

The Human Skeleton

1. What does a skeleton symbolize? _____

2. What purpose does a skeleton perform? _____

3. What links bones together? _____
4. What moves bones? _____
5. What is a craniometer? _____

6. What happens to the elbow joint when the arm is straightened? _____
7. What is the name of a series of woodcuts by Hans Holbein depicting skeletons luring noblemen to their death? _____
8. What bones form the protective cage that protects vital organs in the chest?

9. How many bones form the protective cage that protects the vital organs in the chest?

10. What adaptation allows humans to walk fully upright on two legs? _____

11. How many bones are in a human hand? _____
12. What is a reliquary? _____

13. Pirates wore the skull and crossbones as a symbol of _____.
14. What are the longest bones in the human body? _____
15. What is the largest joint in the human body? _____
16. How much weight does the human knee joint carry? _____

17. What functions as a natural shock absorber in the structure of the human foot?

18. The knobby parts of the ankle are part of _____
_____.

From Bone to Stone

1. What serves as evidence of extinct animals? _____
2. What parts of animals are preserved as fossils? _____
3. What long-extinct sea creatures are found worldwide in fossils from the Silurian period?

4. What is the name of the extinct fish that is an ancestor of the modern squirrel fish?

5. During what time period did Ichthyosaurs live? _____
6. When did ammonites inhabit the Earth? _____
7. What part of a belemnite's body is found as fossil evidence? _____

Mammals

1. The basic mammalian skeleton consisted of _____

_____.
2. In some mammals, adaptations have turned the basic skeletal structures into _____

_____.
3. What are some of the adaptations in a badger's skeleton? _____

_____.
4. In marine mammals, the legs and arms that are present in mammals have changed into _____.
5. What does a short tail bone and arms as long as the legs indicate in an animal?
_____.
6. What adaptations do tree-dwelling monkeys show? _____
_____.
7. Unspecialized teeth indicates that an animal is an _____.
8. Skeletons that have long, pointed teeth and claws indicate a mammal that is a _____.

9. What adaptation is found in the bones of flying mammals? _____

10. What adaptations are visible in the skeleton of a hare? _____

11. What are the adaptations in a hare designed to provide? _____

12. How fast can a hare run? _____

Birds

1. What are the two groups of animals that fly? _____
2. What provides strength to the lightweight bones of birds? _____

3. What adaptation in birds allows additional space to increase oxygen supply? _____

4. In birds, the breastbone has evolved into a structure to which the wing-flapping muscles are attached. This structure is called a _____.
5. What two extra bones act to anchor the breastbone to the spine? _____
6. What is the most flexible part of a bird's spine?

7. Of what type of protein are feathers made? _____
8. What is the name given to the collarbone in birds? _____

Fish, Reptiles, and Amphibians

1. What type of animal was the first vertebrate? _____
2. When did the first fish appear on Earth? _____
3. What adaptation from the basic skeleton of fish appeared with the evolution of amphibians? _____
4. What is a prehensile tail? _____
5. In fish, what type of fin controls rolling when swimming?

6. What fins control the up and down motion of a fish? _____

7. What is the name of the fins located on the tail of a fish? _____
8. What is the structure that supports the fins of a fish? _____

9. Why is the spine of a toad one of the shortest in the animal kingdom? _____

10. When did turtles first appear on Earth? _____

Skeletons on the Outside

1. What is the name given to an animal that does not have a backbone?

2. Are the majority of animals vertebrates or invertebrates? _____

3. What is the name of the outer skeleton found in animals such as insects?

4. When an animal with an exoskeleton grows, how does it expand its exoskeleton?

5. Why do animals with exoskeletons tend to be small? _____

6. What material makes up the exoskeleton of beetles? _____

7. What is the heaviest insect in the world? _____

8. What material makes up the exoskeleton of diatoms? _____

9. What parts make up the shell of a turtle? _____

Marine Exoskeleton

1. What are examples of crustaceans? _____
2. What adaptation do crustaceans have that allows for easier movement? _____

3. What material makes up the shells of mollusks? _____
4. What is the name of the abdominal limbs found under the rear of the body of crustaceans, such as prawns and lobsters? _____
5. What are animals that have spiny skins or overlapping plates, such as sea urchins and starfish, called? _____
6. How do mollusks grow? _____

7. What is unique about the seahorse? _____

The Human Skull and Teeth

1. What is the function of the skull? _____
2. What senses are centered in the skull? _____

3. What is the name given to the hole in the skull that houses the eyes? _____

4. What is the name of the nerve hole in the skull through which nerve endings from the teeth run? _____
5. How many teeth do adult humans normally have? _____
6. What material covers the hard outer layer of a human tooth? _____
7. The nerves and blood vessels of a tooth are located in the _____
_____.
8. What type of teeth are found in humans? _____

9. What bone forms the lower eye socket and anchors the upper end of the masseter muscle? _____
10. What is the name of the cushioning membrane that lies between the skull and the human brain? _____
11. How many teeth does a child under the age of six have? _____

How the Skull Is Built

1. How many pieces make up a baby's skull? _____
2. What are sutures? _____

3. What are fontaneles? _____
4. At about what age do the fontaneles disappear? _____
5. At what age do the sutures in the skull begin to disappear? _____
6. How many bones make up the cranium? _____
7. How many bones make up the facial bones? _____
8. What are the smallest bones in the body? _____
9. Approximately when did *Homo sapiens* appear on the Earth? _____

10. What is the mandible? _____
11. What is the name of the bone that forms the lower back of the nasal cavity? _____

12. What bones form the roof of the mouth? _____
13. What bone functions to warm and moisten air as air enters the nose? _____
14. What bones make up the eye socket? _____
15. What is the name of the cheekbone? _____
16. What do the bones of the cranium surround? _____

Animal Skulls

1. When did the jaw bone first evolve in animals? _____
2. What allowed animals to catch large pieces of food and break it down into edible pieces? _____
3. Why do the skulls of domestic dogs vary in shape? _____

4. Forward-facing eye sockets indicate an animal that is a _____.
5. What adaptation allows deer to feed on plants from narrow areas? _____
6. What is the difference between antlers and horns? _____

7. What is the furry skin that covers antlers and is shed in the summer? _____

Animal Senses

1. The size and shape of skulls are the result of adaptations to fit a particular _____.
2. What adaptation is found in most animals that hunt by sight? _____
3. What adaptation is found in most animals that hunt by smell? _____
4. What adaptation is found in most animals that are nocturnal? _____
5. What adaptation is found in most animals that eat grass? _____
6. Why must an owl turn its head in order to see in different directions? _____

Jaws and Feeding

1. What adaptations indicate the types of food an animal eats? _____
2. What is an herbivore? _____
3. In herbivores, what adaptations are found in the skull? _____

4. What are the name of the sharp, large front teeth found in rodents? _____
5. What type of food do carnivores eat? _____
6. What type of teeth are found in carnivores? _____
7. What is the function of carnassial teeth? _____
8. What muscles control the jaws of carnivores? _____
9. What are omnivores? _____

Animal Teeth

1. What type of jobs do teeth perform? _____

2. What is the meaning of the phrase “long in the tooth”? _____

3. What animal has the biggest teeth? _____

4. What animal has the smallest teeth? _____

5. What are the types of teeth? _____

6. What type of teeth are found in herbivores? _____

7. What type of tooth is an elephant’s tusk? _____

8. What can a snake do that allows it to swallow large prey? _____

9. In sharks, how long does each tooth last before being replaced? _____

The Human Spine

1. What is another name for the spine? _____
2. Originally, the spine was designed as a horizontal girder to support the weight of the _____.
3. Why is a human's spine an s-shaped curve? _____

4. The holes in each vertebra form a bony tunnel that functions to protect the _____.
5. What two vertebrae allow the head to nod and turn from side to side? _____

6. How many vertebrae are located in the neck region? _____
7. The vertebrae in the neck are called the _____.
8. How many thoracic vertebrae are located in the human body? _____
9. How many lumbar vertebrae are in the human spine? _____
10. What is the name of the bone that forms the back part of the pelvis? _____
11. What is the name for the human tail bone? _____
12. What is found in between the vertebrae? _____
13. As a person grows older, what happens to the flexibility of the spinal column?

Animal Backbones

1. What body part do all vertebrates possess? _____
2. What is the name for animals that do not possess a spinal column? _____
3. What is missing in the skeleton of a snake? _____
4. A shark's skeleton is made out of what material? _____
5. The tunnel through which the spinal cord runs is called the _____
6. The bony wings upon which muscles are anchored to the spinal column are called the
_____.

The Rib Cage

1. What organs do the rib cage protect? _____

2. Ribs are thin and flexible so that they can _____
_____.
3. What muscle forms the base of the chest? _____
4. What bones make up the chest cage? _____

5. What ribs are true ribs? _____

6. What type of cartilage connects the ribs to the breastbone? _____
7. What ribs are false ribs? _____

8. What two ribs are floating ribs? _____

9. How many ribs do most people have? _____

Human Hip Bones

1. How many bones make up the human hip bone? _____
2. What does the ilium join to at the base of the spine? _____
3. The bony girdle that is formed by the bones in the hip are called the _____
_____.
4. How does the human pelvis differ from four-legged animals? _____

5. What organs do the pelvis protect? _____

6. What muscle attaches to the front of the ilium? _____
7. What is the name of the socket in the hip joint? _____
8. How many vertebrae are fused together to form the sacrum? _____

Animal Hip Bones

1. What legs provide the driving force? _____
2. What type of socket is the thigh joint? _____
3. What is the shape of the pelvis in most four-legged animals? _____

4. What name is used to describe animals that walk on all four legs? _____
5. What strengthens the bones of birds, while allowing them to remain lightweight to enable flight? _____
6. In birds, the pelvic bones are fused to the lower backbone to form the _____
_____.

The Human Arm and Hand

1. What muscle stabilizes the shoulder blade on the back? _____
2. What is the name of the shoulder blade? _____
3. The muscles in the shoulder are responsible for moving what part of the body?

4. What muscles control the movement of the forearm? _____

5. What muscles control the movement of the wrist and fingers? _____

6. When the biceps muscle contracts, what happens to the forearm? _____

7. When the triceps muscle contracts, what happens to the forearm? _____

8. What type of joint is the elbow? _____
9. What type of joint is the shoulder joint? _____
10. What is the name of the upper arm bone? _____
11. What shape is the humerus in cross-section? _____

12. In babies, the wrist bones are made of _____.

13. The wrist bones provide anchorage for what muscles? _____

14. What type of joint is located at the base of the thumb? _____

15. The finger bones are called the _____.

16. How many bones are in the wrist? _____

Arms, Wings, and Flippers

1. What forms have front limbs evolved into for specialized use by animals?

2. What are the two bones in the forearm? _____

3. The bones of a bat's wing are supported by _____.

4. What is found on the tip of the bat's first finger? _____

5. What was the largest flying creature to ever live on Earth? _____

6. The fins of a porpoise are equivalent to what bones in a human? _____

Animal Shoulder Blades

1. What is the primary function of the rear legs? _____

2. What are the primary functions of the front legs? _____

3. How many bones form the scapula in reptiles? _____

4. What bone is attached to the scapula in birds? _____

5. What is the function of the coracoid bone? _____

The Human Leg and Foot

1. What is the thickest and strongest tendon in the body? _____

2. How do the arms and legs work when a person walks? _____

3. The thigh joint and muscles in the hip move the leg _____
_____.
4. How many bones make up the ankle? _____
5. What is the name of the thigh bone? _____
6. What is the name of the largest bone in the ankle? _____
7. What are the names of the two shinbones? _____
8. What is the function of the fibula? _____

9. What is the name of the kneecap bone? _____
10. How are human feet adapted for walking? _____

Animal Legs

1. The legs and feet of an animal give an indication of _____
_____.
2. What legs and feet are characteristic of a hunter? _____
_____.
3. An animal that is large and heavy would normally have legs that are _____
_____.
4. What type of legs and feet would a prey animal normally have? _____
_____.
5. What type of foot does a raptor have? _____
6. What is different about the rear legs of a frog? _____
_____.
7. What type of feet does a monkey that lives in trees have? _____
_____.
8. What is the name given to even-toed hooved animals? _____
9. What is the name given to odd-toed hooved animals? _____
10. The hooves of a horse are the tip of its _____
_____.
11. What is the largest bird in the world? _____

The Largest and Smallest Bones

1. What bones make up about a quarter of the human body's height? _____

2. What primarily controls bone growth in children? _____

3. What causes gigantism? _____

4. What are the three bones that make up the ossicles? _____

5. What is the function of the ossicles? _____

Structure and Repair of Bones

1. How much of a living bone is water? _____
2. What part of a bone produces blood cells? _____
3. What mineral gives bone its hardness and rigidity? _____
4. What type of cell makes new bone? _____
5. What type of cell destroys bone? _____
6. What cells maintain bone by transferring nutrients and waste between blood and bone tissues? _____
7. What is the skin that covers a living bone? _____
8. What type of bone contains the bone marrow? _____
9. Spongy bone is made up of tiny rods called _____.
10. What are the main materials that make up bone? _____
11. What is formed first when a broken bone begins to heal? _____

12. What happens to the bone after a callus forms? _____

13. What happens to any rough bone left after the callus hardens into bone? _____

14. What do doctors use to assist the mending of broken bones? _____

Glossary of Bone Names

1. From what languages are the names of bones derived? _____
2. How many bones are in the adult human body? _____

3. How many bones are in a human baby? _____

Did You Know? Fascinating Facts

1. What is the hardest material in the human body? _____
2. What is the second hardest material in the human body? _____
3. What are the tiny extra bones that sometimes form within tendons? _____

4. What makes up the skeletons of sharks, skates, and rays? _____
5. What type of material surrounds the core bone of a horn? _____
6. What makes up the base of a coral reef? _____
7. How much of a person's body weight comes from the bones and teeth? _____
8. What percentage of the population is born with extra ribs? _____
9. How much does a single molar from an adult elephant weigh? _____
10. What is the meaning of the word *petrify*? _____

11. What is the tallest living land animal? _____

IT Science: Skeleton - Chapter Review Questions

12. What is the largest skeleton of a living animal? _____

13. How big can a saltwater crocodile grow? _____

14. What is the smallest living bird? _____

15. How big is the exoskeleton of the largest spider? _____

14. What is the largest prehistoric insect? _____

15. What is the only whale that has tusks? _____

16. What type of skeleton does a worm have? _____

17. What allows a snake to coil and bend in all directions? _____

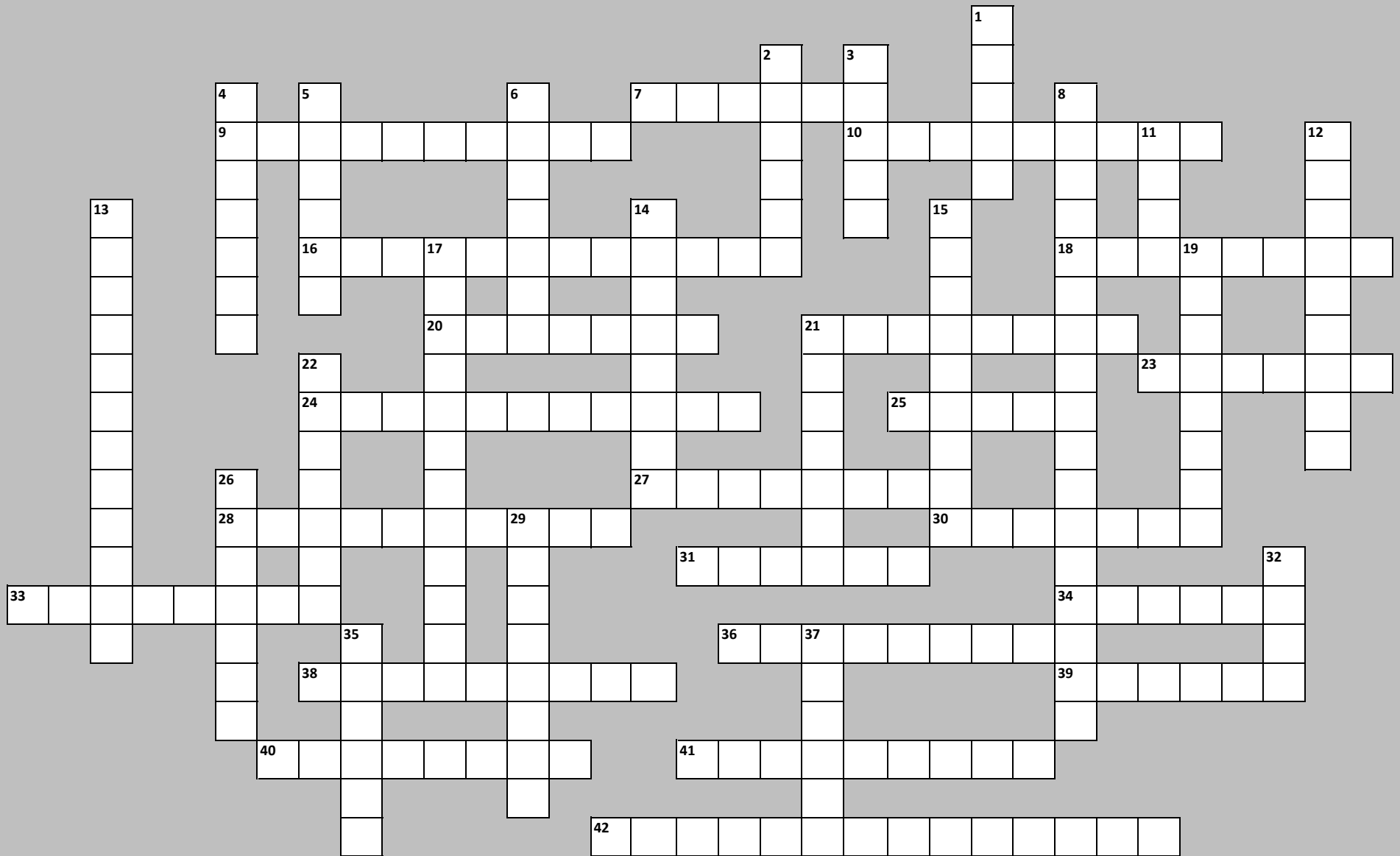
18. What are ligaments? _____

19. What is the function of the red blood cells in the body? _____

20. What is the function of the white blood cells in the body? _____

21. What are tusks? _____

IT Science - Skeleton - Vocabulary Crossword Puzzle



IT Science - Skeleton

Vocabulary Crossword Puzzle Clues

ACROSS

7. Wrist bone between the triquetral and scaphoid.
9. A marine invertebrate, such as a starfish, with a skeleton made of bony plates.
10. Top bone of sternum.
16. An animal that does not have a backbone.
18. Wrist bone below the trapezoid.
20. A hard substance beneath the enamel of teeth.
21. A connective protein found in bone, cartilage, skin, and tendons.
23. Calf bone.
24. A hard skeleton on the outside of an animal's body.
25. Anvil in the middle ear.
27. Jaw bone.
28. Cord of nerve tissue enclosed and protected by the spinal column. (2 words)
30. Breastbone.
31. Hardest substance in the human body that forms outer covering of teeth.
33. Bone in skull that makes up the back roof of the mouth.
34. Tail bone.
36. Animal that eats only plants.

ACROSS

38. Animal that eats only meat.
39. Stirrup bone in the human ear.
40. Bone that makes up the spinal column.
41. Bone at the lower back of the human skull.
42. "Odd-toed" hooved animal.

DOWN

1. Main anklebone.
2. Wrist bone below the ring finger.
3. Thigh bone.
4. The main body of the vertebra.
5. A light, strong substance found in the exoskeletons of arthropods.
6. A structural protein that forms nails, hair, and horn.
8. Bony wing-like projection on vertebra that anchor back muscles. (2 words)
11. Lesser forearm bone.
12. An anklebone between the talus and cuneiform bones.
13. "Even-toed" hooved animal.
14. Protective head shield in some insect exoskeletons.
15. Bones of the fingers or toes in vertebrates.

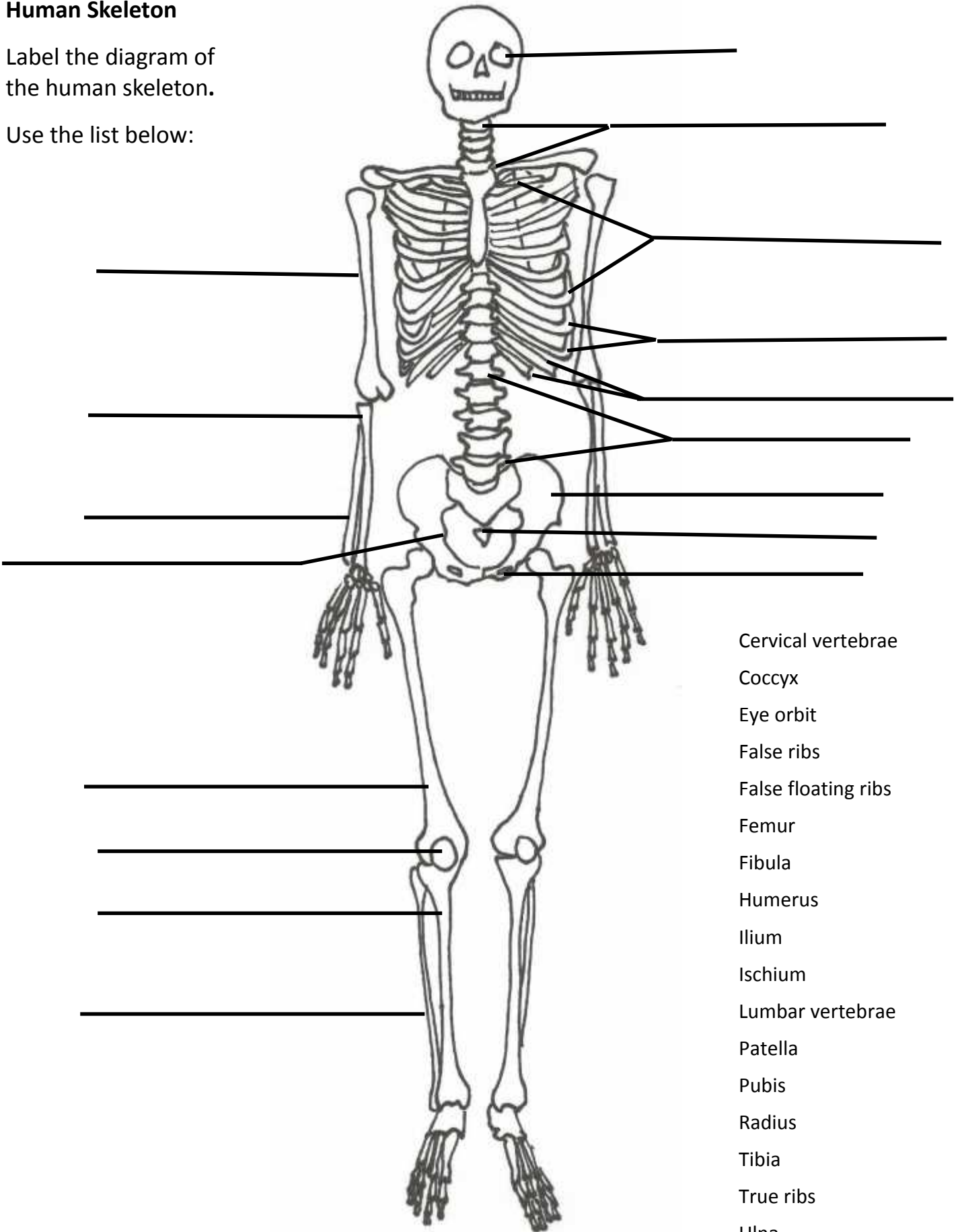
DOWN

17. A hard skeleton found inside an animal's body.
19. Wrist bone below the fifth metacarpal and above the triquetral.
22. A class of vertebrate with scaly skin that lay eggs.
26. Small bone found in human ears; a small bony plate in an exoskeleton.
29. Animal that eats both plants and meat.
32. Neck vertebra that allows head to move side to side.
35. Five vertebrae fused together to form part of pelvis girdle.
37. Main forearm bone.

Human Skeleton

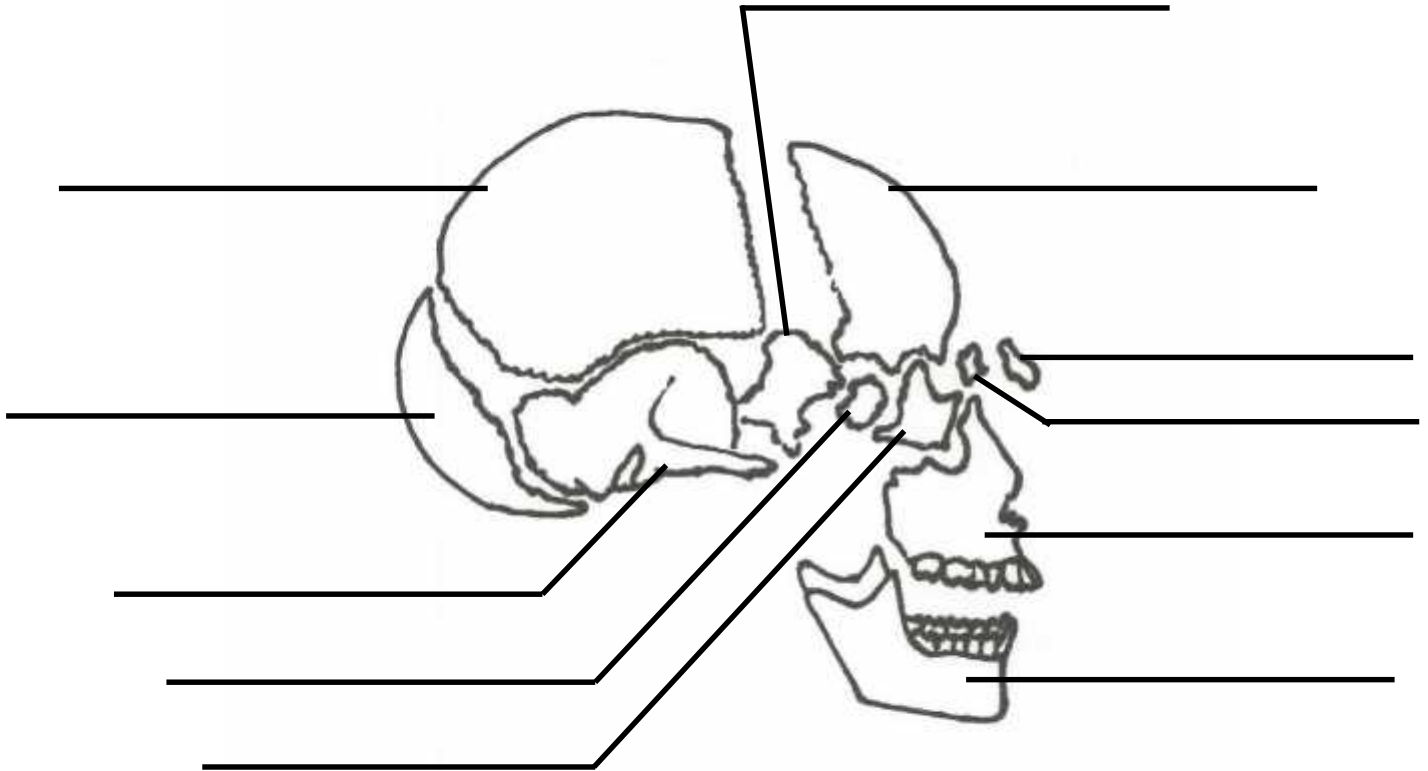
Label the diagram of the human skeleton.

Use the list below:



- Cervical vertebrae
- Coccyx
- Eye orbit
- False ribs
- False floating ribs
- Femur
- Fibula
- Humerus
- Ilium
- Ischium
- Lumbar vertebrae
- Patella
- Pubis
- Radius
- Tibia
- True ribs
- Ulna

Human Skull



Label the diagram of the human skull:

Use the list of bones:

Ethmoid

Nasal

Frontal

Occipital

Lacrimal

Parietal

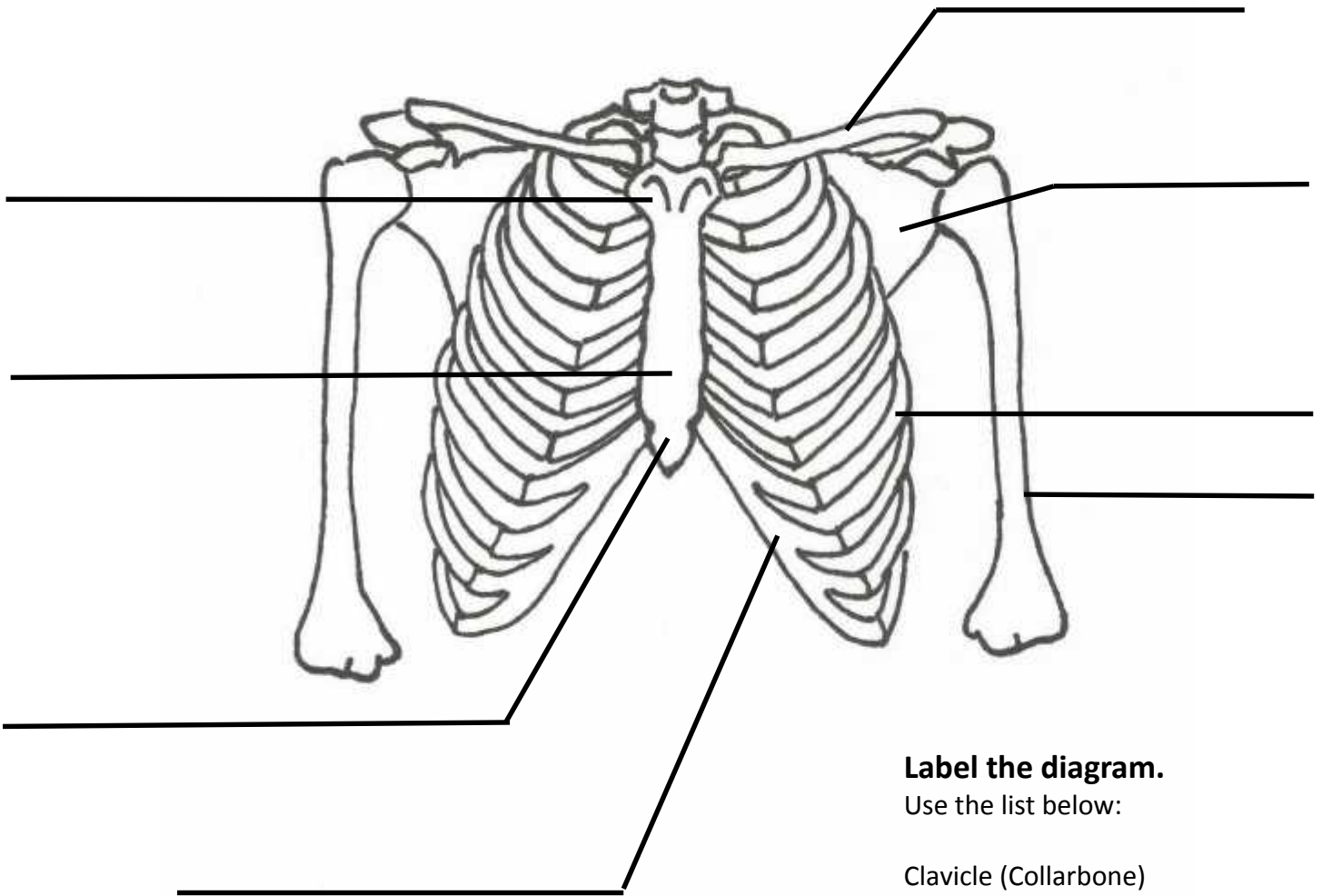
Mandible

Sphenoid

Maxilla

Zygoma

Human Rib Cage, Shoulder, and Upper Arm



Label the diagram.

Use the list below:

- Clavicle (Collarbone)
- Costal cartilage
- Humerus
- Manubrium
- Scapula (Shoulder blade)
- Sternal body
- True rib
- Xiphoid process

Human Hand

Label the diagram.

Use the following list of bones:

Scaphoid

Lunate

Hamate

Triquetral

Pisiform

Distal phalanx

Middle phalanx

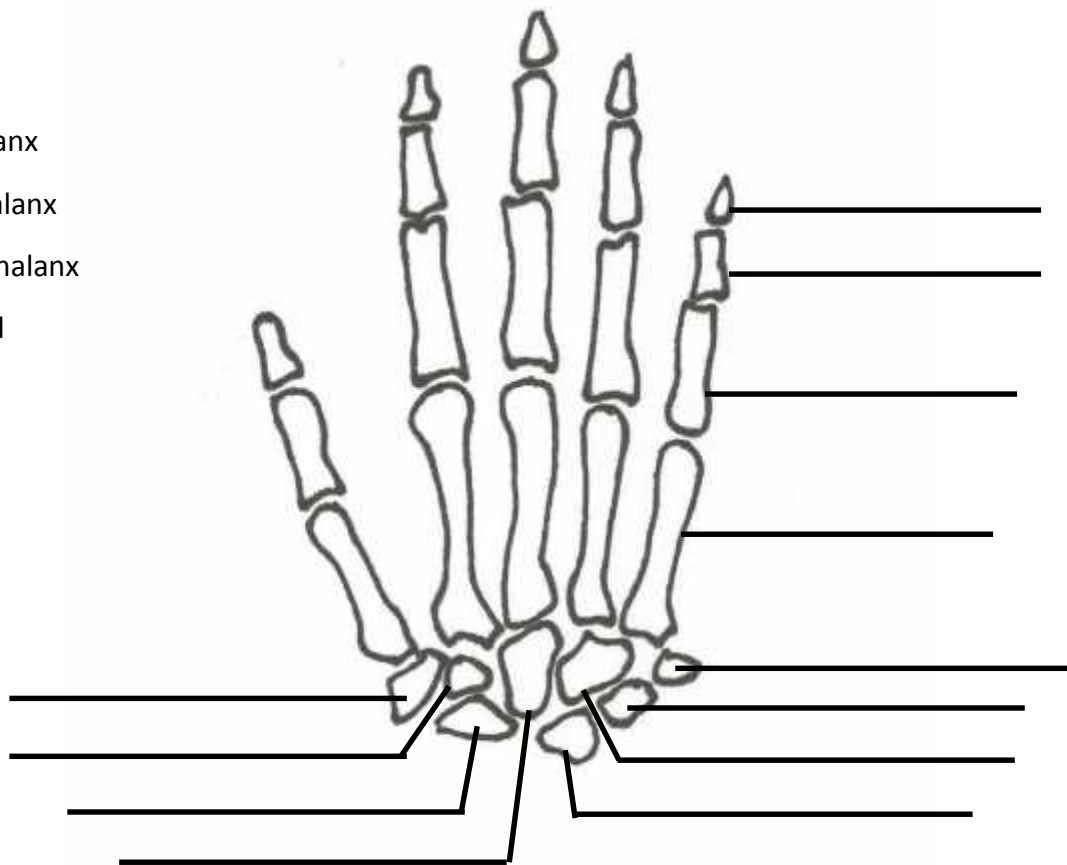
Proximal phalanx

Metacarpal

Capitate

Trapezoid

Trapezium

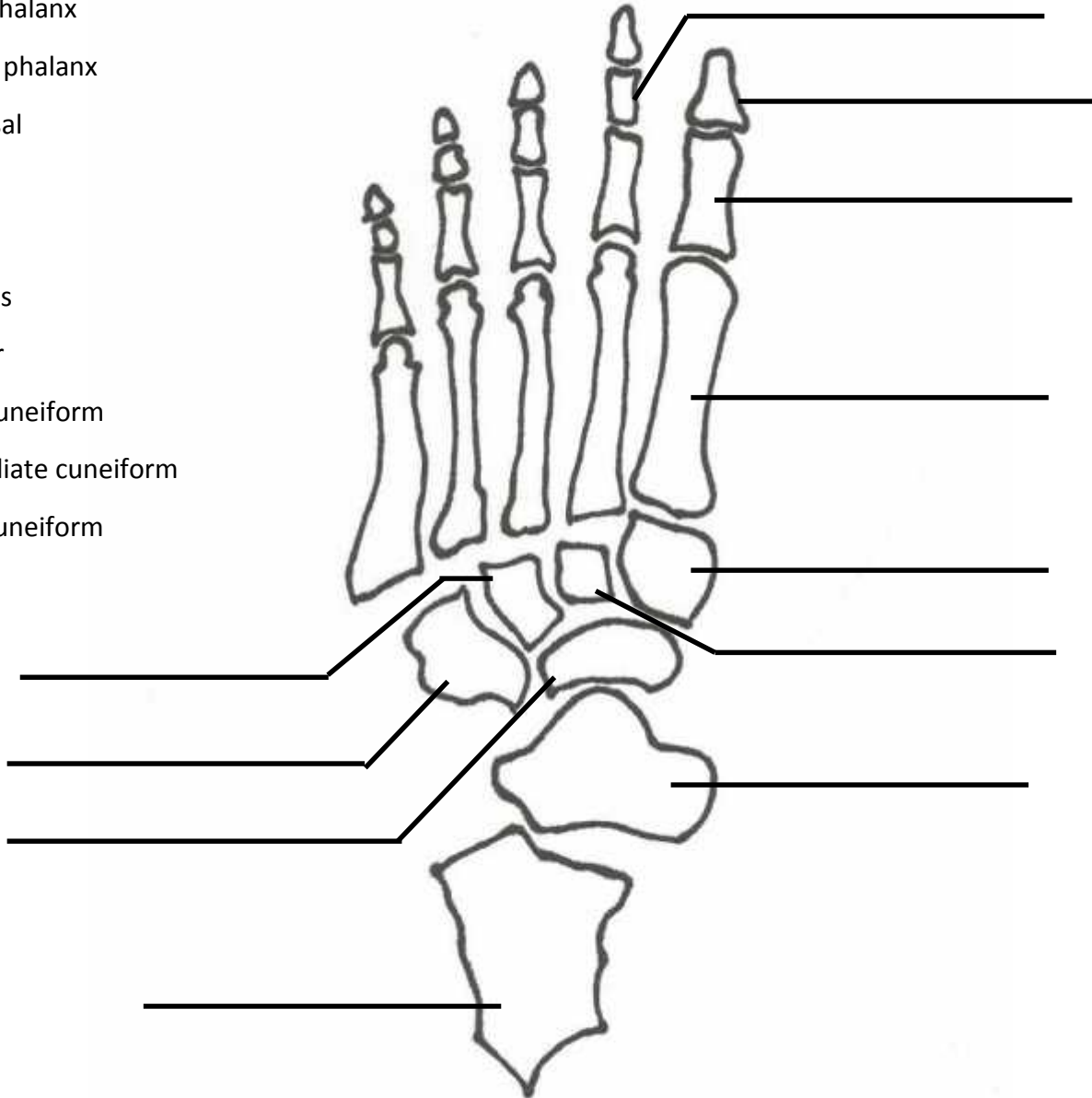


Human Foot

Label the diagram.

Use the following list of bones:

- Distal phalanx
- Middle phalanx
- Proximal phalanx
- Metatarsal
- Talus
- Cuboid
- Calcaneus
- Navicular
- Medial cuneiform
- Intermediate cuneiform
- Lateral cuneiform



1. Ammonites are the ancestors of what modern animal?
 - A. whelk
 - B. scallop
 - C. nautilus
 - D. squirrel fish
 - E. crocodile

2. Which of the following animals walk on their toes?
 - A. cats
 - B. humans
 - C. guinea pig
 - D. rhesus monkeys
 - E. tree squirrels

3. What mammal has a skeleton adapted for flight?
 - A. platypus
 - B. puffin
 - C. heron
 - D. bat
 - E. carp

4. The skeletons of a shark is made of _____.
 - A. enamel
 - B. bone
 - C. cartilage
 - D. silica
 - E. chitin

5. What is another name for the collarbone in birds?
 - A. coracoid
 - B. wishbone
 - C. femur
 - D. synsacrum
 - E. humerus

6. Which of the following animals does not have an exoskeleton?
- A. bullfrog
 - B. scorpion
 - C. spiny lobster
 - D. nautilus
 - E. dung beetle
7. What are scutes?
- A. beetles
 - B. hard scales that cover turtle shells
 - C. the soft portions of the exoskeleton that enable joints to move
 - D. spiders
 - E. the feelers on the arms of starfish

1. How many milk teeth do young children have?
 - A. 26
 - B. 34
 - C. 10
 - D. 20
 - E. 18

2. What type of teeth are found at the front of the human jaw?
 - A. carnassials
 - B. molars
 - C. premolars
 - D. canines
 - E. incisors

3. What material makes up the layer of a tooth immediately under the enamel outer coat?
 - A. dentine
 - B. chitin
 - C. cartilage
 - D. keratin
 - E. bone

4. What is the name of the furry skin that covers antlers?
 - A. chitin
 - B. echinoderm
 - C. carapace
 - D. velvet
 - E. dentine

5. What is another name for the cheekbone?
 - A. sphenoid
 - B. palatine
 - C. zygoma
 - D. mandible
 - E. parietal

6. How long ago did *Homo sapiens neanderthalensis* appear on the earth?
- A. 3 to 2 million years ago
 - B. 1.5 million to 1 million years ago
 - C. 750,000 years ago
 - D. 100,000 to 40,000 years ago
 - E. less than 40,000 years ago
7. What type of animal is a coypu?
- A. a rodent
 - B. a raptor
 - C. a crocodile
 - D. a snake
 - E. a dog

1. Animals that eat both plants and animals are called _____.
 - A. herbivores
 - B. carnivores
 - C. detritivores
 - D. omnivores
 - E. None of the above

2. Animals that eat plants are called _____.
 - A. herbivores
 - B. carnivores
 - C. detritivores
 - D. omnivores
 - E. None of the above

3. What type of tooth is used for crushing and grinding food?
 - A. premolars
 - B. carnassials
 - C. incisors
 - D. canines
 - E. tusks

4. What is the name of the topmost vertebra in the human backbone?
 - A. lumbar vertebra
 - B. transverse vertebra
 - C. atlas
 - D. axis
 - E. thoracic vertebra

5. How many thoracic vertebrae are in the human backbone?
 - A. 14
 - B. 5
 - C. 8
 - D. 12
 - E. 4

6. What is another name for the tailbone?
- A. sacrum
 - B. transverse process
 - C. centrum
 - D. coccyx
 - E. scapula
7. The name of the pelvis comes from the Latin word for _____.
- A. dish
 - B. girdle
 - C. basin
 - D. well
 - E. rib

1. How long is the Achilles tendon in the human body?
 - A. 13 inches
 - B. 18 inches
 - C. 6 inches
 - D. 8 inches
 - E. 10 inches

2. Where is the Achilles tendon located?
 - A. forearm
 - B. upper leg
 - C. lower back
 - D. lower leg
 - E. knee

3. What is the name of the bone that forms the kneecap?
 - A. tibia
 - B. fibula
 - C. phalange
 - D. tarsal
 - E. patella

4. How long is the femur in a giraffe?
 - A. 52 cm
 - B. 45 cm
 - C. 29 cm
 - D. 18 cm
 - E. 11 cm

5. What substance in bones produces red blood cells?
 - A. osteoclasts
 - B. dentine
 - C. marrow
 - D. enamel
 - E. cartilage

6. What type of joint is the knee?
- A. ball-and-socket joint
 - B. hinge joint
 - C. saddle joint
 - D. prehensile joint
 - E. None of the above
7. What bone forms the hooves of a horse?
- A. the third finger or toe
 - B. the thumb or big toe
 - C. the talus
 - D. the calcaneus
 - E. the patella

1. What instrument is used to measure the dimensions of the skull?
 - A. craniometer
 - B. calipers
 - C. x-ray machines
 - D. isotope scanner
 - E. spectrometer

2. How many bones are in the human hand?
 - A. 25
 - B. 27
 - C. 22
 - D. 24
 - E. 28

3. What is the longest bone in the human body?
 - A. femur
 - B. tibia
 - C. fibula
 - D. humerus
 - E. ulna

4. Fossil records show that the first animals to develop backbones were _____.
 - A. amphibians
 - B. fish
 - C. insects
 - D. mammals
 - E. birds

5. What is the name of the fins located along the back of a fish?
 - A. pelvic fins
 - B. pectoral fins
 - C. ventral fins
 - D. caudal fins
 - E. dorsal fins

6. An invertebrate is an animal that does not have _____.
 - A. a backbone
 - B. senses
 - C. an exoskeleton
 - D. legs
 - E. All of the above

7. What is the hardest substance found in the human body?
 - A. kidney stones
 - B. cartilage
 - C. tooth enamel
 - D. bone
 - E. calcium deposits

8. How many teeth does the typical adult human have?
 - A. 32
 - B. 28
 - C. 45
 - D. 36
 - E. 42

9. What is the name of the lower jaw bone?
 - A. mandible
 - B. maxilla
 - C. zygomatic bone
 - D. parietal bone
 - E. patella

10. What is another name for the cheek bone?
 - A. maxilla
 - B. lacrimal bone
 - C. ethmoid
 - D. zygomatic bone
 - E. sphenoid

11. The muscle that closes the jaw bones is the _____.
- A. masseter
 - B. temporalis
 - C. mandible
 - D. maxilla
 - E. palatine
12. What type of teeth are specialized to cut up meat?
- A. canines
 - B. molars
 - C. premolar grinders
 - D. carnassials
 - E. incisors
13. How many thoracic vertebrae do humans have?
- A. 2
 - B. 5
 - C. 7
 - D. 12
 - E. 15
14. What two vertebrae in the upper spine allow the head to nod and twist?
- A. atlas and axis
 - B. centrum and transverse
 - C. sacrum and atlas
 - D. sacrum and axis
 - E. coccyx and sacrum
15. What runs through the neural canal?
- A. peripheral nerve endings
 - B. optic nerve
 - C. spinal cord
 - D. sciatic nerve
 - E. medulla oblongata

16. What muscle forms the base of the chest cavity?
- A. abdominal
 - B. oblique
 - C. diaphragm
 - D. deltoid
 - E. costal
17. How many pairs of ribs are typically found in an adult human?
- A. 16
 - B. 18
 - C. 14
 - D. 12
 - E. 10
18. What is another name for the hip socket?
- A. ischium
 - B. sacroiliac
 - C. acetabulum
 - D. synsacrum
 - E. saddle
19. What is a quadruped?
- A. an animal that can walk in a semi-upright position
 - B. an animal that can walk in a full-upright position
 - C. an animal that walks on four legs
 - D. an animal that walks on four legs and has a prehensile tail
 - E. an animal that does not have legs and moves by slithering
20. In birds, what bones are fused to form the synsacrum?
- A. the ischium and ilium
 - B. the pelvic bones and the lower backbones
 - C. the keel and the wishbone
 - D. the wishbone and the scapula
 - E. the coccyx and the pubic bone

21. What type of joint is the shoulder joint?

- A. ball and socket
- B. hinge joint
- C. sutures
- D. cartilaginous joint
- E. pivot joint

22. How many vertebrae make up the human spine?

- A. 33
- B. 31
- C. 35
- D. 30
- E. 24

23. The radius is a bone in the _____.

- A. skull
- B. upper arm
- C. forearm
- D. thigh
- E. lower leg

24. What type of joint is the ankle?

- A. composite joint
- B. ball-and-socket joint
- C. hinge joint
- D. saddle joint
- E. pivot joint

25. What is the name of the main shin bone?

- A. femur
- B. fibula
- C. tibia
- D. calcaneus
- E. radius

26. What is the largest bone in the ankle?

- A. metatarsals
- B. talus
- C. calcaneus
- D. phalanges
- E. tarsals

27. What is the name of the heel bone?

- A. metatarsals
- B. talus
- C. calcaneus
- D. phalanges
- E. tarsals

28. What controls bone growth in childhood?

- A. platelets
- B. genetics
- C. hormones
- D. exercise
- E. diet

29. The tallest recorded human in history was _____.

- A. Robert Wadlow
- B. Charles Stratton
- C. Giant Hugo
- D. General Tom Thumb
- E. Charles Schultz

30. What is the smallest bone in the human body?

- A. stirrup
- B. anvil
- C. hammer
- D. eardrum
- E. cochlea

31. What part of the human body produces red blood cells?
- A. kidneys
 - B. bone marrow
 - C. liver
 - D. heart
 - E. pancreas
32. What type of cell passes nutrients and wastes back and forth between the blood and bone tissues?
- A. osteoblasts
 - B. osteocytes
 - C. osteoclasts
 - D. cytoplasts
 - E. None of the above
33. What is the name of the skin that surrounds the outer shell of bone?
- A. periosteum
 - B. compact bone
 - C. marrow
 - D. osteoclast
 - E. trabeculae
34. Spongy bone is made up of a network of tiny rods called _____.
- A. periosteum
 - B. compact bone
 - C. marrow
 - D. osteoclast
 - E. trabeculae
35. What are the main materials that make up bone?
- A. calcium, phosphorus, and oxygen
 - B. calcium, phosphorus, and collagen
 - C. calcium, potassium, and phosphorus
 - D. calcium, magnesium, and sulfur
 - E. calcium, magnesium, and collagen

36. The upper part of the breastbone is called the _____.
- A. coccyx
 - B. sternal body
 - C. manubrium
 - D. xiphoid process
 - E. sacrum
37. Which of the following is not part of the anklebone?
- A. talus
 - B. cuboid
 - C. medial cuneiform
 - D. distal phalanx
 - E. calcaneu
38. The distal phalanx forms the tip of the _____.
- A. toe
 - B. ring finger
 - C. thumb
 - D. All of the above
 - E. None of the above
39. What percentage of the human population is born with one or more extra ribs?
- A. 2 %
 - B. 5%
 - C. 7%
 - D. 10%
 - E. 12%
40. What bone is missing in snakes that allows them to swallow large animals whole?
- A. mandible
 - B. sternum
 - C. patella
 - D. backbone
 - E. teeth

41. What material makes up baleen in whales?

- A. collagen
- B. cartilage
- C. enamel
- D. compact bone
- E. keratin

42. A scientist who studies fossilized bones is called _____.

- A. an anthropologist
- B. a paleontologist
- C. a sociologist
- D. a forensic scientist
- E. a naturalist

43. What is the process in which cartilage turns into hard bone?

- A. calcification
- B. ossification
- C. fossilization
- D. mineralization
- E. None of the above

44. The honeycomb-like material found in the interior of bones is called _____.

- A. soft bone
- B. cartilage
- C. bone marrow
- D. spongy bone
- E. periosteum

45. What is another name for the collarbone?

- A. scapula
- B. clavicle
- C. manubrium
- D. ilium
- E. sacrum

46. In birds, what bone takes the weight of the body and balances it over the legs?

- A. ilium
- B. coccyx
- C. coracoid bone
- D. pygostyle
- E. femur

47. Exoskeletons are made of a light, strong material called _____.

- A. collagen
- B. dentine
- C. keratin
- D. enamel
- E. chitin

48. What animal has the largest skeleton of all living animals?

- A. shark whale
- B. humpback whale
- C. blue whale
- D. reticulated giraffe
- E. African elephant

49. What is the structural protein found in fingernails?

- A. collagen
- B. cartilage
- C. enamel
- D. compact bone
- E. keratin

50. How large is the hammer bone in the human ear?

- A. 3 mm
- B. 8 mm
- C. 10 mm
- D. 5 mm
- E. 4 mm

1. What is the largest joint in the human body?
 - A. knee
 - B. hip joint
 - C. rotator cuff
 - D. saddle joint
 - E. elbow

2. What is the name of the large flange on the breastbone of birds?
 - A. keel
 - B. synsacrum
 - C. shaft
 - D. coracoid
 - E. ulna

3. In birds, what bones function to brace the breastbone against the spine?
 - A. synsacrums
 - B. shafts
 - C. coracoids
 - D. operculars
 - E. fibulas

4. How long ago did the first vertebrate animals appear on Earth?
 - A. 250 million years ago
 - B. 80 million years ago
 - C. 500 million years ago
 - D. 350 million years ago
 - E. 800 million years ago

5. The hard outer casing of invertebrates is called _____.
 - A. an exoskeleton
 - B. an endoskeleton
 - C. a shell
 - D. a carapace
 - E. a plastron

6. What is the heaviest insect in the world?
 - A. Dung beetle
 - B. African scorpion
 - C. Bird tarantula
 - D. Praying mantis
 - E. Goliath beetle

7. What muscles control the movement of the upper and lower jaws?
 - A. the temporalis and masseter muscles
 - B. the metatarsal and phalange muscles
 - C. the biceps and triceps
 - D. the ischium and ilium muscles
 - E. the pectoral and dorsal muscles

8. The soft spots in a baby's skull are called _____.
 - A. sphenoids
 - B. ethmoids
 - C. fontaneles
 - D. palatines
 - E. carotoids

9. What bone makes up the back of the roof of the mouth?
 - A. vomer
 - B. inferior concha
 - C. ethmoid
 - D. palatine
 - E. sphenoid

10. What is the bone located at the lower back portion of the skull?
 - A. temporal bone
 - B. parietal bone
 - C. zygomatic bone
 - D. occipital bone
 - E. sphenoid bone

11. What is the furry skin that covers antlers and provides nourishment for growing antlers?
- A. cuticle
 - B. cartilage
 - C. velvet
 - D. dentine
 - E. dendrite
12. The animal with the largest teeth is the _____.
- A. walrus
 - B. blue whale
 - C. great white shark
 - D. elephant
 - E. anaconda
13. What type of tooth is the tusk of an elephant?
- A. premolar
 - B. carnassial
 - C. canine
 - D. denticle
 - E. incisor
14. Ivory is formed by a combination of _____.
- A. cartilage and bone
 - B. dentine and calcium minerals
 - C. denticles and horn
 - D. calcium minerals and enamel
 - E. plaque and dentine
15. How much ivory does an elephant produce during its lifetime?
- A. half a ton
 - B. one ton
 - C. 250 kg
 - D. 150 kg
 - E. 25 kg

16. How many bones make up the human lumbar vertebrae?
- A. 2
 - B. 5
 - C. 7
 - D. 12
 - E. 10
17. How many pairs of ribs are connected to the breastbone in a human?
- A. 2
 - B. 5
 - C. 7
 - D. 8
 - E. 12
18. What is the name given to the eleventh and twelfth pair of ribs in the human rib cage?
- A. true ribs
 - B. floating ribs
 - C. false ribs
 - D. costal ribs
 - E. scapulas
19. For normal body function, skeletal muscles must work in _____.
- A. unison
 - B. opposing pairs
 - C. small increments
 - D. a twisting motion
 - E. rapid succession
20. What type of joint is found at the base of each finger?
- A. ball and socket
 - B. hinge joint
 - C. saddle joint
 - D. pivot joint
 - E. suture

21. Where is costal cartilage found in the human body?
- A. nose
 - B. knee
 - C. ankle
 - D. rib cage
 - E. inner ear
22. How many bones are there in the human hand?
- A. 15
 - B. 19
 - C. 20
 - D. 18
 - E. 16
23. In what part of the human body are the carpal bones located?
- A. ankle
 - B. foot
 - C. hand
 - D. wrist
 - E. spinal column
24. What is the largest flying animal ever to live on the Earth?
- A. Ostrich
 - B. California condor
 - C. Grey heron
 - D. Pteranodon
 - E. Flying fox
25. What is the thickest and strongest tendon in the human body?
- A. Anterior cruciate tendon
 - B. Achilles tendon
 - C. Temporalis tendon
 - D. Masseter tendon
 - E. Plantar tendon

26. What type of joint is the hip joint?
- A. composite joint
 - B. ball-and-socket joint
 - C. hinge joint
 - D. saddle joint
 - E. pivot joint
27. What is the largest bone in the human body?
- A. humerus
 - B. tibia
 - C. fibula
 - D. femur
 - E. radius
28. How large is the stirrup bone in the human ear?
- A. 3 mm
 - B. 8 mm
 - C. 10 mm
 - D. 5 mm
 - E. 4 mm
29. What type of cells destroy bone, releasing minerals into the blood?
- A. osteoblasts
 - B. osteocytes
 - C. osteoclasts
 - D. cytoplasts
 - E. None of the above
30. The ossicles function to _____.
- A. balance the body's weight from the heel to the toes when walking
 - B. attach the ribs to the spinal column
 - C. protect the ball-and-socket joints in the body
 - D. transfer sound vibrations from the eardrum to the inner ear
 - E. allow lateral movement in the wrist

31. Red blood cells are made in the _____.
- A. periosteum
 - B. compact bone
 - C. bone marrow
 - D. osteoclasts
 - E. trabeculae
32. Which of the following is not a bone in the wrist?
- A. trapezium
 - B. trapezoid
 - C. capitate
 - D. pisiform
 - E. metacarpal
33. What bone is located between the calcaneus and the navicular?
- A. medial cuneiform
 - B. fifth metatarsal
 - C. cuboid
 - D. scaphoid
 - E. talus
34. What is the second-hardest material in the human body?
- A. collagen
 - B. cartilage
 - C. enamel
 - D. compact bone
 - E. keratin
35. What is the largest crustacean in the world?
- A. horseshoe crab
 - B. Alaskan king crab
 - C. Japanese spider crab
 - D. Maine lobster
 - E. cuttlefish

36. Of the twelve ribs in the rib cage, which set of ribs is the longest?
- A. 12th
 - B. 1st
 - C. 4th
 - D. 7th
 - E. 5th
37. A short tail in a mammalian skeleton indicates that the animal dwells primarily _____.
- A. in treetops
 - B. underground
 - C. on the ground
 - D. in diverse habitats
 - E. in water
38. Unspecialized teeth are an indicator of an animal that is _____.
- A. an herbivore
 - B. a carnivore
 - C. an omnivore
 - D. a detritivore
 - E. a scavenger
39. In birds, the lower backbones and hip bone are fused together to form the _____.
- A. synsacrum
 - B. opercular
 - C. coracoids
 - D. carapace
 - E. sphenoid
40. Which of the following is not an example of a crustacean?
- A. Spiny lobster
 - B. Spiny spider crab
 - C. Gibbon
 - D. Striped prawn
 - E. Crayfish

41. Which of the following is an example of an echinoderm?
- A. Brittlestar
 - B. Sea Urchin
 - C. Boxfish
 - D. Wentletrap
 - E. A and B
42. Nerve endings from the teeth pass through a hole in the skull called the _____.
- A. infra-orbital foramen
 - B. orbital foramen
 - C. temporalis foramen
 - D. masseter foramen
 - E. sphenoid foramen
43. What part of the human brain is associated with intelligence?
- A. meninges
 - B. cerebellum
 - C. cranium
 - D. cerebral cortex
 - E. hypothalamus
44. How many pieces make up the cranium of an infant human?
- A. 8
 - B. 12
 - C. 15
 - D. 25
 - E. close to 30
45. How many bones make up an adult human cranium?
- A. 5
 - B. 7
 - C. 8
 - D. 12
 - E. 14

46. What is the scientific name for the domestic dog?
- A. Felis familiaris
 - B. Felis domesticatis
 - C. Canis familiaris
 - D. Aves domesticus
 - E. Ursidae familiaris
47. Animals with large orbits typically are _____.
- A. nocturnal
 - B. predators
 - C. keen-sighted
 - D. All of the above
 - E. None of the above
48. The region of the spinal column that is most susceptible to ruptured or popped disks is the _____.
- A. cervical vertebrae
 - B. coccyx
 - C. sacrum
 - D. lumbar vertebrae
 - E. thoracic vertebrae
49. How many bones make up the human cervical vertebrae?
- A. 2
 - B. 5
 - C. 7
 - D. 12
 - E. 10
50. What is the name of the tail fins of a fish?
- A. pelvic fins
 - B. pectoral fins
 - C. ventral fins
 - D. caudal fins
 - E. dorsal fins

