Vision Empower & XRCVC

Teacher Instruction KIT

Our Body- A Wonderful Machine

Syllabus: Karnataka State Board
Subject: EVS
Grade: 4
Textbook Name: Karnataka State Board
Chapter Number & Name: 13. Our Body- A Wonderful Machine

1. OVERVIEW

1.1 OBJECTIVES AND PREREQUISITES

Objective

- To know the main functions of the human body and the main organs responsible for these functions.
- To develop the habits of cleanliness to keep these organs healthy.
- To know healthy habits.

Prerequisite Concept

- Sense Organs - EVS , *Grade 3, Chapter 8: Our Sense Organs*

Content Index

*Kindly Note: Activities marked with * are mandatory*

2. LEARN

2.1 KEY POINTS

Sense organs: The sense organs are the body organs by which humans are able to see, smell, hear, taste, and touch or feel. The five sense organs are the eyes (for seeing), nose (for smelling), ears (for hearing), tongue (for tasting), and skin (for touching or feeling).

Internal organs: The human body contains major internal organs or body parts which can be easily identified. These organs differ in size, shape, location and function. Some internal organs include, brain, heart, lungs, intestines, etc.

Body systems: A group of organs whose jobs are closely related are often referred to as a system.

Respiratory system:

Respiration: Our body needs oxygen that is in the air. When we breathe, the lungs absorb oxygen from the air. The carbon dioxide which is not needed to our body goes out with the air through the windpipe and the nose. The process of taking in oxygen and giving out carbon dioxide is called respiration.

Respiratory system: The respiratory system is made up of the organs involved in the interchanges of gases.

Parts of the respiratory system:

- Nose, windpipe, lungs

When we breathe air:

- Enters the body through the nose or the mouth.
- Travels down the throat through the windpipe.
- Goes into the lungs

Circulatory System:

The circulatory system is one of the most important systems in the body. Made up of the heart, blood and blood vessels, the circulatory system is the body's delivery system. The body's circulatory system is responsible for transporting materials throughout the entire body. It delivers nutrients, water, and oxygen to billions of body cells and carries away wastes such as carbon dioxide that body cells produce. It is an amazing highway that travels through the entire body connecting all the body cells.

The Process of Blood Circulation: The blood circulates to all parts of the body. It gets impure by receiving carbon dioxide from all parts of the body. This impure blood enters the heart through blood vessels. From the heart, this impure blood reaches the lungs. In the lungs, it gives up carbon dioxide and receives oxygen and becomes pure. The pure blood reaches the heart once again through the blood vessels. The pure blood which has oxygen, is pumped out by the heart, and reaches all parts of the body through blood vessels. This is blood circulation.

Digestive System:

Digestion: The process by which the food gets digested and reaches the blood is called digestion.

Parts of the Digestive System:

- Mouth , throat , food pipe , stomach , large intestine , small intestine , anus

The Process of Digestion:

- Teeth in the mouth chew the food items into small particles.
- The chewed food reaches the stomach through the food pipe.
- Food in the stomach gets digested to some extent. It remains here for about three to four hours.
- Then this food reaches the small intestine and gets digested further. The digested food reaches the blood through the small intestine and is transported to all parts of the body.
- The undigested food reaches the large intestine and moves out of the body through anus in the form of faeces.

Excretory System

The excretory system filters the blood to remove wastes that could be harmful to the body.

Parts of the excretory system:

-Kidney, urinary canal, urinary bladder, urethra

The process:

- Impurities present in the blood are separated by the kidney.
- This waste reaches the urinary bladder through the urinary canal.
- Then it passes out of the body through the urethra in the form of urine.

2.2 LEARN MORE
None

3. ENGAGE

3.1 INTEREST GENERATION ACTIVITY

Interest generation activity

Activity 1: Body parts

Materials Required: None

Pre-requisites: None

Activity Flow

- Make the students point out and name their body parts. Make them do simple stretches to feel their muscles stretched and relax. Make them move their elbows and then the entire arm from the shoulder to feel the difference in the types of movement of joints.

3.2 CONCEPT INTRODUCTION ACTIVITIES

Sense Organs

Activity 2: Sense organs

Materials Required: None

Pre-requisites: None

Activity Flow

- To introduce the theme of the five senses, take the kids on a sensory stroll.
- Walk around outside and have the kids examine the world using their senses.
- Ask them what they see. Children who have some amount of vision can explain to their classmates what they see.
- Have them describe what they hear.
- What kinds of smells are in the air?
- Let them feel the grass and trees and anything else you encounter in the walk.
- Bring something for them to taste during the walk. Eat fruit you find or have a picnic outside.
- Ask the children to collect samples for how they used each of their senses.
- Then make a book about the walk you took. Collect samples of what you found and put them in the book. This will help the kids to remember the ways they use their senses.

Body system and their function

Activity 3: Respiration

Materials Required: tactile diagram showing respiration
Pre-requisites: None

Activity Flow

- Ask the children to keep their hands on their chest and slowly breathe in and breathe out. What do they feel?
- Explain to them that the process of taking in oxygen and giving out carbon dioxide is called respiration.
- Explain the process by showing them the tactile diagram of respiration.

Activity 4: Blood circulation
Materials Required: tactile diagram of heart
Pre-requisites: None

Activity Flow

- Ask the students have they seen discharge of blood when the body is injured? What colour is the blood?
- Explain to them that blood circulates in all the parts of the body. Blood is red in colour. The main organ of the body which pumps blood to all parts of the body is called the heart.
- Ask the student to keep his/her hand on the chest of their friend. Feel the lub-dub sound of heart. Explain to them that the sound is produced when the heart pumps blood.
- Ask the students to fold their left hand fingers to make a fist. The size of their heart is almost equal to their left fist.
- Use the tactile diagram to explain blood circulation to the students.

Activity 5: Digestion
Materials Required: tactile diagram of digestive system
Pre-requisites: None

Activity Flow

- Ask the students what happens to the food that you eat?
- Using the tactile diagram to explain the process of digestion, in a sequential order starting from mouth (chewing).
- Give them the tactile diagram and tell them the name of each organ involved in the process.

Activity 6: Excretion
Materials Required: None

Pre-requisites: tactile diagram of Excretion

Activity Flow

- Tell the students that we throw out the waste produced at home due to household activities. In the same way so many materials which are not required for the body are produced in our body due to biological processes like digestion etc. These are wastes. The body removes these wastes through skin and lungs.
- Explain to them the process of excretion using the tactile diagram.

3.3 LET'S DISCUSS: RELATE TO DAILY LIFE*

- Show the student the location of parts and organs on their own bodies.
- Steps to be taken for the proper functioning of the body.

4. EXERCISES & REINFORCEMENT

4.1 EXERCISE AND REINFORCEMENT

Reinforcement

Activity 4: Body system

Materials Required: Tactile outlines of the human body

Pre-requisites: body system

Activity Flow

- Divide the students into 4 groups.
- Allocate 1 system per group (eg; digestive system, respiratory system, circulatory system, and excretory system).
- Distribute an outline of the human body to the students.
- Ask each group where they think each organ in the system they have been assigned is located inside the human body.
- Show all the children of each group (physically, with their fingers) where the organs are located.
- Now the groups can go around and explain the location of the internal organs and function of that system to other groups.

4.2 IMPORTANT GUIDELINES*

Exercise Reading

It is very important that the children practice their learnings as well as their Reading. Hence have the children read out the newly learned concepts from their textbooks or other available resources.

Perform Textbook Activity

It is good practice to have the children perform the textbook activities. Your textbook activities might not be accessible hence go through this resource to learn how to make textbook content accessible

Provide Homework

To evaluate their understanding and to help the student revise and implement the new learnt concept ensure to provide them with homework. Students should perform one or two of the questions mentioned above or from the textbook exercises with the teacher in Class and the remaining may be given for homework. Also, ensure that the student knows their special skills linked to independently using their accessible books as it will be critical to doing homework independently

References:

Key points: https://www.theschoolrun.com/homework-help/human-circulatory-system

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