

PARAGON CONVENT SCHOOL

SECTOR : 24B, CHANDIGARH

LESSON - 9

BODY MOVEMENTS

Summary:

- Skeletal system forms the framework of our body and helps it move.
- It is made up of bones joined together by fixed and movable joints.
- There are three movable joints: Pivotal, hinge, and ball and socket joints
- The skeletal system is made up of skull, ribcage, backbone, girdles and limb bones.
- Bones are covered by cartilage and connected to each other by ligaments.
- Bones move with the help of the contraction and expansion of muscles.

Multiple Choice Questions (Page No. 108)

1. (b) 2. (c) 3. (d) 4. (b) 5. (c)

Multiple Choice Questions (Page No. 110)

1. (a) 2. (a) 3. (c) 4. (b) 5. (c)

SECTION A

Oral questions

Q1.- Why do animals move?

Ans.- Animals move to find their food and water, to protect themselves from their enemies and to find suitable places for laying eggs or rearing their young ones.

Q2.- What are the functions of human skeleton?

Ans.- Human skeleton gives shape and support to the body and protect the delicate internal organs of the body. It also helps in the movement of our body parts together with muscles. Red and white blood cells are made in bone marrow that is present in the bones.

Q3.- How does an earthworm move?

Ans.- An earthworm moves by the contraction and expansion of circular and longitudinal muscles and holding and withdrawing of bristles. It helps the earthworm to get a firm grip on the ground.

Science quiz

Q1.- Name four types of movable joint in the human body.

Ans.- (i) Ball and socket joint (ii) Hinge joint
(iii) Pivot joint (iv) Gliding joint

Q2.- Name two types of muscles that are involved in bending and straightening of arms.

Ans.- Biceps and triceps

WORKSHEET A

Tick (✓) the correct options

1 (d) 2. (c) 3. (d) 4. (b) 5. (c)

Circle the odd ones. Give reasons for your choice

1. Spine Ribcage Biceps Skull

Ans.- Biceps → It is a muscle, whereas others are the parts of a skeleton

2. Pivot joint Hinge joint Tibia Gliding joint

Ans.- Tibia → It is a bone, whereas others are the types of joints.

3. Snail Cockroach Fish Crab

Ans.- Fish → It has a bony endoskeleton, whereas others have exoskeleton.

4. Fins Wings Scales Head

Ans.- Head → It is not an organ for locomotion, whereas the others help to move.

Fill in the blanks.

1. joint 2. nervous 3. hinge

4. movement 5. antennae

State whether the following statements are true (T) or false (F)

1. True 2. False 3. False 4. False

SECTION B

Multiple Choice Questions

1. (c) 2. (a) 3. (c)

Very Short Answer Questions

Q1.- How many types of girdles are found in human body? Name them.

Ans.- There are two types of girdles found in human body.

(i) A pair of shoulder girdles

(ii) A pair of hip girdles

Q2.- What kind of arrangement is found in the ball and socket joint?

Ans.- In ball and socket joint, the ball shaped end of one bone fits in the hollow cup shaped socket of another bone.

Q3.- How many legs does a cockroach have?

Ans.- A cockroach has three pairs of jointed legs.

Q4.- Where do you find a hinge joint in your body?

Ans.- The joints of elbows, knees, fingers and toes have hinge joints.

Short Answer Questions

Q1.- What is a rib cage? What is the function of rib cage?

Ans.- The twelve pairs of thin and curved bones called the ribs form a cage- like structure called ribcage. The function of ribcage is to protect the heart and lungs.

Q2.- What are fixed joints? Give an example.

Ans.- The joints that do not allow any movement between the bones are called fixed joints. Example, bones of the skull (except lower jaw) are interlocked with each other which do not allow any movement.

Q3.- Why do animals move from one place to another?

Ans.- Animals move from one place to another to find food, water, shelter, favourable environment, partner, suitable place for laying or rearing eggs and protection from enemies.

Q4.- Why can't we bend our elbows backwards?

Ans.- Our elbows have hinge joints that allow movement of bones in one direction (upwards) only. So, we cannot move our elbows backwards.

Q5.- Why is mucus secreted by a snail's foot?

Ans.- A slimy substance called mucus is secreted by a snail's foot which reduces the friction between the foot and the ground surface and helps the muscles of foot to move forward. A trail of mucus is left behind when the snail crawls.

Q6.- Shreya's grandmother is very old. She has pain in her knee joint and thus, she finds it very difficult to move from one place to another. Shreya always helps her grandmother, when she walks.

a) Name the type of joint found in the knees.

b) What value do you learn from Shreya?

Ans.- (a) Hinge joint is found in the knee.

(b) From Shreya we learn that it is our duty to take care of our grandparents in their old age and when they need us.

Long Answer Questions

Q1.- Explain in brief the different types of movable joints in the human body.

Ans.- Most of the joints in the human body are freely movable. Freely movable joints are of four types, depending on the type and extent of movement they allow :

(i) Ball and socket joint : In this type of joint, the ball-shaped end of one bone fits into the hollow-cup shaped socket of another bone. This joint allows maximum movement in all directions. The joint of the shoulder and the hip are examples of ball and socket joint.

(ii) Hinge joint : A hinge joint is like the hinges in a door. This joint allows movement of bones in one direction only. i.e., up and down or back and forth movement. The joint of elbows, fingers, knees and toes are examples of hinge joint.

(iii) Pivot joint : The joint where our neck joins the head is a pivot joint. It allows us to bend our head forward and backward and turn the head to our right or left.

(iv) Gliding joint : This kind of joint allows bones to glide over each other to provide little movement in all directions. It is found between the wrist and the carpals and between the ankle and the tarsals.

Q2.- How do the muscles attached to the bones bring about movements?

Ans.- Muscles are the fibrous tissues in the body that have the ability to contract. Muscles are attached to the bones of our skeleton . So, when the muscles attached to a bone contracts, it pulls the bone and makes the bone move at the joint. A muscle can only pull a bone, it cannot push a bone. So, another muscle attached to the same bone has to contract to pull it in the opposite direction. This means that two muscles work together to move a bone. The movement of body parts as well as locomotion in human beings is brought about by the alternate contraction and stretching of muscles attached to the bones of the skeleton. When muscles pull on

the bones, they produce movements such as moving of head, bending of arm, straightening of arm, walking or running, etc.

Q3.- How does a bird fly? List the features that help a bird to fly.

Ans.- The birds fly with the help of strong chest muscles and wings. Birds can fly because of the following reasons:

(i) The forelimbs are modified into wings which help them fly. Hindlimbs are used for walking and perching.

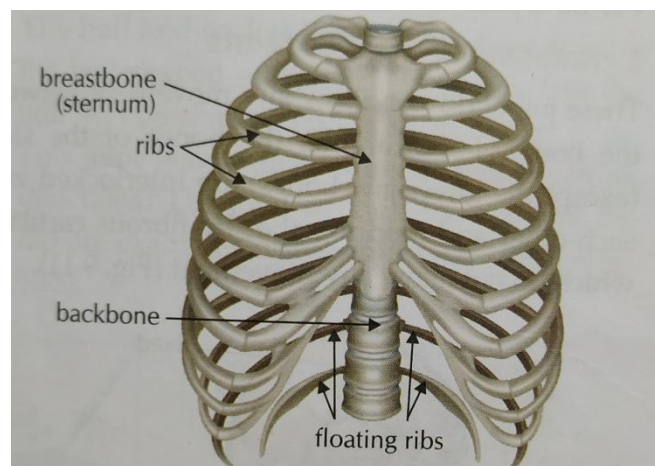
(ii) They have streamlined bodies that cut the air current while flying

(iii) Their bones are hollow which makes their body light.

(iv) They have powerful chest muscles which help them in flapping their wings during flight.

Q4.- Describe the structure and function of the ribcage with the help of labelled diagram.

Ans.- There are twelve pairs of thin and curved bones called the ribs. These bones form a ribcage. All the 12 pairs of the ribs are joined to the backbone at the back and the first ten pairs are joined with the chest bone or breastbone in the front. The last two pairs of ribs are free at the front end and are called floating ribs. The ribcage protects the heart and the lungs. Ribcage also takes part in our breathing movements.



RIBCAGE