



2.) Why are epidermal ridges and dermal papillae needed?

3.) In what type of food is carotene found in?

4.) What can carotene be synthesized into?

5.) When exposed to sunlight, melanocytes will gradually increase their production of melanin. When will the maximum production take place? (1 point)

- a. 12 hours after the exposure
- b. 24 hours/1 day after the exposure
- c. 5 days after the exposure

d. 10 days after the exposure

6.) What are lentigines?

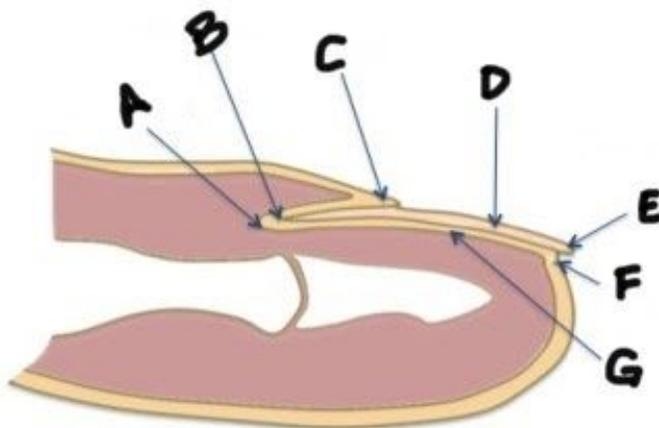
7.) What is it called when your face turns blue?

8.) What causes vasodilation?

- a. Blood vessels become wider because of embarrassment
- b. Blood vessels become wider because of fear
- c. Blood vessels become narrower because of fear
- d. Blood vessels become narrower because of embarrassment

9.) What 2 layers of the skin carry out the function to synthesize Vitamin D3 and why those 2? (1 point for each name + 1 point for the explanation)-

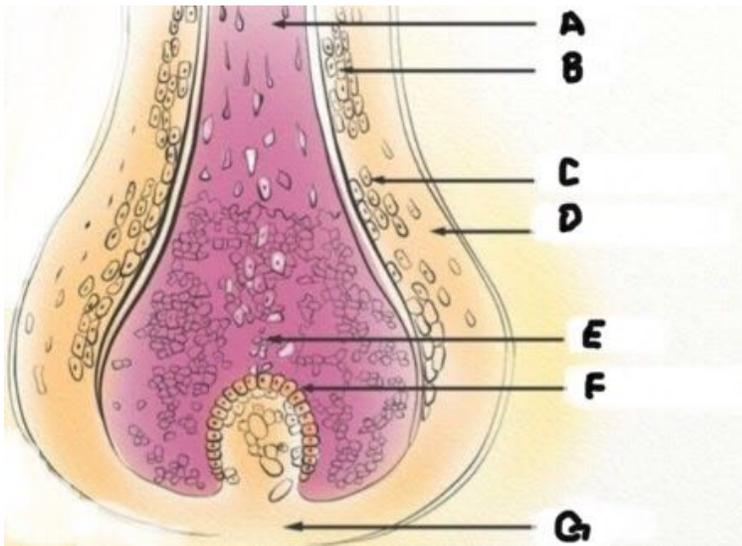
Label the image:



10.) A \_\_\_\_\_

- 11.) B \_\_\_\_\_
- 12.) C \_\_\_\_\_
- 13.) D \_\_\_\_\_
- 14.) E \_\_\_\_\_
- 15.) F \_\_\_\_\_
- 16.) G \_\_\_\_\_

Label the image and explain the function of each part:



17.) A \_\_\_\_\_

18.) B \_\_\_\_\_

19.) C \_\_\_\_\_

20.) D \_\_\_\_\_

21.) E\_\_\_\_\_

22.) F\_\_\_\_\_

23.) G\_\_\_\_\_

24.) What part of a follicle is only present in thick hair?

25.) Name and describe all the stages of hair growth and how long it lasts in order:

26.) What are the 3 different types of hair and how are they different?

27.) What do Root hair plexus and Meissner corpuscles react to?  
Select all that apply

- a. Touch
- b. Pressure
- c. Pain
- d. Temperature

28.) What do Pacinian corpuscles and Ruffini endings react to? Select all that apply

- a. Touch
- b. Pressure
- c. Pain
- d. Temperature

29.) What do free nerve endings react to? Select all that apply

- a. Touch
- b. Pressure
- c. Pain
- d. Temperature

30.) What do Third-degree burns affect and what does it look like?

- a. It's dry and red and it affects the whole epidermis and part of the dermis
- b. It's pink/red and it burns some or all of the epidermis and all of the dermis
- c. It's black/brown and it affects all the layers of the skin
- d. It's pink/red and shiny. It affects the epidermis and part of the dermis

31.) What do Second-degree burns look like?

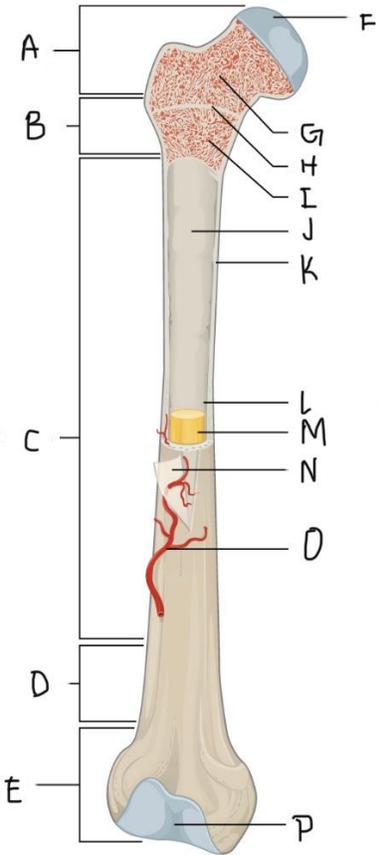
- a. It's dry and red and it affects the whole epidermis and part of the dermis
- b. It's pink/red and it burns some or all of the epidermis and all of the dermis
- c. It's black/brown and it affects all the layers of the skin
- d. It's pink/red and shiny. It affects the epidermis and part of the dermis

32.) What does a First-degree burn look like?

- a. It's dry and red and it affects the whole epidermis and part of the dermis
- b. It's pink/red and it burns some or all of the epidermis and all of the dermis
- c. It's black/brown and it affects all the layers of the skin
- d. It's pink/red and shiny. It affects the epidermis and part of the dermis

## **Section 2: Skeletal System**

Label the image:



- 33.) A \_\_\_\_\_
- 34.) B \_\_\_\_\_
- 35.) C \_\_\_\_\_
- 36.) D \_\_\_\_\_
- 37.) E \_\_\_\_\_
- 38.) F \_\_\_\_\_
- 39.) G \_\_\_\_\_
- 40.) H \_\_\_\_\_
- 41.) I \_\_\_\_\_
- 42.) J \_\_\_\_\_
- 43.) K \_\_\_\_\_
- 44.) L \_\_\_\_\_
- 45.) M \_\_\_\_\_
- 46.) N \_\_\_\_\_
- 47.) O \_\_\_\_\_
- 48.) P \_\_\_\_\_

- 49.) Where can you find Fibrous Cartilage and what are its functions?
- It provides support and it returns to its original shape. It's located between knee joints located within your knee joint.
  - It resists compression and prevents bone to bone contact. It's located between the bones of the sternum.
  - Provides stiff but somewhat flexible support and reduces friction between bony surfaces. It's located in the auricle of the external ear.
  - It resists compression and prevents bone to bone contact. It is located within knee joints

Match these words to the correct sentence:

Appositional growth, canaliculi, perichondrium, extracellular matrix, Interstitial growth, lacunae, water

- 50.) Cartilage is mostly composed of \_\_\_\_\_.
- 51.) \_\_\_\_\_ is a layer of dense irregular connective tissue that cartilage is surrounded by.
- 52.) The \_\_\_\_\_ is a network of macromolecules that provide structural support to the cells surrounding it.
- 53.) Each \_\_\_\_\_ houses a chondrocyte.
- 54.) \_\_\_\_\_ connects lacunae to each other.
- 55.) \_\_\_\_\_ occurs when a new bone matrix is secreted at the bone surface, causing its diameter to increase.
- 56.) \_\_\_\_\_ occurs when chondrocytes within the extracellular matrix divide and secrete new matrices. This causes the cartilage to expand from within itself.

57.) List 3 functions of bone markings:

58.) A tuberosity is a type of bone marking that makes room for muscle and ligament attachment. What makes it different from others?

- a. It's a very large, blunt, and irregularly shaped
- b. It's a narrow ridge of bone that's not that noticeable
- c. It's a narrow prominent ridge of bone
- d. It's a rounded projection that is often roughened

59.) What are some examples of bone markings that are depressions and openings? Select all that apply.

- a. Fissure
- b. Condyle
- c. Ramus
- d. Sinus
- e. Groove
- f. Tubercle
- g. Epicondyle

60.) What kind of cell responds to trauma by giving rise to bone forming cells and bone destroying cells?

- a. Osteoblasts
- b. Osteocytes
- c. Osteoclasts
- d. Osteogenic cells

61.) What kind of fracture is this?

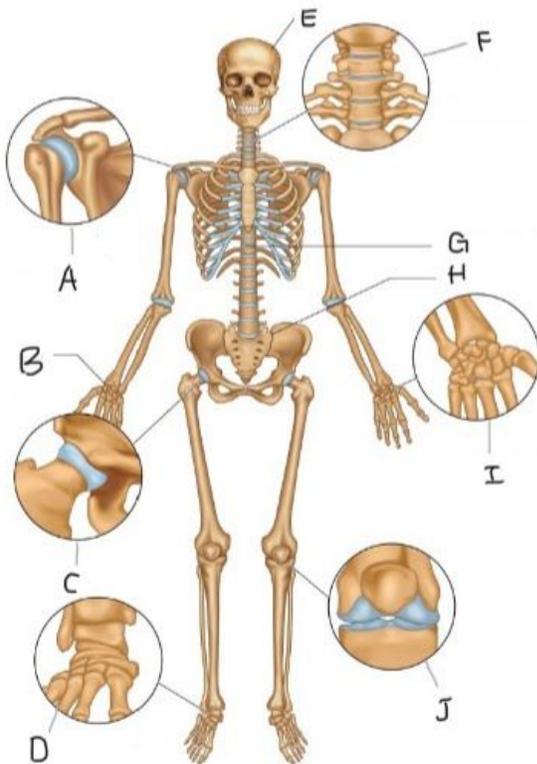


62.) Where is osteosarcoma usually found?

63.) Is osteosarcoma more common in males or females and what age do people usually get diagnosed?

- a. Males, above 30
- b. Males, under 25
- c. Females, above 30
- d. Females under 25

Label the joints:



- 64.) A \_\_\_\_\_
- 65.) B \_\_\_\_\_
- 66.) C \_\_\_\_\_
- 67.) D \_\_\_\_\_
- 68.) E \_\_\_\_\_
- 69.) F \_\_\_\_\_
- 70.) G \_\_\_\_\_
- 71.) H \_\_\_\_\_
- 72.) I \_\_\_\_\_
- 73.) J \_\_\_\_\_

74.) What is it called when a broken bone pierces/ruptures through the skin?

- a. Ruptive fracture
- b. Comminuted fracture
- c. Transverse fracture
- d. Compound fracture

75.) How are bones supplied with nutrients?

- a. Blood vessels
- b. Stores it in yellow bone marrow
- c. Red bone marrow
- d. Bones don't need nutrients

76.) What does RICE stand for?

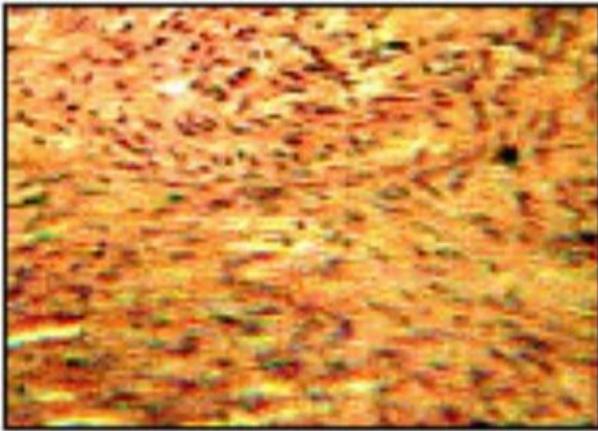
77.) When is RICE used?

### Section 3: Muscular System

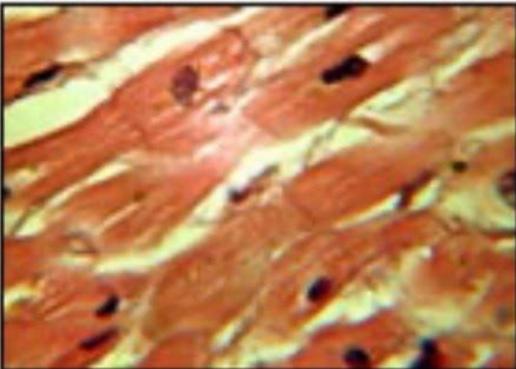
78.) What type of Muscle is this?



79.) What type of Muscle is this?



80.) What type of Muscle is this?



81.) What are the 4 main functions of Muscles?

82.) Thick myofilaments are primarily in the \_\_\_\_\_ and contain

\_\_\_\_\_.

- a. Center, actin
- b. Center, myosin

- c. Side, actin
- d. Side, myosin

83.) Myosin, actin, tropomyosin, troponin, and titin all play a role in the \_\_\_\_\_, in which proteins slide past each other to generate movement.

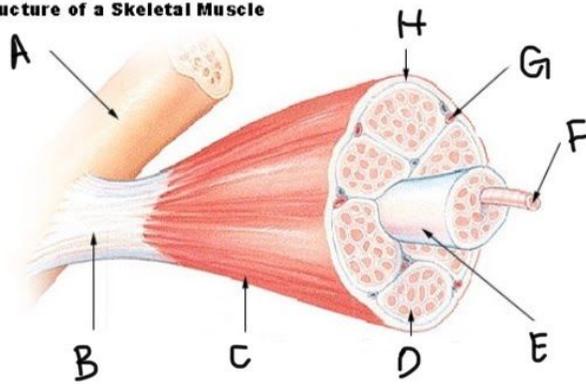
- 84.) Muscle contraction requires energy, which is supplied by \_\_\_\_\_.
- a. ATP
  - b. RICE
  - c. Cells
  - d. Blood

85.) Each muscle cell has a \_\_\_\_\_, which is similar to the cytoplasm; the exception is that \_\_\_\_\_ has large numbers of glycosomes and myoglobin. (The two blank spaces are the same word)

86.) All muscles, even while relaxed, are almost always slightly contracted. This phenomenon is called \_\_\_\_\_. It doesn't produce active movements but instead keeps the muscles firm, healthy, and ready to respond to stimuli. It also assists in joint stabilization and posture maintenance.

Label the Image:

Structure of a Skeletal Muscle



- 87.) A \_\_\_\_\_
- 88.) B \_\_\_\_\_
- 89.) C \_\_\_\_\_
- 90.) D \_\_\_\_\_
- 91.) E \_\_\_\_\_
- 92.) F \_\_\_\_\_
- 93.) G \_\_\_\_\_
- 94.) H \_\_\_\_\_

95.) Smooth muscle is organized into 2 sheets. What are those sheets called and which is the outer layer and which is the inner?

- a. Longitudinal Layer (outer layer) and circular layer (inner layer)
- b. Longitudinal Layer (inner layer) and circular layer (outer layer)
- c. Epimysium Layer (outer layer) and perimysium (inner layer)
- d. Epimysium Layer (inner layer) and perimysium (outer layer)

96.) ATP is produced in cardiac muscles via \_\_\_\_\_.

- a. Cells
- b. Blood Flow
- c. Cells in the muscles
- d. Aerobic Pathways

97.) Cardiac muscle contraction is \_\_\_\_\_ than skeletal muscles and \_\_\_\_\_ than smooth muscles.

- a. Faster, slower
- b. Slower, faster

98.) What does ATP bind to in skeletal muscles?

- a. Actin
- b. Myosin
- c. Troponin
- d. Nebulin

99.) Which type of connective tissue is found between muscle fibers?

- a. Epimysium
- b. Endomysium
- c. Perimysium
- d. Myomysium

100.) Muscle cells need a lot of energy and respond quickly which means it has a higher number of \_\_\_\_\_?