Name: _____

Period: _____

Unit 4: Skeletal System Test Review

Test Review

1. List four functions of the skeletal system:
   a.

   b.

   c.

   d.

2. Define ossification and identify the roles of the osteoblasts, osteocytes, and osteoclasts in the growth of bones.

3. Describe the structural and functional features of a typical long bone.
   a. periosteum

   b. diaphysis

   c. epiphysis

   d. red marrow

   e. yellow marrow

   f. articular cartilage

   g. endosteum

4. Describe the following classes of bone and give an example of each.
   a. long

   b. short

   c. flat

   d. irregular

5. Describe the following bone markings:
   a. foramen

   b. meatus

   c. sinus

   d. fossa

   e. condyle

   f. tuberosity

   g. trochanter

   h. tubercle

   i. process

6. Describe the terms suture and fontanel.

7. Identify the major groups of bone which belong to the axial skeleton and to the appendicular skeleton.
   a. axial:

   b. appendicular:

8. Describe the location of the following skull bones:
   a. mandible:

   b. hyoid:

9. List the number of vertebrae and the nicknames of the cervical vertebrae listed.:
   a. cervical:

   b. thoracic:

   c. lumbar:

   d. sacrum:

   e. coccyx:

10. Describe the structural classification of the following articulations:
   a. fibrous:

   b. synovial:

   c. cartilaginous:

11. Describe a ligament and its role in a synovial joint.

12. Describe the diseases and disorders of the skeletal system:

   a. herniated disc:

   b. osteoarthritis:

   c. Osteoporosis:

   d. Scoliosis:

   e. Spina Bifida:

Unit 4: Skeletal System Test Review

Test Review - KEY

1. List four functions of the skeletal system:
   a. Support

   b. Protection

   c. Movement Facilitation

   d. Mineral Storage

2. Define ossification and identify the roles of the osteoblasts, osteocytes, and osteoclasts in the growth of bones.
Ossification: the process by which bones form in the body by replacing pre-existing connective tissue with bone. Process occurs during bone growth.
Osteoblasts: cells responsible for bone formation
Osteocytes: mature bone cells
Osteoclasts: cells that break down bone tissue

3. Describe the structural and functional features of a typical long bone.
   a. periosteum: A dense, white fibrous covering around the surface of bone. Essential for bone growth, repair, and nutrition
   Serves as a point of attachment for ligaments and tendons

   b. diaphysis: The shaft or long, main, portion of the long bone

   c. epiphysis: The expanded ends of the long bone

   d. red marrow: Blood cell forming tissue located within the spaces or the spongy bone of the long bones. Forms all blood cells types including erythrocytes, leukocytes, and thrombocytes.

   e. yellow marrow: Fat storing tissues found within the medullary cavities of long bones

   f. articular cartilage: A thin layer of hyaline cartilage covering the epiphysis in order to reduce friction during the movement of the joint.

   g. endosteum: A thin layer of squamous cells lining the medullary cavity.

4. Describe the following classes of bone and give an example of each.
a. long: Longer than they are wide (humerus, ulna, radius, metacarpals, phalanges, femur, tibia, fibula, metatarsals)

b. short: Cube-shaped, nearly equal in length and width (tarsals and carpals)

c. flat: Generally thin and flat, composed of two layers of compact bone on the outside with a layer of spongy bone on the inside. Provide protection and surface area for muscle attachment (cranial bones, sternum, ribs, and scapulae)

d. irregular: Various shaped bones (cannot be classified into any other groups or classifications). Vary in the amount of spongy and compact bone. (facial bones, vertebrae)

5. Describe the following bone markings:
a. foramen: An opening or hole through a bone serving as a passageway for nerves or blood vessels.

b. meatus: A tube-like passageway within a bone

c. sinus: A space within a bone lined with a mucus membrane to reduce the weight of the bone.

d. fossa: A fairly deep pit or depression.

e. condyle: A large rounded prominence which articulates with another bone.

f. tuberosity: An elevated, rounded, (knob-like) usually roughened area on a bone. Is generally bigger than a tubercle and is used for muscle attachment.

g. trochanter: A very large, blunt process used for muscle attachment.

h. tubercle: A small rounded process used for muscle attachment.

i. process: Any projection from the surface of a bone used in muscle attachment.

6. Describe the terms suture and fontanel.
Suture: an immovable joint found only between skull bones.
Fontanel: membrane-filled spaces between cranial bones (soft spots of baby's skull)

7. Identify the major groups of bone which belong to the axial skeleton and to the appendicular skeleton.
a. axial: Consists of bones that lie along the axis of the body
Skull, Vertebral column, Ribs, Sternum, Hyoid bone

appendicular: Contains the bones of the free appendages.
Clavicle, Scapula, Humerus, Ulna, Radius, Carpals, Metacarpals, Phalanges
Femur, Tibia, Fibula, Patella,Tarsals, Metatarsals, Phalanges

8. Describe the location of the following skull bones:
   a. mandible: jaw bone

   b. hyoid: located in the neck between the mandible and the larynx

9. List the number of vertebrae and the nicknames of the cervical vertebrae listed.:
   a. cervical: 7
   C1: atlas
   C2: axis

   b. thoracic: 12

   c. Lumbar: 5

   d. Sacrum: 5 fused

   e. Coccyx: 2-4 fused

10. Describe the structural classification of the following articulations:
   a. fibrous: Articulating bones are held very closely together by fibrous connective tissue

   b. synovial: Joints which contain a synovial cavity between the articulating bones.

   c. cartilaginous: Articulating bones are held tightly together by cartilage

11. Describe a ligament and its role in a synovial joint.
LIGAMENTS
   A band or cord of dense fibrous connective tissue extending from one bone to another bone to provide a joint with structural stability

12. Describe the diseases and disorders of the skeletal system:

   a. herniated disc: a ruptured, slipped, or bulging disks, occurs when the nucleus pulposus spills out into the spinal canal and presses on the spinal nerves in that region.

   b. osteoarthritis: Osteoarthritis is a type of arthritis caused by the destruction of cartilage from the joints.

   c. Osteoporosis: Osteoporosis in which there is a loss of bone mass and bone density which leads to porous bones making them more susceptible to fracture.

   d. Scoliosis: Scoliosis is the abnormal lateral curvature of the spine (vertebral column) resulting in a S-shaped appearance.

   e. Spina Bifida: Spina bifida occurs when the posterior part of the vertebrae fails to form properly and does not enclose the spinal cord.