

# 1. Body Movements

## Evaluation

### 1. Question

Choose the word that is different from the others in the following and give reason.

a. Clavicle b. Skull c. Femur d. Ball and socket

### Answer

Ball & socket

Reason: Clavicle, skull and femur are the types of bones present at different parts of the body.

**Clavicle**, also referred to as collarbone is present between sternum & scapula.

**Skull** is a bony structure that forms the basis of our face structure & protects the brain from any damage.

**Femur** is the longest bone in our body which is also known as thighbone. The head of the femur fits into the hip socket & the bottom part connects to the knee.

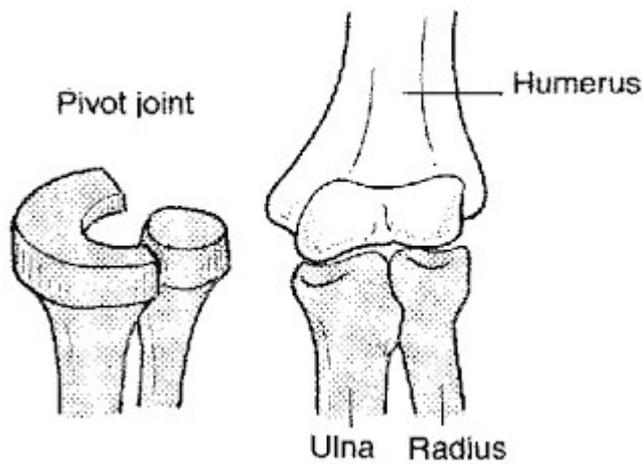
**Ball & socket** is a type of joint in which the end of one bone consists a ball like structure which fits into another bone which has a socket like structure. Hip joint and knee joint are the types of ball & socket joint.

### 2. Question

Name the joint that enables the movement of head from side to side.

### Answer

Pivot joint enables the movement of head from side to side. The moving bone rotates within a ring that is formed from a second bone and adjoining ligament. Example: Atlas & Axis



### 3. Question

Fill in the blanks:

- A tendon connects a \_\_\_\_\_ to a \_\_\_\_\_.
- Earthworms move with the help of body muscles and \_\_\_\_\_.
- Bones have a layer of strong outer covering called \_\_\_\_\_.

### Answer

- A tendon connects a **muscles** to a **bone**.

Tendon is a connective tissue made up of collagen. It helps in proper functioning and movement of the body.

- Earthworms move with the help of body muscles and **setae**.

Satae refers to still hair present on the body of earthworm. They help earthworm to attach to the surface & prevent backsliding.

- Bones have a layer of strong outer covering called **periosteum** .

Periosteum consists of dense irregular connective tissue which forms the outer layer of the bone. It serves as protection layer for the bone and serves as a channel for the blood supply and nutrients for bone tissue.

### 4. Question

Which one of the following is not matched correctly?

A	B
1. Hip joint	Ball and socket
2. Hinge joint	Atlas and Axis
3. Gliding joint	Tarsal bones

### Answer

A	B
1. Hip joint	Ball and socket
2. Hinge joint	Elbow & ankle
3. Gliding joint	Tarsal bones

Atlas & axis are the examples of pivot joints which help in the side to side movement of neck. In hinge joints, the convex surface of one bone fits in concave surface of other bone.

### 5. Question

The skeletal system has many other functions besides helping in movements.

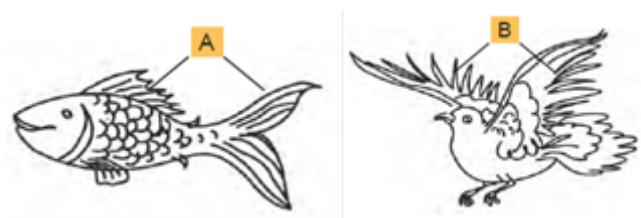
Do you know what they are?

### Answer

- Formation of blood cells
- Storage of minerals
- Endocrine regulation
- Protection of vital organs

### 6. Question

Identify parts A and B and state their functions:



### Answer

'A' refers to the fins of a fish. Fins are the part of fish which helps in locomotion of fish in search of food and protect themselves from predators. Also fins help in swimming and sudden movements in the water.

'B' refers to the wings which acts as forelimbs for the birds and helps in flying. The curved wings give them the thrust to move through air and help them to fly.

### 7. Question

Draw the given diagram and label the following parts.



a) Ball:

b) Periosteum:

c) Yellow marrow:

d) Compact bone:

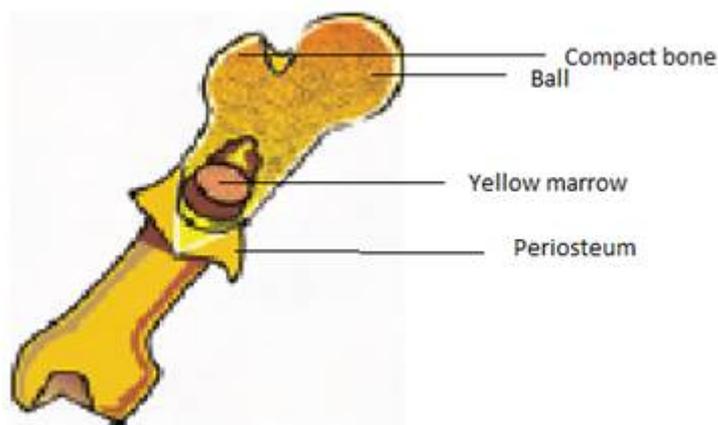
### Answer

a) Ball: Ball & socket is a type of joint in which the end of one bone consists a ball like structure which fits into another bone which has a socket like structure. Hip joint and knee joint are the types of ball & socket joint.

b) Periosteum: Periosteum consists of dense irregular connective tissue which forms the outer layer of the bone. It serves as protection layer for the bone and serves as a channel for the blood supply and nutrients for bone tissue.

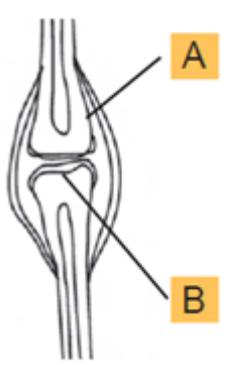
c) Yellow marrow: Yellow bone marrow produces fat, cartilage and bone. White blood cells develop here.

d) Compact bone: Compact bones are dense bones in which the bone is solidly filled with organic ground substance and inorganic salts, leaving only small spaces which have blood cells in them.



### 8. Question

Copy the diagram of the human joint. Name the joint, label part A and B and write their functions.



### Answer

The figure represents Synovial joints.

Part 'A' represents humerus and part 'B' represents ulna. Humerus is a long bone in arm and helps in abduction and extension of arm. Ulna helps the wrist joint to rotate.

### **9. Question**

Give reason:

- a. The movement of animals is based on their skeletal system.
- b. Exercise or physical activity is one of the essential requirements for long life.

### **Answer**

a. Skeletal system provides the structure & protection for animals. It is made up of bones, ligaments, tendons, joints and connective tissues. The movement of animals depends on different kinds of joints present in the body. It provides a framework for muscles which are attached to the bones. When the muscles contract they pull on the bones of the skeleton, which act like levers to create movement.

b. Exercise or physical activity helps in staying fit & healthy. Through exercise, extra calories burn from our body. Moreover, it strengthens our heart and lungs. It controls our weight which helps in proper movement of our bones. Oxygen levels increase in our blood stream through exercise and thus increasing our lifespan.