestive
 - C) skeletal
 - D) endocrine
 - E) lymphatic
32. The characteristic striation of a sarcomere reflect the organization of;
- A) actin and myosin filaments
 - B) myofibrils and fascicles
 - C) epimysium and perimysium
 - D) H zone and M line
 - E) Sarcoplasmic reticulum and sarcolemma
33. The striations of skeletal muscle form a repeating pattern of units called _____.
- A) sarcolemmas
 - B) myofibrils
 - C) sarcoplasmic reticulum
 - D) sarcomeres
 - E) transverse tubules
34. Myofibrils consist of two kinds of protein filaments-thick ones composed of _____ and thin ones composed of _____.
- A) keratin, myosin
 - B) actin, fascia
 - C) actin, myosin
 - D) myosin, keratin
 - E) myosin, actin
35. Correctly order the following structures from outermost to innermost;
1. actin and myosin
 2. muscle fibers
 3. myofibrils
 4. fascicles
- A) 1, 3, 4, 2
 - B) 4, 2, 3, 1
 - C) 3, 4, 1, 2
 - D) 1, 2, 4, 3
 - E) 2, 3, 1, 4
36. The cell membrane of a skeletal muscle fiber is also known as it's;
- A) myofibril
 - B) sarcolemma
 - C) sarcoplasm
 - D) myosin
 - E) striations
37. Bundles of skeletal muscle fibers which are separated into compartments by perimysium, are called;
- A) myofibrils
 - B) fascicles
 - C) endomysiums
 - D) fascias
 - E) sarcolemmas

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38. Which of the following is the best explanation as to how muscles are attached bones?
- A) fibers in a tendon intertwine with those in a bone's periosteum
 - B) smooth muscle that is part of the periosteum wraps around the skeletal muscle
 - C) the hyaline cartilage that covers the end of the bone attaches to the skeletal muscle
 - D) the fascia that surrounds the skeletal muscle intertwines with the ligament that attaches to the bone
 - E) all of the above are possible
39. Layers of dense connective tissue called _____ separate an individual skeletal muscle from adjacent muscles.
- A) fascia
 - B) sarcolemma
 - C) myofibrils
 - D) myosin
 - E) actin
40. Muscles generate heat as they _____, which helps the body to _____.
- A) relax, move
 - B) contract, homeostasis
 - C) move, lower its core temperature
 - D) relax, excrete waste
 - E) contract, move away from its temperature set point
41. _____ filaments are _____ toward the center of the sarcomere by _____ cross-bridges.
- A) myosin, pushed, actin
 - B) myosin, pulled, actin
 - C) actin, pushed, myosin
 - D) troponin, pushed, myosin
 - E) actin, pulled, myosin
42. Correctly sequence the following steps of muscle contraction;
1. the sarcomeres shorten
 2. an impulse is sent from the brain/spine
 3. myosin and actin filaments overlap and slide past each other
 4. the shortened muscle pulls on its attachment points resulting in movement
 5. the whole muscle shortens (contracts)
- A) 5, 3, 1, 2, 4
 - B) 2, 3, 1, 5, 4
 - C) 3, 5, 1, 2, 4
 - D) 4, 2, 1, 3, 5
 - E) 2, 4, 1, 5, 3
43. Which of the following types of molecules directly supply the energy for muscle fiber contraction?
- A) ATP
 - B) glucose
 - C) lactose
 - D) oxygen
 - E) phosphate
44. The synapse between the motor neuron and the muscle fiber that it controls is called a;
- A) neurotransmitters
 - B) motor end plate
 - C) motor neuron
 - D) myofibril
 - E) neuromuscular junction
45. Neurons that control muscles are called;
- A) sensory neurons
 - B) motor neurons
 - C) inter-neurons
 - D) myoneurons
 - E) motor units
46. The muscle that can resist a prime mover and cause movement in the opposite direction is called the;
- A) antagonist
 - B) synergist
 - C) agonist
 - D) flexor
 - E) extensor
47. The movable end of a muscle is attached at its;
- A) fulcrum
 - B) insertion
 - C) body
 - D) source
 - E) origin
48. Muscles that assist a prime mover are called;
- A) origins
 - B) facilitators
 - C) antagonists
 - D) synergists
 - E) flexors

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49. A motor neuron and the muscle fibers that it sends impulses to are known as a;

- A) motor nerve
- B) sarcomere
- C) motor unit
- D) motorneuron
- E) intercalated disc

50. Bones;

- A) are the most flexible organ of the body
 - B) are a vital part of the digestive system
 - C) form passageways for blood vessels and nerves
 - D) form the skeletal muscle tissue that attaches to them
 - E) all of the above
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