



**Edu Junior**

Where Passion Meets Educations



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**Class 6<sup>th</sup>**

**Chapter 5<sup>th</sup>**

**Body Movements**

## **SKELETON**

**The bony framework inside our body is called skeleton.**

**The skeleton consists of: Skull, Backbone, Ribs, Breastbone, Shoulder bones, Hip bone, Arm bones and Leg bones.**

- **Human skeleton consists of a strong backbone which has skull at its top. The skull has eye sockets, an upper jaw, and a lower jaw in it.**
- **Below the neck, there are shoulder bones on both the sides. The shoulder bones consist of two bones: collar bone and shoulder blade.**
- **Ribs are attached to the upper part of backbone.**
- **The upper limb of human body from the shoulder to the hand is called an arm.**
- **lower end of backbone is a wide and strong structure called hip bone**
- **There are two legs in the human body. The two legs are attached to hip bone of the skeleton by ball and socket joints.**
- **Each leg consists of three parts s upper leg, lower leg and foot.**

## **Functions of Skeleton**

- **It holds the whole body together and gives it a shape.**
- **Protects many delicate internal organs of the body.**
- **Skeleton helps in the movement of body parts and locomotion.**

## **Cartilage**

**It is a firm but flexible material found at some places in the skeleton. It is much softer than bone.**

**It bent without breaking. It is a kind of softer and elastic bone.**

- It is present in the pinnae of ears (upper part of ears).
- It is found at the end of nose.
- It is found on the end of bones where they meet one another at a joint.
- It is also present between the vertebrae of backbone.

## **JOINTS**

The place where two (or more) bones meet in the skeleton is called a joint.

Joints of the bones help in body movements.

In freely movable joints the ends of bones forming the joint are held in place by strong connective tissue called ligaments'.

Ligaments connect the bones forming the joints and prevent the bones from falling apart during movement. They are, elastic and so they can stretch to let the bones move at the joints easily.

At the ends of the bones at joints are covered with a soft and smooth layer of cartilage

## **TYPES OF JOINTS**

**(i) Hinge joints (ii) Ball and Socket joints (iii) Pivot joints (iv) Fixed joints**

### **Hinge Joints**

A hinge joint allows the movement of bones in only one direction forwards and backwards.

**In a hinge joint, the movement of bones is restricted to one direction by the shape of the ends of the bones which form the joint, and by the ligaments which hold the bones together at the joint.**

### **Example**

**Elbow, knee, finger joints and jaw**

### **Ball and Socket Joints**

**One end of the bone has a round shape like a ball' which fits into a socket in the other bone.**

**The bones can be turned in any direction: forwards and backwards, side to side, and even rotated.**

**The shoulder joints and hip joints are ball and socket joints.**

### **Pivot Joints**

**A cylindrical bone turns in a ring-type bone. The pivot joints allow rotation around an axis.**

**Exists between our 'skull' and the 'top vertebra' of backbone.**

**The pivot joint between the skull and neck allows our head to bend 'up and down' and turn from 'side to side'.**

**Pivot joint occurs in the forearm (lower arm) near the elbow. The pivot joint in the forearm makes us turn our forearm to hold the palm of hand up or down.**

### **Fixed Joints**

**In fixed joints, the bones are held very firmly together by strong fibers. The fixed joints are immovable joints.**

**The fixed joints is to provide strength and support to the body, or to protect delicate organs (like brain) which cannot withstand any kind of deformation.**

## **MOVEMENT IN ANIMALS**

### **Cockroach**

**The body of a cockroach is covered with hard and tough outer covering called 'exoskeleton.**

**A cockroach has six legs.**

**Each leg of cockroach consists of stiff, hollow tubes joined together.**

**The muscles which move the legs of cockroach are attached to the inside of the exoskeleton.**

### **Birds**

**In birds one pair of muscles pulls the wings down and the other pair of muscles pulls the wings up. When a bird moves its wing down, it is called a down stroke. And when the bird moves its wings up, then it is called an upstroke.**

**The birds move their wings up and down quickly by the rapid contractions and relaxation of their flight muscles.**

### **Earthworm**

**The earthworm's body has two types of muscles: circular muscles and longitudinal muscles.**

**When circular muscles contract, they make the segments of earthworm's body long and thin.**

**And when longitudinal muscles contract, they make the long and thin segments of earthworm's body short and fat again.**

### **Snail**

**The body of a snail is soft and consists of a head, a foot and a shell. The head of snail has two pairs of tentacles for catching prey.**

**Shell is the outer skeleton of snail but it is not made of bones. Shell contains the internal organs of the snail.**

**The foot of snail is large, flat and disc-shaped, which is made of strong muscles. It is called muscular foot.**

### **Fish**

**Fish is adapted to move in water by having a streamlined shape, flexible backbone, powerful body muscles and fins.**

**A fish swims in water by moving its tail from side to side. The side to side movements of tail are brought about by the alternate contractions and relaxation of muscles on the two sides of the body of fish.**

### **Snake**

**The body of a snake is long and cylindrical. The snake has a long and flexible backbone which makes its body bend easily to form loops.**

**A snake contracts and relaxes the muscles on the two sides of its body alternately to form many loops (or curves) in which different parts of the snake's body are moving to the left side and right side at the same time.**