

Practice question:
Bone structure and development

Key: a. Chondroblast b. fibroblast c. osteoblast d. osteocyte e. osteoclast

1. ___ In intramembranous bone formation, which cell forms the dense connective tissue membrane that begins the bone formation process?
2. ___ In endochondral bone formation, which cell produces the model that is eventually transformed into bone?
3. ___ As bone is formed, the bone forming cells are eventually trapped in lacunae. Which cell is found in lacunae?
4. ___ Which cell type is a specialized macrophage that breaks down bone tissue with Hydrochloric acid and proteases?
5. ___ These cells are organized in rings between layers of lamellae.

Key: a. endochondral b. intramembranous c. both a and b

6. ___ Which method of bone formation does the body use to form most of the skull?
7. ___ Which method of bone formation involves a primary ossification center that develops in the diaphysis of a developing long bone?
8. ___ Which method of bone formation often generates a marrow canal?
9. ___ When completed, which method of bone formation has generated a structure covered by compact bone and a periosteum?
10. ___ During which process do bone forming cells transform a vascular sheet of dense connective tissue into spongy bone?

Answers: 1. (B) 2. (A) 3. (D) 4. (E) 5. (D) 6. (B) 7. (A) 8. (A) 9. (C) 10. (B)