

Chapter-3

Skeletal System

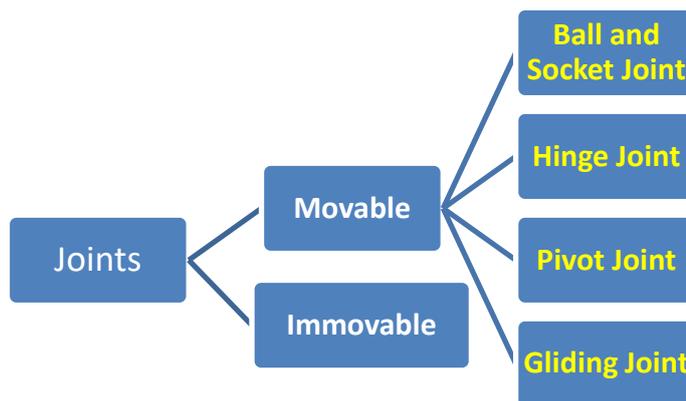
Class –V

General science

Keywords:

1. **Skeleton:** the bony framework that supports our body.
2. **Joint:** a place where two bones meet.
3. **Vertebra:** each small bone of the vertebral column.
4. **Tendons:** strong fibres with which muscles are attached to the bones.
5. **Ligaments:** strong tissues that bind the bones at a joint.

Types of joints:



Movable Joints: Joints which can move freely are called movable joints.

Immovable Joints: Joints which does not allow any movement between two joints are called immovable joints.

Ex- Skull

Oral questions:

1. How many cranial bones are there in the upper portion of the skull?
Ans1. There are eight (8) cranial bones in the upper portion of the skull.
2. How many pairs of ribs are there in ribcage?
Ans2. There are 12 pairs of ribs in ribcage.
3. Name the long bone which lies at the center of chest?

Ans3. Sternum is the long bone lies at the center of chest.

Very short answer:

1. What are tendons?

Ans1. Muscles are attached to the bones by strong fibres called tendons.

2. Give an example of involuntary muscle.

Ans2. Muscle of eyes is an example of involuntary muscle.

Short answer question:

1. Write any two functions of the skeleton?

Ans1. Functions of skeleton are:

a) It gives shape, support and strength to our body.

b) It helps in the formation of RBC (Red Blood Cells).

2. What is the difference between voluntary and involuntary muscles?

Ans2.

Voluntary muscles	Involuntary muscles
Muscles which are under our control are called voluntary muscles.	Muscles which are not under our control are called involuntary muscles.
These muscles are found attached to the bones.	These muscles are found in the walls of internal organs.
Ex. Muscles of arms and legs	Ex. Muscles of eyes

3. Voluntary muscles are under our control. They obey the instructions given which results in the completion of a work without any problem.

a) Give an example of voluntary muscle.

Ans a) Movement of arms is an example of voluntary muscle.

b) Should we also obey our parent's advice like the voluntary muscles? Why?

Ans b) We should obey our parent's advice like voluntary muscles because they instruct us to do our work properly.

Long answer questions:

1. Write in brief about the three types of muscles found in our body.

Ans1. The three types of muscles are:

a) Voluntary muscles- muscles which are under our control are called voluntary muscles.

Ex. Muscles of arms and legs

b) Involuntary muscles- muscles which are not under our control are called involuntary muscles.

Ex. Muscles of eyes, movement of food in alimentary canal

c) Cardiac muscles- the muscles that work throughout our life and never get tired. It is found in the walls of heart.

2. What are joints? Name the types of joints and also give one example.

Ans2. The place where two bones meet are called joints.

There are two types of joints:

Movable Joints: Joints which can move freely are called movable joints.

a) Ball and Socket joint- hips and shoulders

b) Hinge joint- elbows, fingers, knees and toes

c) Pivot joint- neck and skull

d) Gliding joint- wrists and ankles

Immovable Joints: Joints which does not allow any movement between two joints are called immovable joints.

Ex- Skull

3. a) How do muscles help to help to move the bones?

Ans3 a) Two muscles called biceps and triceps work in pair of repeated contraction and expansion, when we pull our arms biceps contract and become shorter and when we lower the arms triceps contract and become shorter.

b) Why are we not able to move the bones of our skull?

Ans3. We are not able to move the bones of our skull because they are interlocked.

Name them:

1. The largest bone in our body - femur

2. The number of bones in our body - 206

3. Bone marrow help in formation of - RBC'S

4. Uppermost vertebrae of spine – atlas

Think and answer:

1. If your backbone is not working. What problems do you think you will have?

Ans1. If our backbone is not working, we will not be able to sit and stand.

2. What could happen if there would be no bones in our body?

Ans2. If there would be no bones in our body:

a) Our body did not get a perfect shape.

b) Our internal organs will not be protected.

3. Why are the last two pairs of ribs are called floating ribs?

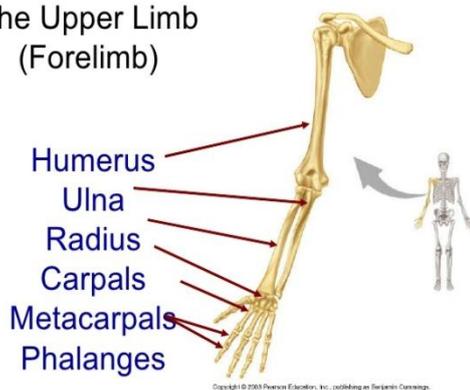
Ans3. The last two pairs of ribs are called floating ribs because they are free and are joint only to the backbone and not to the sternum.

Draw and label:

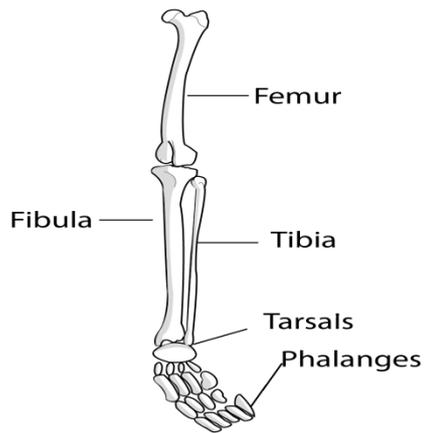
a) Forelimb in human

Appendicular Skeleton

The Upper Limb
(Forelimb)



b) Hindlimb in human



c) Types of muscles

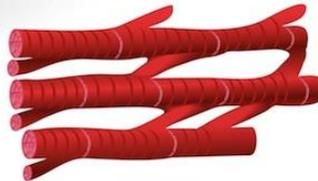
Skeletal muscle



Smooth muscle



Cardiac muscle



Points to remember:

- The skeletal system is the framework of bones that gives support to our body.
- Skull, ribcage, backbone and limbs are different parts of human skeletal system.
- Two bones meet at a joint and are held together by ligament.
- There are four kinds of joints in our body – Ball and socket joint, hinge joint, pivot joint and gliding joint.
- Muscles are attached to the bones and help in the movement of body at joints.

