APPENDICULAR SKELETON

Several bones forming part of the upper limb and/or shoulder girdle are shown in Figures 5–8 to 5–11. Follow the specific directions for each figure.

18. Identify the bone in Figure 5–8. Insert your answer in the blank below the illustration. Select different colors for each structure listed below and use them to color the coding circles and the corresponding structures in the diagram. Then, label the angles indicated by leader lines.

- Spine
- Glenoid cavity
- Coracoid process
- Acromion

![Figure 5-8](image)
Identify the bones in Figure 5–9 by labeling the leader lines identified as A, B, and C. Color the bones different colors. Using the following terms, complete the illustration by labeling all bone markings provided with leader lines.

- Trochlear notch
- Trochlea
- Radial tuberosity
- Styloid process
- Capitulum
- Deltoid tuberosity
- Head (three)
- Coronoid process
- Olecranon process
- Greater tubercle
- Lesser tubercle

Figure 5–9
20. Figure 5–10 is a diagram of the hand. Select different colors for the following structures, and use them to color the coding circles and the corresponding structures in the diagram.

- Carpals
- Metacarpals
- Phalanges

![Figure 5–10](image)

21. Compare the pectoral and pelvic girdles by choosing descriptive terms from the key choices. Insert the appropriate key letters in the answer blanks.

**Key Choices**
A. Flexibility
B. Massive
C. Lightweight
D. Shallow socket for limb attachment
E. Deep, secure socket for limb attachment
F. Weight-bearing

Pectoral: _____, _____, _____  Pelvic: _____, _____, _____
22. Using key choices, identify the bone names or markings according to the descriptions that follow. Insert the appropriate term or letter in the answer blanks.

**Key Choices**

A. Acromion     F. Coronoid fossa     K. Olecranon fossa     P. Scapula  
B. Capitulum     G. Deltoid tuberosity    L. Olecranon process  Q. Sternum  
C. Carpals       H. Glenoid cavity     M. Phalanges     R. Styloid process  
D. Clavicle      I. Humerus          N. Radial tuberosity  S. Trochlea  
E. Coracoid process  J. Metacarpals  O. Radius  T. Ulna

1. Raised area on lateral surface of humerus to which deltoid muscle attaches  
2. Arm bone  
3. 4. Bones composing the shoulder girdle  
5. 6. Forearm bones  
7. Point where scapula and clavicle connect  
8. Shoulder girdle bone that has no attachment to the axial skeleton  
9. Shoulder girdle bone that articulates anteriorly with the sternum  
10. Socket in the scapula for the arm bone  
11. Process above the glenoid cavity that permits muscle attachment  
12. Commonly called the collarbone  
13. Distal medial process of the humerus; joins the ulna  
14. Medial bone of the forearm in anatomical position  
15. Rounded knob on the humerus that articulates with the radius  
16. Anterior depression; superior to the trochlea; receives part of the ulna when the forearm is flexed  
17. Forearm bone involved in formation of elbow joint  
18. 19. Bones that articulate with the clavicle  
20. Bones of the wrist  
21. Bones of the fingers  
22. Heads of these bones form the knuckles
23. Figure 5–11 is a diagram of the articulated pelvis. Identify the bones and bone markings indicated by leader lines on the figure. Select different colors for the structures listed below and use them to color the coding circles and the corresponding structures in the figure. Also, label the dashed line showing the dimensions of the true pelvis and that showing the diameter of the false pelvis. Complete the illustration by labeling the following bone markings: obturator foramen, iliac crest, anterior superior iliac spine, ischial spine, pubic ramus, and pelvic brim. Last, list three ways in which the female pelvis differs from the male pelvis and insert your answers in the answer blanks.

- Coxa bone
- Pubic symphysis
- Sacrum
- Acetabulum

![Figure 5–11]

1. 
2. 
3. 

24. Circle the term that does not belong in each of the following groupings.

1. Tibia  Ulna  Fibula  Femur
2. Skull  Rib cage  Vertebral column  Pelvis
3. Ischium  Scapula  Ilium  Pubis
4. Mandible  Frontal bone  Temporal bone  Occipital bone
5. Calcaneus  Tarsals  Carpals  Talus
25. Using key choices, identify the bone names and markings, according to the descriptions that follow. Insert the appropriate key term(s) or letter(s) in the answer blanks.

**Key Choices**

| A. Acetabulum | I. Ilium | Q. Patella |
| B. Calcaneus | J. Ischial tuberosity | R. Pubic symphysis |
| C. Femur | K. Ischium | S. Pubis |
| D. Fibula | L. Lateral malleolus | T. Sacroiliac joint |
| E. Gluteal tuberosity | M. Lesser sciatic notch | U. Talus |
| F. Greater sciatic notch | N. Medial malleolus | V. Tarsals |
| G. Greater and lesser trochanters | O. Metatarsals | W. Tibia |
| H. Iliac crest | P. Obturator foramen | X. Tibial tuberosity |

1. Fuse to form the coxal bone (hip bone)
2. Receives the weight of the body when sitting
3. Point where the coxal bones join anteriorly
4. Upper margin of iliac bones
5. Deep socket in the hip bone that receives the head of the thigh bone
6. Point where axial skeleton attaches to the pelvic girdle
7. Longest bone in body, articulates with the coxal bone
8. Lateral bone of the leg
9. Medial bone of the leg
10. Bones forming the knee joint
11. Point where the patellar ligament attaches
12. Kneecap
13. Shinbone
14. Distal process on medial tibial surface
15. Process forming the outer ankle
16. Heel bone
17. Bones of the ankle

18. Bones forming the instep of the foot

19. Opening in a coxal bone formed by the pubic and ischial rami

20. Sites of muscle attachment on the proximal end of the femur

21. Tarsal bone that articulates with the tibia

26. For each of the following statements that is true, insert T in the answer blank. If any of the statements are false, correct the underlined term by inserting the correct term in the answer blank.

1. The pectoral girdle is formed by the articulation of the hip bones and the sacrum.

2. Bones present in both the hand and the foot are carpals.

3. The tough, fibrous connective tissue covering of a bone is the periosteum.

4. The point of fusion of the three bones forming a coxal bone is the glenoid cavity.

5. The large nerve that must be avoided when giving injections into the buttock muscles is the femoral nerve.

6. The long bones of a fetus are constructed of hyaline cartilage.

7. Bones that provide the most protection to the abdominal viscera are the ribs.

8. The largest foramen in the skull is the foramen magnum.

9. The intercondylar fossa, greater trochanter, and tibial tuberosity are all bone markings of the humerus.

10. The first major event of fracture healing is hematoma formation.
27. The bones of the thigh and the leg are shown in Figure 5–12. Identify each and put your answers in the blanks labelled A, B, and C. Select different colors for the lower limb bones listed below and use them to color in the coding circles and corresponding bones on the diagram. Complete the illustration by inserting the terms indicating bone markings at the ends of the appropriate leader lines in the figure.

- Femur
  - Head of femur
  - Intercondylar eminence
  - Tibial tuberosity

- Tibia
  - Anterior border of tibia
  - Lesser trochanter

- Fibula
  - Head of fibula
  - Medial malleolus
  - Greater trochanter
  - Lateral malleolus

Figure 5–12
28. Figure 5–13 is a diagram of the articulated skeleton. Identify all bones or groups of bones by writing the correct labels at the end of the leader lines. Then, select two different colors for the bones of the axial and appendicular skeletons and use them to color in the coding circles and corresponding structures in the diagram.

○ Axial skeleton ○ Appendicular skeleton

Figure 5–13