BIO 201 – Practical 2 Histology
Zones of the Metaphysis

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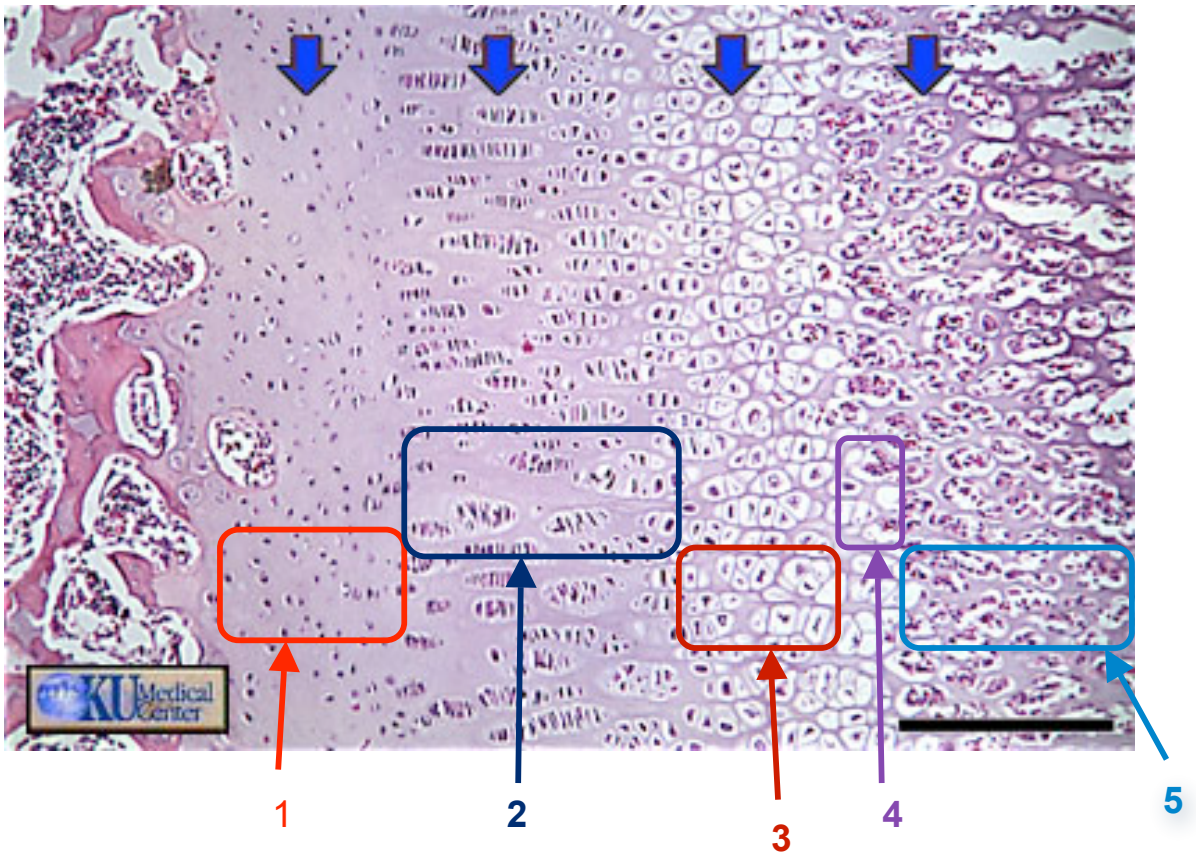

1. **Identify this zone. What type of tissue it in this area?**
2. **Identify this zone. What is a key indicator to recognize this zone?**
3. **Identify this zone. What happens to the chondrocytes?**
4. **Identify this zone. Distinguish between the calcium found here versus the calcium found in zone 5.**
5. **Identify this zone. What are the steps in the progression of this zone?**

KEY

1. **Zone of reserve cartilage.** It is made up of hyaline cartilage.
2. **Zone of cell proliferation.** The chondrocytes undergo mitosis and line up in rows of small flattened lacunae.
3. **Zone of cell hypertrophy.** The chondrocytes stop dividing and begin to hypertrophy.
4. **Zone of calcification.** Calcium is deposited in the matrix between the columns of lacunae and calcify the cartilage. Most of the calcium in bone is a crystallized calcium phosphate salt with about 10% in the form of calcium carbonate.
5. **Zone of bone deposition.** Bone is deposited by osteoblasts, and much of the newly formed bone is dissolved by secretions from the osteoclasts.