INTRAMEMBRANOUS OSSIFICATION

Mesenchymal tissue

Mesenchymal cells differentiate into osteoblasts

Osteoblasts secrete matrix and get surrounded by matrix

Osteoblasts mature into osteocytes trapped in lacunae

Osteocytes form spicules

Spicules unite to make spongy bone

Spongy bone is surrounded by endosteum

Spongy bone can remodel into compact bone

Compact bone is surrounded by periosteum

ENDOCHONDRAL OSSIFICATION

Mesenchymal tissue

Mesenchymal cells differentiate into **chondroblasts**

Chondroblasts secrete matrix and get surrounded by matrix

They mature into **chondrocytes** trapped in lacunae

Hyaline cartilage model is set up

Chondrocytes hypertrophy and die, leaving space

Blood vessels invade and bring in osteoblasts*

Osteoblasts form spicules in the primary ossification center (diaphysis in long bones)

Osteoblasts secrete matrix. Become osteocytes with lacunae.

Spicules form in the secondary ossification centers (epiphysis in long bone)

Hyaline cartilage remains at epiphyseal line and articular ends.