

# ACTIVITY 3B: ANATOMY OF A BONE COLORING SHEET STUDENT PAGE

## ANATOMY OF A BONE

### Instructions:

Color the various structures of this long bone (humerus) in the following manner:

- 1) Use red for cancellous bone (e) and nutrient artery (h).
- 2) Any other colors may be used for the remainder of the picture.
- 3) The epiphysis (a) and diaphysis (b) are indicated with brackets to the right of the bone.

### EPIPHYSIS (end) (a), EPIPHYSEAL LINE (a)

The epiphysis is the end of a long bone. Externally, it has a thin layer of compact bone, while internally the bone is cancellous. The epiphysis is capped with articular cartilage.

### DIAPHYSIS (shaft) (b)

The diaphysis is the shaft of the long bone. It has compact bone with a central cavity. The diaphysis resists bending forces.

### ARTICULAR CARTILAGE (c)

The articular cartilage is found on the ends of long bones. It is smooth, slippery, and bloodless. It is kept moist by the egg-white-like fluid from the synovial lining of the joint cavity.

### PERIOSTEUM (d)

Periosteum is a fibrous, vascular, sensitive life support covering or sheath for bone. It provides nutrient-rich blood for bone cells and is a source of bone-developing cells during growth or after a fracture.

### CANCELLOUS (spongy) BONE (e) and MARROW (e)

The cancellous bone appears as tiny beams of bone arranged like a lattice. It resists the stresses of weight, changes in posture, and muscular development. Red marrow packs the spaces between beams of some epiphyses as well as elsewhere.

### COMPACT BONE (f)

The compact bone is the dense bone found in the diaphysis. Its repeated pattern is arranged in concentric layers of solid bone tissue.

### MEDULLARY CAVITY (g), YELLOW MARROW (g)

The medullary cavity of the diaphysis serves to lighten bone weight and provide space for its marrow.

### NUTRIENT ARTERY (h)

Each long bone contains an oblique tunnel in its shaft for the passage of a nutrient artery, which supplies the shaft.

