



# INDIAN SCHOOL AL WADI AL KABIR



CLASS: VI	DEPARTMENT: SCIENCE 2022 - 23	DATE: 27.10.2022
WORKSHEET NO.: 10 WITH ANSWERS	TOPIC: <b>BODY MOVEMENTS</b>	NOTE: A4 FILE FORMAT
NAME OF THE STUDENT:	CLASS & SEC:	ROLL NO.

## I. VERY SHORT ANSWER TYPE QUESTIONS (1M):

1. Define the term movement. [Hint: Motion of a body part or parts without a change in the position of the organisms.]
2. Name the organs which are protected by the following parts of the skeleton -
  - a) Backbone [Spinal cord]
  - b) Skull [Brain]
3. Give one word to the statements given below:
  - a) Part of the body with a fixed joint. [Head]
  - b) Joint where our neck joins the head. [Pivot joint]
  - c) Hard structure that forms the skeleton. [Bones]
4. Which of the skull bones are movable? [Hint: Only the lower jaw in skull bones are movable.]
5. What type of skeleton does a snail have? [Hint: Exoskeleton]
6. Why are fractured bones plastered? [Hint: Plaster keeps broken bones at their right place so that they join properly.]
7. Give two examples of the following:
  - a) Hinge joints. [Hint: Joints in fingers and joints in knees]
  - b) Ball and socket joints. [Hint: The shoulder joints and hip joints]
8. Which of the two allows a greater movement of bones: a ball and socket joint or a hinge joint? [Hint: Ball and socket]
9. What type of joint exists between:
  - a) Upper jaw and rest of skull [Hint: Fixed joint]
  - b) Lower jaw and rest of skull [Hint: Hinge joint]
10. What is a rib cage? [Hint: Ribs join the chest bone and the backbone together to form a box, called the rib cage.]

For question numbers 11 to 13, two statements are given- one labelled Assertion (A) and the other labelled Reason (R).

Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below: -

i) Both A and R are true and R is correct explanation of the assertion.

ii) Both A and R are true but R is not the correct explanation of the assertion.

iii) A is true but R is false.

iv) A is false but R is true

11. **Assertion (A):** Cartilage covers the ends of bones.

**Reason (R):** Cartilage acts as a shock absorber and reduces friction between bones.

i) Both A and R are true and R is correct explanation of the assertion.

12. **Assertion (A):** A combination of bones and cartilages form the skeleton of the body.

**Reason (R):** The contraction of the muscle pulls the bones during movement.

ii) Both A and R are true but R is not the correct explanation of the assertion.

13. **Assertion (A):** The elbow joint is a hinge joint.

**Reason (R):** Hinge joint allows movement in all directions.

iii) A is true but R is false.

## **II. PASSAGE BASED QUESTIONS:**

Birds fly in the air and walk on the ground. Some birds like ducks and swans also swim in water. The birds can fly because their bodies are well suited for flying. Their bones are hollow and light. The bones of the hind limbs are typical for walking and perching. The bony parts of the forelimbs are modified as wings. The shoulder bones are strong. The breastbones are modified to hold muscles of flight which are used to move the wings up and down. Birds have a streamlined body, which makes it easy for them to move through the air.

1. The bones of the hind limbs in the birds are typical for \_\_\_\_\_ and \_\_\_\_\_.

a) Walking and flying

b) Flying and perching

c) Perching and walking

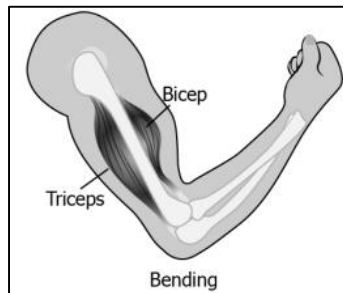
d) walking and swimming

2. How is a bird's body adapted for flying? [Hint: Bones are hollow, forelimbs are modified into wings, body is streamlined]

3. What is a streamlined shape? [Hint: A streamlined body is a shape that is thicker in the middle and tapers at both ends.]
4. How are bones of bird modified to move wings up and down?  
[Hint: The breast bones are modified to hold muscles of flight which are used to move wings up and down.]

### **III. CASE STUDY BASED QUESTIONS:**

1. Farzin told her teacher that her grandmother is not able to bend or stand straight and she is advised to take bed rest, what might be the reason for this?  
a) Her backbone is injured  
b) Her Ribcage is injured  
c) Her thigh bone is affected  
d) Her shoulder bone is affected
2. The image shows how the muscles help in the movement of the arm.



- Based on the image, what will be the length of the muscles during bending?
- a) Both bicep and triceps relax
  - b) Both bicep and triceps contracts
  - c) The bicep contracts while triceps relax
  - d) The bicep relaxes while triceps contracts
3. Amar pressed his finger against the top of his head, hands, legs and he felt something hard pressing against his finger. But when he pressed his upper part of the ear he felt that it is not hard. What do you understand from this?  
a) Upper part of the ear is made of bones  
b) The upper part of the ear is made of cartilage  
c) The hardness he felt while pressing his fingers against the top of his head was due to the presence of muscles  
d) The hardness he felt while pressing his fingers against the top of his head was due to the presence of ball and socket joint

4. Rustam fell off a tree and hurt his ankle. On examination the doctor confirmed that the ankle was fractured. How was it detected?

[i] By asking Rustam to explain his symptoms.

[ii] By observing the X-Ray images of the bone.

[iii] By testing his blood sample.

[iv] By examining the swelling on the leg.

Choose the correct statement/statements.

a) Only [ii]

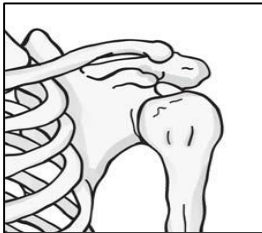
b) Both [ii] and [iii]

c) Only [iii]

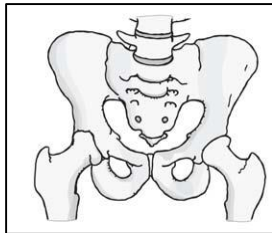
d) Both [ii] and [iv]

#### **IV. a) SHORT ANSWER TYPE QUESTIONS: (2M)**

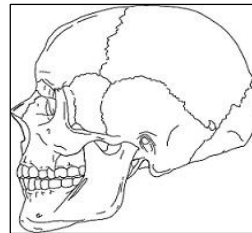
1. Identify the following parts of the skeleton-



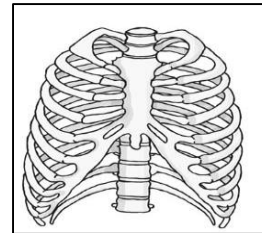
**A**



**B**



**C**

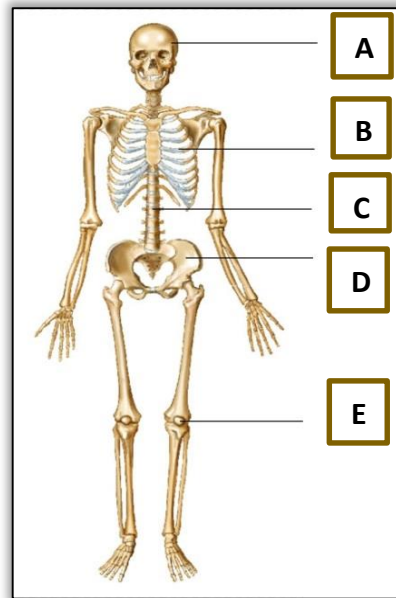


**D**

[Hint: A - Shoulder bones, B - Pelvic bones, C - Skull, D - Rib cage]

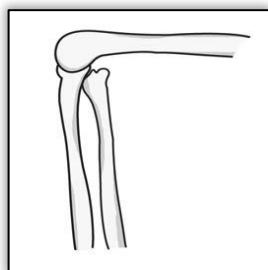
2. Mention the role of X-rays in the field of medicine. [Hint: The x-rays show the shapes of the bones in our bodies, it also helps to find out about any possible injuries that have happened to the bones]
3. What would have happened if the backbone had only one long bone instead of many small bones? Why? [Hint: If the backbone had only one long bone then we would not be able to bend or twist our back]
4. How does the snake move? [Hint: Snakes have a long backbone and many thin muscles which help in the movement. The snake's body curves into many loops. Each loop of the snake gives it a forward push by pressing against the ground]
5. How do fins help fish in movement? [Hint: Fins mainly help to keep the balance of the body and to keep direction]
6. What is a cartilage? [Hint: At the place of the joint, the ends of the two bones are covered with a soft tissue known as cartilage/A tough elastic fibrous connective tissue that cushions bones at the joints.]

7. Why does an earthworm find it difficult to move on a glass? [Hint: Earthworm fixes its front end and releases the rear end for movement. On a glass, it loses its grip as the surface is very smooth]
8. Earthworms are known as farmer's friends. Why? [Hint: The earthworm, actually, eats its way through the soil. Its body then throws away the undigested part of the material that it eats. This makes the soil more useful for plants]
9. Label the parts of the skeleton –



**A - SKULL**  
**B - RIB CAGE**  
**C - BACKBONE**  
**D - PELVIC**  
**E - KNEE**

10. A traffic policeman stretches out his arm to the right. During this movement -
  - a) Which of the muscle contracts? [Hint: Triceps]
  - b) Which of the muscle stretches (or relaxes)? [Hint: Biceps]
11. What are bristles? How are they useful to an earthworm? [Hint: Bristles are the hair like structures present underside of the earthworm's body. The bristles help to get a good grip on the ground.]
12. Identify the types of joints shown in the figures –



**A**



**B**

[Hint: A - HINGE JOINT, B - BALL AND SOCKET JOINT]

**IV. b) SHORT ANSWER TYPE QUESTIONS: (3M)**

1. Explain the movement of an earthworm. [Hint: Earthworm does not have bones, but has muscles. During the movement, earthworm first extends front part of the body keeping the rear portion fixed to the ground. Then it fixes the front and releases the rear end. It then shortens the body and pulls the rear end forward. In this way by repeating such muscular expansions and contractions earthworm moves.]
2. How do muscles work? [Hint: The muscles work in pairs. When one of them contracts, the bone is pulled in that direction, the other muscle of the pair relaxes. To move the bone in the opposite direction, the relaxed muscle contracts to pull the bone towards its original position, while the first relaxes. A muscle can only pull. It cannot push.]
3. How does a snail move? [Hint: The rounded structure on the back of the snail is called shell. It is the outer skeleton of snail. The shells are made of calcium carbonate, when it starts moving a thick structure and the head of the snail may come out of an opening in the shell. The thick structure is called foot, which is made up of strong muscles, which helps it to move.]
4. Differentiate between- Hinge joint and pivotal joint [Hint: Hinge joint- The joint which allows movement only in one plane. Eg. Fingers, knees.  
Pivotal joint- This type of joint allows movement in all planes, i.e. up and down, sides and other planes. Eg. Joint between the head and neck.]
5. The animals A, B, C and D, all move without legs. The animal A moves by the alternate contractions and relaxations of the muscles of its disc-shaped foot. The animal B lives in water and swims by moving its tail from side to side. The animal C lives in soil and moves by lengthening and shortening its body segments alternately. The animal D moves forward by moving its body sideways in the form of many loops. What are A, B, C and D?

[Hint: A – Snail, B – Fish, C – Earthworm, D – Snake]

**V. LONG ANSWER TYPE QUESTIONS: (5M)**

1. What is dislocation and fracture of bone? What precautions should one take when one gets a fracture? [Hint: Any careless sudden movement a jump, fall or knock may cause an injury to the skeleton. It may be a dislocation or a fracture. In case of dislocation the bones at the joint are dislodged from their normal position. The ligaments(the fibrous connective tissue that connects bones to other bones) may be torn apart or injured causing pain and swelling.

A fracture is a break in the bone. The break may be of a hair line crack or serious break in one or more points. Fracture also causes pain and swelling. In all these cases, the patient should soon be taken to a doctor or hospital.

Following precautions should be taken when one gets a fracture -

- a) Never try to reset the bones on your own.
- b) Place the injured part in a comfortable position.
- c) Care should be taken to avoid jerk or movement of the injured part.

2. What is a skeleton? State its functions. [Hint: The structure is composed of bone and cartilage that protects and supports the soft organs, tissues and other parts of a vertebrate organism.

The skeleton or skeletal system has the following roles to play –

- **Support** – It forms the framework of our body, provides shape and support, and holds the body upright.
- **Movement** – It helps in the movement of various parts of the body.
- **Protection** – It protects the internal organs of our body. The skull protects the brain, ribs protect the heart and lungs and so on.
- **Formation of blood cells** – Bones are filled with a spongy mass from inside called the bone marrow where blood cells are formed.]

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