Answers

Theme 7: Why Do We Need Support?

Lesson-12: Skeletal and Muscular Systems

Main Coursebook

Re-KAP

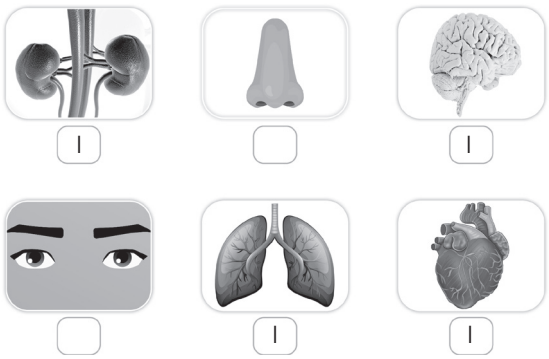
Kinaesthetic:

Accept all relevant responses

Auditory:

1. The skeletal and muscular systems work together to help our bodies move and stay strong.
2. The skeletal system is made up of bones that provide structure and support to our body.

Pictorial



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Interacting better:

Accept all relevant responses

Understanding better: (Page 92)

1. True 2. False

Understanding better: (Page 93)

1. Gliding joint 2. Hinge joint

Understanding better: (Page 94)

1. No 2. No

Learning better:

A. 1. a 2. b 3. c 4. a 5. a

B. 1. False 2. True 3. False
4. False 5. True

C. 1. Our body is made up of different organs. When these organs work together and perform a specific function, it is called an organ system.

2. A joint is the meeting point of two bones, held together by strong tissue.

3. Floating ribs.

D. 1. Movable joints are the type of joints that can move and perform different movements. There are four types of movable joints these are as follows:

(i) Ball and socket joints: A bone ending in a ball gets fitted into the socket of the other one. For example, hip and shoulder joints.

(ii) Gliding joints: In this type of joint, one bone can slide over another. For example, joints present in the wrist.

(iii) Hinge joint: This type of joint help us to move our body only in a single direction. For example, joints present in the knee.

(iv) Pivot joint: This joint helps in side-to-side movement of the head. For example, joint present at the neck.

2. Muscles are divided into three categories - skeletal, smooth and cardiac muscles.

(i) Skeletal muscles are voluntary in nature and help us move our different body parts. For example, the muscles of the arms.

(ii) Smooth muscles are involuntary in nature and are present in our internal organs. For example, the muscles of the stomach.

(iii) Cardiac muscles are the involuntary muscles present in the heart.

Creating better:

Accept all relevant responses

Thinking better:

If humans had only muscles and no bones, we would not be able to stand straight or walk properly because bones give our body shape and support. Also, our internal organs like the heart and lungs would not be well-protected without the ribcage.

Choosing better:

2. He should keep a check that his grandmother drinks milk every day.

Students' Worksheets

Worksheet 1

A. 1. heart 2. heart 3. tongue
4. respiratory 5. different

B. 1. HEART 2. BRAIN 3. LUNGS
4. KIDNEYS 5. TONGUE

C. 1. True 2. False 3. True
4. True 5. True

Worksheet 2

A. 1. 22
2. bones, joints and cartilage
3. 206 4. 12 pairs 5. 33

B. 1. SKULL 2. LIMB 3. GIRDLE
4. RIBCAGE 5. BACKBONE

C. 1. True 2. False 3. True
4. True 5. False

Worksheet 3

A. 1. Our body has multiple joints.
2. A joint provides flexibility to the body.
3. The joints present in the skull are immovable.
4. A joint is the meeting point of two bones.
5. The ball and socket joint is one of the movable joints,

B. 1. BALL 2. PIVOT 3. HINGE
4. SOCKET 5. GLIDING

C. 1. movable joints can move
2. a joint is the meeting point of two bones
3. joints provide stability and flexibility to the body
4. hinge joint is present at the knee and elbow
5. the ball and socket joint is present at the hip and shoulder

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Developing better:

A. **English**

1. Joints flexibly connect bones, allowing a wide range of motion.
2. The muscles contract powerfully to generate movement in the skeletal system.

B. **Maths**

The cheetah took 2 hours or 120 minutes to return back.

C. **Social Studies**

The type of muscles used in planting trees are skeletal muscles.

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Making better:

Accept all relevant responses.

Theme 7: Why Do We Need Support?
Lesson-13 Our Nervous System

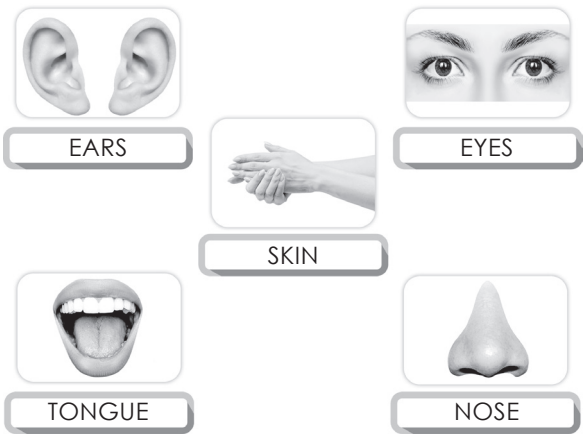
Main Coursebook

Kinaesthetic: Accept all relevant responses

Auditory:

1. The brain acts like a super computer that sends and receives messages.
2. The spinal cord is a long bundle of nerves that runs down our back, connecting the brain to the rest of the body.

Pictorial



Interacting better:

Accept all relevant responses

Understanding better: (Page 99)

1. True 2. False

Understanding better: (Page 101)

1. False 2. False

Learning better:

A. 1. a 2. a 3. b 4. b 5. c

B. 1. cerebrum 2. medulla
3. spinal cord 4. optic nerves
5. skin

C. 1. Nerves are thread-like structures that act as messengers between the brain and the body. They form a wide network that extends throughout the body.

2. Cerebrum is responsible for the working of the nose, eyes, tongue and ears. The cerebrum also helps us think, learn, remember, recall, speak and emote. In the absence of cerebrum thinking, learning, remembering, recalling and speaking will be affected.

3. To protect ourselves from shocks and injuries, the body needs to respond quickly. Such types of quick responses are processed by the spinal cord. These actions are called reflex actions.

D. 1. The brain is the control centre of our body. Its main function is to collect from and send information to all the body parts with the help of nerves. A hard and bony skull protects our brain. Our brain is made up of three parts – the cerebrum, the cerebellum and the medulla.

Cerebrum

It is the largest part of our brain and constitutes around 80 per cent of the weight of the brain. It is responsible for the working of our nose, eyes, tongue and ears. The cerebrum also helps us think, learn, remember, recall, speak and emote.

Cerebellum

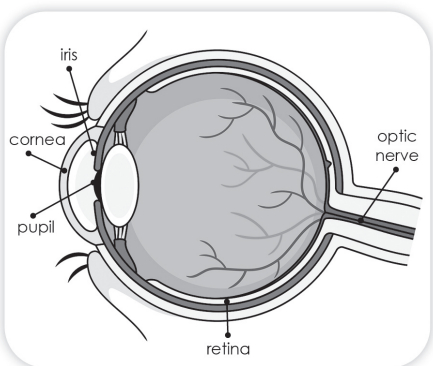
This part of the brain lies below the cerebrum. It helps in coordinating the muscle actions and balancing the body.

Medulla

Below the cerebellum, lies the medulla oblongata or medulla. It forms a connection between the brain and the spinal cord. It regulates the involuntary activities of the body, such as respiration and heartbeat.

2. Eyes

Each eye is located in a deep pocket called the socket. It is protected by the eyelashes and eyelids. Both of these help keep dirt and dust away from our eyes. The front part of the eye consists of a circular and transparent area called the cornea. The coloured circle present at the front of the eye is called the iris. A black spot called the pupil is the opening through which light enters the eye lens. This light travels from the pupil to the retina, where the image is formed. Our eyes are connected to the brain through the optic nerves.

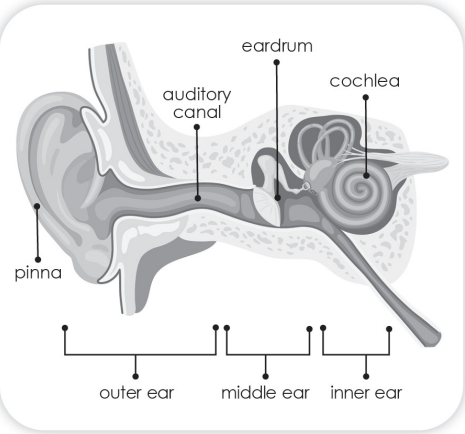


the structure of an eye

Ears

The ear has three parts – the outer ear, the middle ear and the inner ear.

The sound waves are received by the outer ear. The waves then travel to the middle ear, hitting the eardrum. The eardrum produces vibrations. These vibrations then travel to the inner ear. Inside the cochlea, tiny hair cells convert these vibrations into electrical signals. These electrical signals are sent to the brain through the auditory nerve. The brain receives the signals and interprets them as sound, allowing us to hear and understand the noises around us.



the structure of an ear

Creating better:

Accept all relevant responses

Thinking better:

If we did not have reflex actions, our body would take longer to react to sudden dangers, like pulling away from something hot or sharp. This delay could cause more injuries because our brain would need extra time to process and respond.

Choosing better:

1. She should tell her parents how she feels and needs support.

Students' Worksheets

Worksheet 1

A. 1. control 2. information
3. three 4. largest
5. 80%

B. 1. True 2. True 3. False
4. False 5. False

C. 1 → c 2. → d 3. → b 4. → a 5. → e

Worksheet 2

A. 1. skull 2. Cerebrum
3. jerky 4. Medulla oblongata
5. Spinal cord

B. 1. INFORMATION 2. SKULL
3. CEREBRUM 4. CEREBELLUM
5. MEDULLA

C. 1. True 2. False 3. True
4. True 5. True

Worksheet 3

A. 1. medulla 2. thread-like
3. Nerves 4. three
5. sensory

B. 1. MESSENGER 2. NETWORK
3. SENSORY 4. MOTOR
5. MIXED

C. 1. True 2. True 3. False
4. False 5. False

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Developing better:

A. **English**

1. We can smell different things through our nose.
2. Our eyes can have irritation due to dirt and smoke particles.

B. **Maths**

The average temperature of the human body ranges from 33.5 °C to 36.9 °C.

C. **Social Studies**

The Chipko Movement began in the 1970s as a protest against the forest contractors.

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Making better:

Accept all relevant responses.