

**Functions of the Skeletal System/ General Features of Bone  
Honors Anatomy**

Fill in the correct function of the skeleton based on the given description.

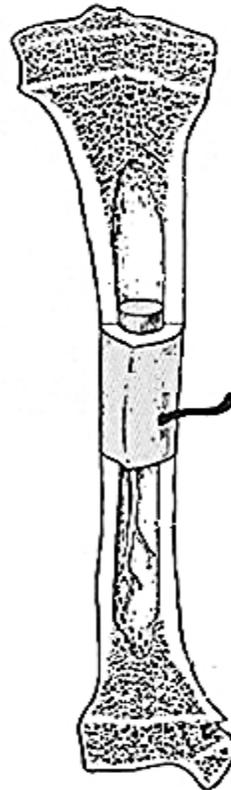
Description	Function
Articulations between bones and the attachment of muscles	
Red bone marrow	
The legs and lower legs bear the body's weight; the hips cradle the abdominal organs	
Bone matrix consists of calcium phosphate that can be broken down and transported in the blood; yellow (fatty) bone marrow	
The skull surrounds the brain; rib cage surrounds the organs of the thoracic cavity	

Classify the following bones as either a long bone, short bone, flat bone, irregular bone. If you are not familiar with the names of the bones, you will need to refer to Sections about the axial skeleton and the appendicular skeleton

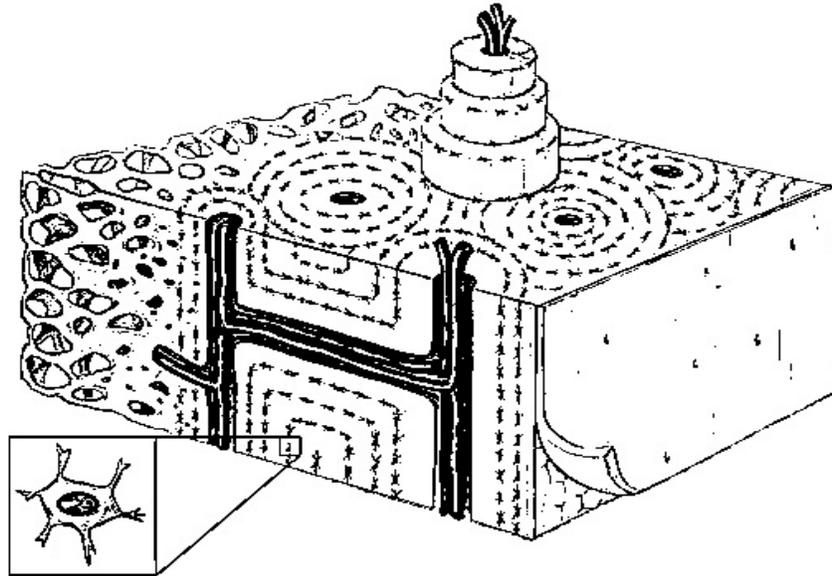
Name of Bone	Classification
Femur, metatarsals, phalanges, radius	
Cranial bones, scapula	
Vertebrae, Facial Bones, Pelvic bones	
Tarsals, carpals	

Using the list below, color and label the different parts of a typical long bone .

- Articular cartilage
- Compact bone
- Diaphysis
- Endosteum
- Epiphyseal plate
- Epiphysis
- Medullary cavity
- Periosteum
- Spongy bone



Using the list below, color and label the different parts of compact bone .



- Canaliculi
- Central canal
- Compact bone

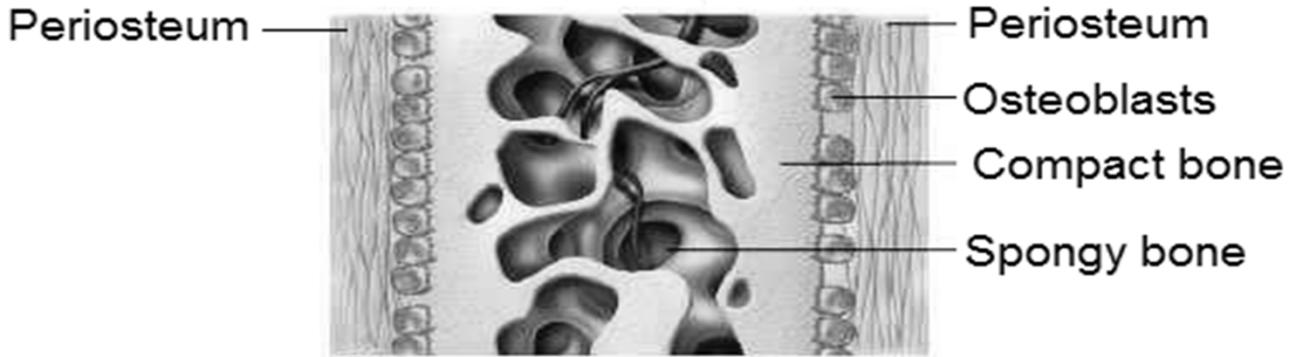
- Lacuna
- Lamellae
- Osteocyte

- Osteon
- Periosteum
- Spongy bone

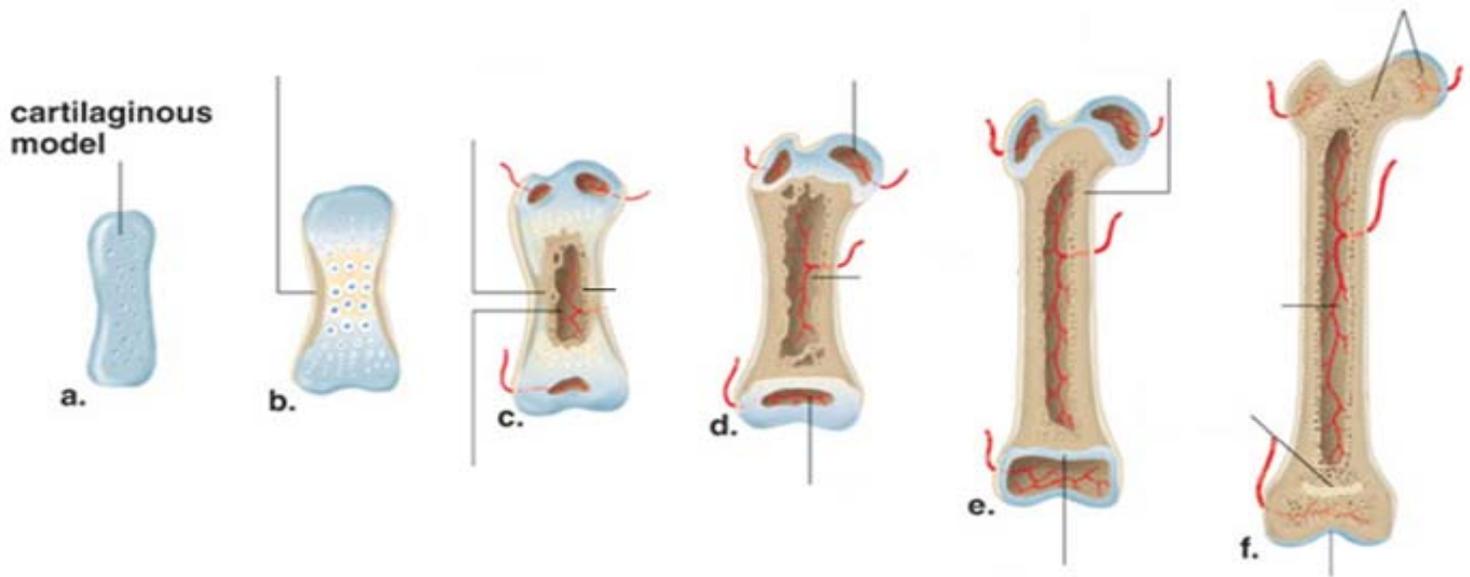
1. Bone-forming cells are called \_\_\_\_\_.
2. Cells that breakdown or reabsorb bone are called \_\_\_\_\_.
3. Mature bone cells that derive from osteoblasts are called \_\_\_\_\_.
4. In spongy bone, interconnecting rods or plates of bone are called \_\_\_\_\_.

**Complete the statement about intramembranous ossification.**

1. The process of intramembranous ossification is responsible for the formation of \_\_\_\_\_ (classification) bones.



Using the list below, label the parts of endochondral ossification.



articular cartilage  
compact bone  
epiphyseal plate

medullary cavity  
periosteum  
primary ossification center

secondary ossification center  
spongy bone

Complete the paragraph about endochondral ossification.

1 \_\_\_\_\_ is the bone forming process in which 2 cartilage is replaced by bone during development. During endochondral ossification of a long bone, the cartilage begins to break down in the 3 of the long bone, which is now covered by a 4. 5, which are bone forming cells, invade the region and begin laying down 6 bone. This region is now called the 7. Other osteoblasts begin laying down 8 bone beneath the periosteum. As the compact bone thickens, the spongy bone in the diaphysis is broken down by 9, and the cavity created becomes the 10. After birth, the ends of long bones called 11 continue to grow. Soon a 12 appears in the epiphyses and spongy bone is formed. In this region, spongy bone does not break down. Between the primary and secondary ossification centers is a band of cartilage called the 13, or growth plate. As long as this cartilage plate is present, the bone continues to increase in 14 and width. The rate of growth of bone is controlled by 15. Eventually, the epiphyseal plate becomes 16 and bone growth 17.

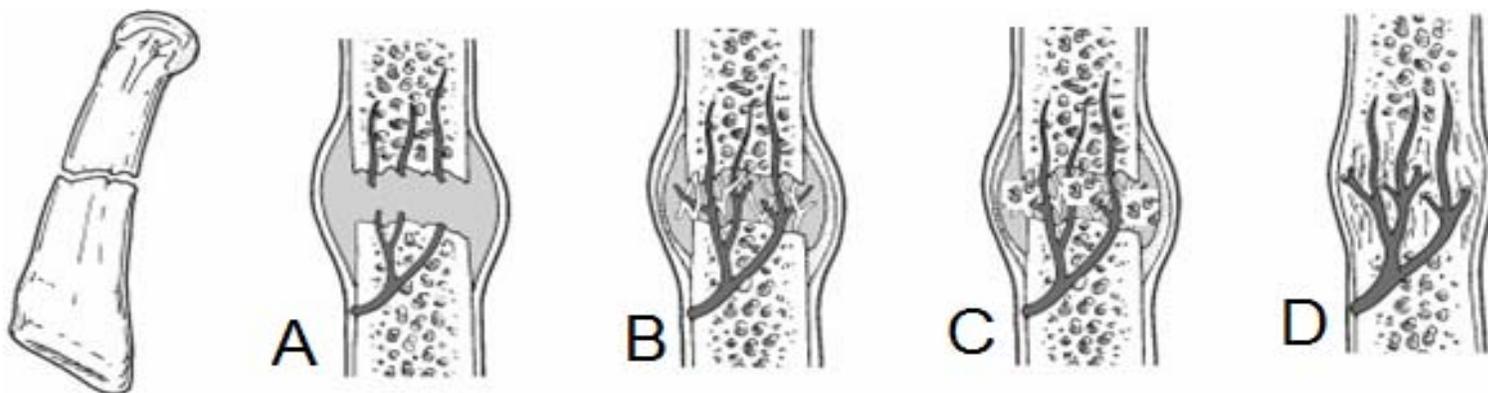
1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_
15. \_\_\_\_\_
16. \_\_\_\_\_
17. \_\_\_\_\_

**Complete the paragraph about the healing of a fracture.**

The breaking of a bone is called a   1  . The repairing of a broken bone occurs in four steps. Step 1, the formation of a   2  , occurs when broken blood vessels form a mass of clotted   3   in between the spaces of the broken bones. Step 2,   4   formation, is the beginning of   5   repair, in which   6   fills the spaces between the broken bones. During this step,   7   vessels begin to reattach to one another. Step 3,   8   formation, is when fibrocartilage is replaced by   9  .   10  , bone making cells, produce spongy bone that joins the broken bone ends together. Finally, Step 4,   11  , is where osteoblasts build new   12   bone around the spongy bone, while the spongy bone is   13   by   14  , thus creating a new   15  .

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_
15. \_\_\_\_\_

**Label each Step A-D of the healing of a fracture.**



- Step A** \_\_\_\_\_
- Step B** \_\_\_\_\_
- Step C** \_\_\_\_\_
- Step D** \_\_\_\_\_