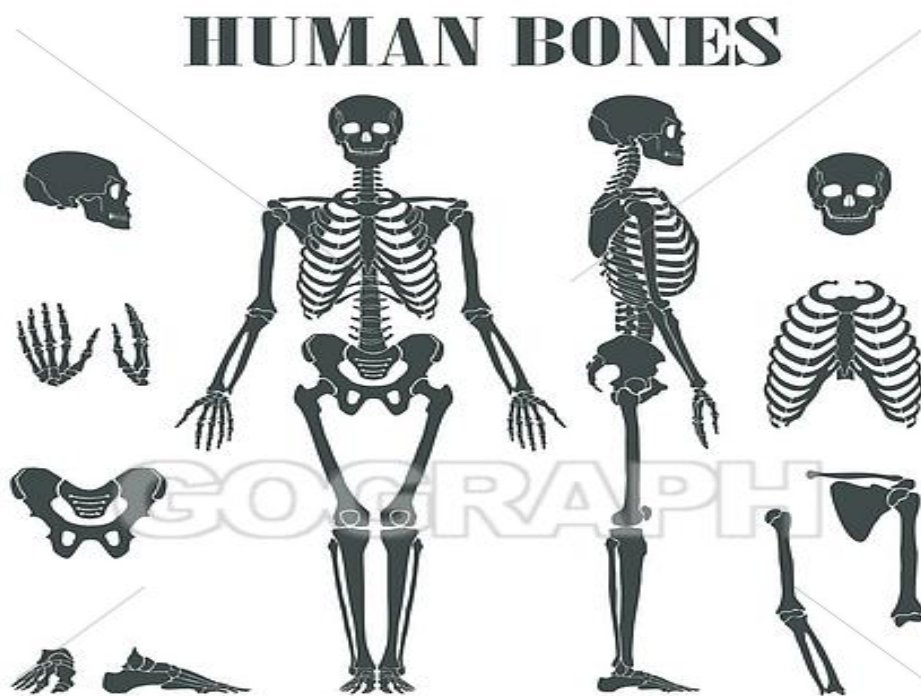


Chapter-3 The Human Body

KWL Chart	
<div>What we know</div>	<div>What we want to know</div>

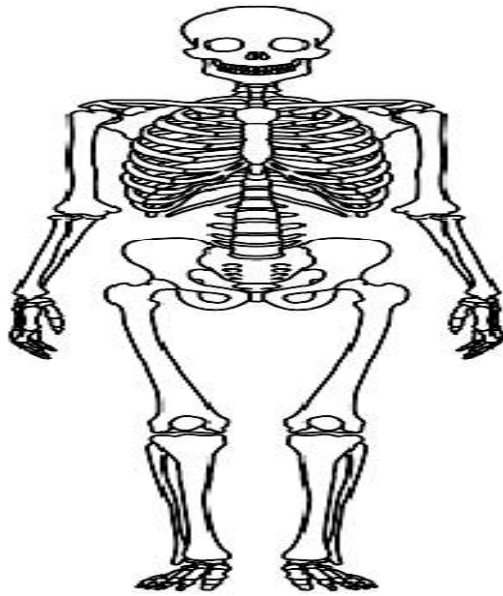
Worksheet -1

Parts of the human skeleton- Introduction



gg90431553 www.gograph.com

I. Label the parts of skeleton.



Label – Skull, Ribcage, Backbone, Hip girdle, Limbs

II. List the functions of skeleton system.

Human skeleton consists of the skull, the backbone, the ribcage and two pairs of limbs attached to two pairs of girdles.

The functions of skeletal system are:

1. It gives form, shape and support to our body.
2. It protects the internal organs of our body like brain, heart, lungs etc.

Worksheet -2

Parts of the human skeleton-Skull

I. Fill in the blanks:

1. The _____ is the only movable part of the skull and enables us to _____.
2. The skull protects the most important organ called _____, which is the _____ of our body.
3. The head and face are two parts of the _____. Head is made up of _____, _____ and _____ bones. These

bones are _____. In total the skull is made up of _____ bones.

1. Lower jaw, talk, chew food 2. Brain, master 3. Skull, 8 flat, interlocked, 22

II. An adult has 206 bones whereas a child has 300 or more bones. Why?

This is because as the baby grows, some of the bones fuse. Therefore the number of overall bones in an adult reduces to 206.

Worksheet -3

PART A

Parts of the human skeleton-Back bone and Ribcage

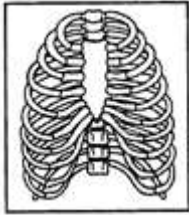
I. Complete the following sentence.

1. The vertebral column is found in the back so it is also called as _____. It is made up of _____ bones called as _____. It protects _____.
2. There are _____ number of bones present in a rib cage.
3. Bone to which ribs are attached in the front is called _____.
4. _____ and _____ are the organs protected by ribcage.

1. Backbone/spine, 33, vertebrae, spinal cord. 2. 24 3. Sternum, 4. Heart, lungs

II. Choose the correct answer.

1. Look at the given diagram carefully. Which are the organs that the above given bones protect?



(i) stomach
(ii) lungs
(iii) liver
(iv) heart

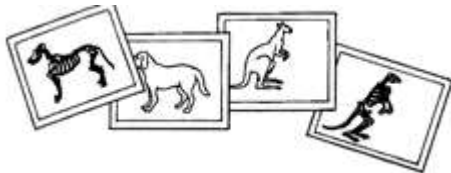
A) Only (i) and (ii)

B) Only (i) and (iii)

C) Only (ii) and (iii)

D Only (ii) and (iv)

2. Judith compared a set of four pictures. From these pictures, she concluded that _____.



A) The skeleton determines the body shape

B) The skeleton protects the delicate organs in the body

C) The skeleton moves with the help of muscles and joints

D) All of the above

3. The diagram below shows a part of the skeletal system. Which part of the body do these bones protect?



- A) Brain
- B) Kidneys
- C) Spinal cord
- D) Lungs

Answer the following:

II. What is the significance of having 33 small bones in our backbone instead of a single long bone?

III. A ten-year-old boy has fractured one of his ribcage bone.

Which of the organs could be affected and why?

His lungs and heart could be affected because they are lodged inside the ribcage.

IV. What are floating ribs?

The last two pairs of **ribs** at the very bottom of the **rib** cage, which do not attach to the sternum at all.

Worksheet -4-Parts of the human skeleton- Limbs

I. Match the following:

- | | |
|---------------------|-----------------------------|
| 1. Skull | a. spinal cord 1.b |
| 2. Vertebral Column | b. brain 2.a |
| 3. Rib cage | c. bone marrow 3.e |
| 4. Bones | d. helps to move 4.c |
| 5. Skeleton | e. chest 5.d |

II. Name the bones present in the following parts of human skeleton

- i) Upper arm-**Humerus**
- ii) Lower arm- **Radius and Ulna**
- iii) Upper leg- **Femur**
- iv) Lower leg- **Tibia and fibula**

III Name the longest bone in our body.

Femur

Worksheet -5

Joints

I. Fill in the blanks:

1. _____ joint allows the movement of head.
2. A point where two bones meet is called a _____.
3. _____ joint allows movement only in one direction.
4. _____ joints are present in ankles, wrists and the backbone.

1. Pivot 2. Joint 3. Hinge 4. Gliding

II. Choose the correct answer.

1. Look at the picture given below carefully. Which joints is Meena using to move her head?



A) Pivot

B) Hinge

C) Sliding

D) Ball and socket

2. Look at the classification table below carefully.

What do 'X' and T represent?

Joint	
X	Y
Elbow	Shoulder,
Knee	Pelvis

A) X-Pivot joint, Y-Hinge joint

B) X-Hinge joint, Y-Ball and socket joint

C) X-Ball and socket joint, Y-Pivot joint

D) X-Hinge joints-Gliding joint

3. What enables us to swing our arms as shown in the picture?



A) Ball and socket joint

B) Pivot joint

- C) Hinge joint
- D) Sliding joint

4. Match the following joints in Column-I with their positions in Column-II

	Column I		Column II
p.	Pivot	i	Elbow
q.	Gliding	ii	Shoulder
r.	Ball and socket	iii	Neck
s.	Hinge	iv	Wrist

- A) p-i, q-ii, r-iii, s-iv
- B) p-iv, q-iii, r-ii, s-i
- C) p-iii, q-iv, r-ii, s-i
- D) p-iv, q-iii, r-i, s-ii

5. Which of the following can be called an immovable joint?

- A) Joint in the hand
- B) Joint in the wrist
- C) Joint in the upper part of skull
- D) Joint in the shoulder

Answer the following:

III. What are joints? Name the four main types of joints.

The place where two or more bones meet is called a joint.

The four main types of joints are

- a. Ball and socket joint
- b. Hinge joint
- c. Gliding joint
- d. Pivot joint

IV. We can move our arms in a circular motion but not our knees.

Why?

We can move our arms in circular motion and not our knees because the ball and socket joint is present in the arms whereas the hinge joint is present in the knees.

V. Define the following:

1. Ligaments

Strong and flexible tissues that hold the bones together are known as ligaments.

2. Tendons

Tissues that join the muscles to the bones are known as tendons.

Worksheet -6 Muscles

I. Complete the passage.

All muscles found in the body can be classified into three types.

Most of the muscles in the body are **skeletal** muscles which are **voluntary** and help in movement of bones. **Smooth** or **involuntary muscle** is another type of muscle. It is found in internal organs like stomach and arteries. The last type of muscle is **cardiac** which is found in the **heart** and are **involuntary**. Muscles are attached to the bones by the help of strong fibres called **tendons**.

II. Complete the flow chart:



Voluntary

Involuntary

Cardiac

III. Choose the correct answer.

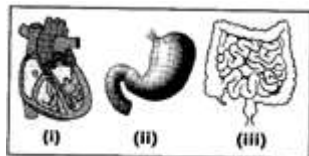
1. Which of the following parts of the human body has involuntary muscles?

- A) Legs
- B) Arms
- C) Neck
- D) Intestine

2. Which of the following movement does not involve the use of muscles and joints?

- A) The nodding of head
- B) The blinking of eyes
- C) The bending of fingers
- D) Kneeling down

3. Which of the following organs require muscles to help it function properly?



- A) Only (ii) and (iii)
- B) Only (i) and (ii)
- C) Only (i) and (iii)
- D) (i), (ii) and (iii)

Answer the following:

IV. Why is the heart made of involuntary muscles?

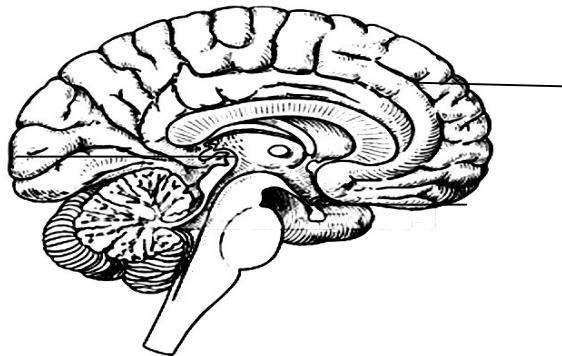
The muscles in the heart work on their own and are not under our conscious control.

V. If your body had only the skeleton system but no muscular system, would movement still be possible?

No, the skeletal system along with the muscular system helps in the movement of different body parts.

Worksheet -7 Brain

I. Label the parts of the brain in the given diagram.



Cerebrum, cerebellum, Medulla

II. Correct and rewrite the following statements by changing the highlighted words.

1. The **cerebellum** is the largest part of the brain.

The **cerebrum** is the largest part of the brain.

2. **Cerebrum** controls the involuntary actions such as breathing and sneezing.

Medulla controls the involuntary actions such as breathing and sneezing.

3. **Medulla** controls the muscles and the balance of body.

Cerebellum controls the muscles and the balance of body.

4. Reflex action is under the control of **brain**.

Reflex action is under the control of **spinal cord**.

III. **Choose the correct answer.**

Match the following parts of the brain in Column-1 with their functions in Column-II correctly.

	Column - I		Column - II
(p)	Cerebrum	(i)	Controls breathing and blood circulation
(q)	Cerebellum	(ii)	Controls movements
(r)	Medulla	(iii)	Controls speech, memory and intelligence

- A) P-I q-II r-III
 B) p-II q-I r-III
 C) P-I q-III r-II
 D) p-III q-II r-I

Answer the following:

I. Raman meets with a road accident. He injures his head as he was not wearing a helmet while riding a motorcycle. After the accident he was not able to walk because he could not maintain his balance. Which part of the brain could have been injured?

Cerebellum because this part of brain maintains balance of the body.

II. While playing cricket, why should a batsman wear a helmet?

This is to stop serious injury occurring on the head on being hit by the cricket ball.

III. What are the functions of the various parts of the brain?

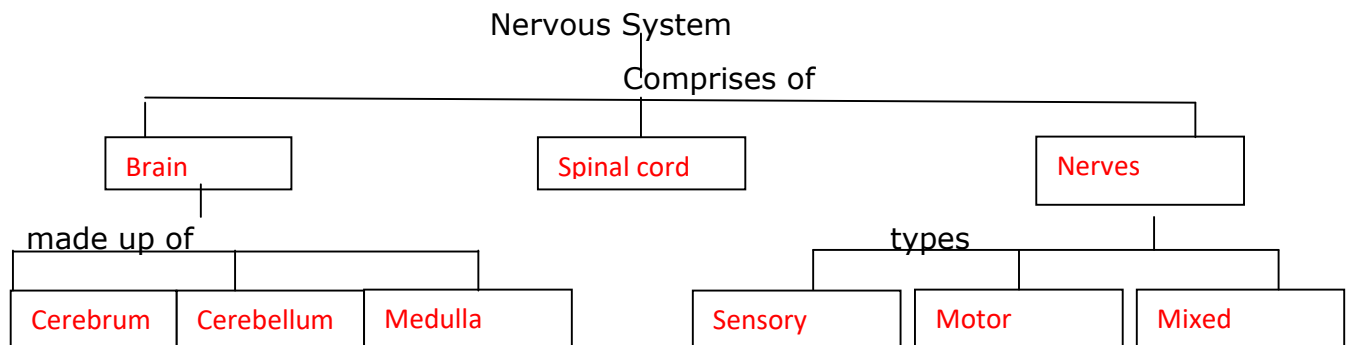
The brain is like a computer. It can store a lot of information. The human brain has three main parts- cerebrum, cerebellum and medulla.

- Cerebrum- It is the largest part of the brain and is responsible for learning, memory and intelligence.
- Cerebellum- It is situated below the cerebrum. It controls and coordinates the movements of voluntary muscles as well as helps in keeping the body balanced.

c. Medulla- It is also known as brainstem. It forms a connection between the brain and the spinal cord. It also controls involuntary actions such as breathing, sneezing and heartbeat.

Worksheet -8 Kinds of nerves

I. Complete the flow diagram:



II. Fill in the blanks.

1. Nerves are made up of special cells known

as _____.

2. The _____ nerves carry messages from the body to the brain.

3. _____ carry messages to and from brain.

1. nerve cells 2. Sensory 3. Mixed nerves

Answer the following:

I. Differentiate between Sensory and Motor nerve?

Sensory nerves carry messages from the sense organs to the brain or the spinal cord.

Motor nerves carry messages from the brain to muscles or other parts of the body.

Worksheet -9

Function of spinal cord

I. Choose the most appropriate answer:

1. While ironing your clothes your hand touches the iron. What will you do?

a. immediately withdraws your hand.

b. will think first that you should withdraw your hand and then withdraw it.

c. will feel the heat and withdraw your hand.

2. Sensing , putting together and responding are functions of

_____.

a. the circulatory system b. the nervous system c. the endocrine system

II. Choose the correct answer.

1. Abhi accidentally touched a hot metal and spontaneously withdraw his hand from the metal. Why did he react spontaneously?

A) Due to the attraction of the metal

B) Due to repulsion of the metal

C) Due to reflex action

D) Due to the brightness and heaviness of the metal

Answer the following:

I. Define Reflex action

An automatic and immediate response which is controlled by the spinal cord is known as reflex action.

II. Sanjay immediately takes his hand away on touching a hot pan. Why?

This response is reflex action. Reflex action is an automatic and immediate response which is controlled by the spinal cord.

Worksheet -10

Sense organs -EYE

I. Fill in the blanks:

Eyes:

1. Light enters our eye through the _____ which is a hole in the middle of _____.
2. The part of the eye which gives it colour is called _____.
3. The _____ acts as a screen on which the picture of what we see is formed.

1. Pupil, iris 2. Iris 3. Retina

Answer the following:

II. You cannot see clearly when you enter your classroom after being out on a bright sunny day. Why?

This is because your pupils contract in the bright sunlight, take time to adjust and come back to normal size inside the classroom

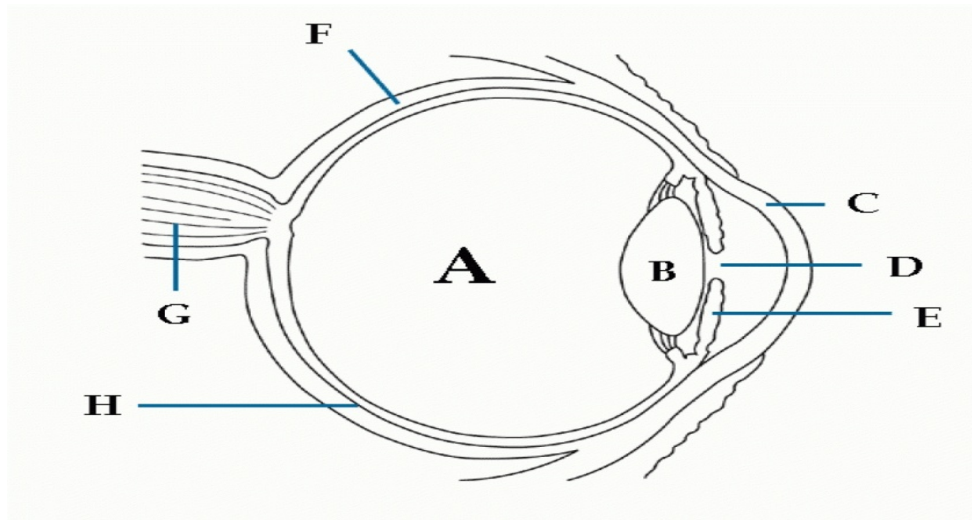
III. It is difficult to see clearly for a few seconds on entering a dark cinema hall. Why?

This is because it takes time for the pupil to expand in the dark cinema hall. Therefore, it is difficult to see clearly for a few seconds.

IV. Rohit met with a car accident. Even though his eye did not suffer any damage, his optic nerve got severely damaged. Will it affect its vision? Give reason.

Yes. Optic nerve carries the message from the eye to the brain so if it is damaged it will affect the vision.

V. Label the parts of the Human Eye and write the importance of - Iris, Retina, Optic nerve and Pupil



A- Vitreous body B-Lens C- Cornea D-Pupil E- Iris F- Sclera
G- Optic nerve H- Retina

Worksheet 11

Sense organs –Ear





I Fill in the blanks

1. The _____ ear helps to maintain our balance.
2. The ear is divided into three parts _____,
_____ and _____.
3. A thin membrane inside the ear which passes the sound vibrations to inner ear is _____.

1. Inner ear, 2. Outer ear, inner ear, middle ear 3. Eardrum/
tympanic membrane

II. Choose the correct option.

1. Which organ helps us to keep our body balanced?

- A) 
- B) 
- C) 
- D) 

Answer the following:

III. You are advised to reduce the volume of your music system.

Why?

Loud volume can damage the eardrum and hearing

Worksheet 12

Sense organs – Nose, Tongue and skin

I. Fill in the blanks

1. The _____ in the tongue help us to _____ food.
2. The sense of _____ and _____ are closely related.
3. The skin at the fingertips is more _____ as it has more _____ endings.
4. _____, _____, _____ and _____ are the sensations we can feel through skin.
5. The _____ is the largest sense organ.

1. Taste buds, taste
2. Taste, smell
3. Sensitive, nerve
4. Pain, heat, cold, pressure, touch, tickle
5. Skin

What I learnt

My Questions

TEXT BOOK REFERENCE

Textbook Exercises	Reference/Page No.	Status ✓ / Completed/Pending
1. Fill in the empty boxes	Page No 42	Completed/Pending
2. Fill in the blanks with correct option.	Page No 42	Completed/Pending
3. Correct and rewrite the sentences	Page No 42	Completed/Pending
4. Tick the correct option	Page No 43	Completed/Pending
Fun Time- At the clinic	Page No 45	Completed/Pending

Activity-

*Make a skeleton using different kinds of pasta.

*Strong determination-Discuss about five people in the world who in spite of their physical deformities have achieved great success.