CBSE Class 7 Science Notes Chapter 11: The PDF of the NCERT Class 7 Science Chapter 11 notes on transportation in animals and plants is provided here. The chapter discusses how different plant and human organ components transport vital chemicals and nutrients throughout their bodies. The notes were created by subject-matter specialists.

Additionally, the chapter covers excretion in humans and animals. To study for your examinations and get the NCERT Class 7 Science Chapter 11 Notes, go to the website. The chapter's notes will help you understand the general idea of the subject.

CBSE Class 7 Science Notes Chapter 11 Overview

These CBSE notes for CBSE Class 7 provide a thorough grasp of the science topic "Transportation in Animals and Plants." Students get knowledge about the attributes and traits of materials' motion within living things. Better retention is ensured by the organised framework, which facilitates effective revision. Real-world applications and useful examples improve comprehension of this crucial topic.

These notes are crucial for achieving academic success and for developing a solid foundation in the complex transportation systems of living things. They have shown to be extremely helpful in assisting students in achieving academic success.

CBSE Class 7 Science Notes Chapter 11

Transportation in Animals

For an animal to survive, it needs food, water, and oxygen.

Animals' circulatory systems are responsible for supplying these necessities to every region of their bodies so they can obtain energy.

Additionally, waste produced by the animal should be sent to the excretory system.

Circulatory System

The circulatory system consists of blood, blood vessels and the heart.

It involves the circulation of oxygen, minerals and nutrients to all the body parts by the blood.

Blood

Blood contains haemoglobin, which is what gives it its red colour.

The body's entire system for delivering oxygen is dependent on haemoglobin.

There are three kinds of cells in the blood.

Red blood cells (RBCs): They carry carbon dioxide from various body parts back to the lungs and oxygen from the lungs to various body regions.

White blood cells (WBC): Offer defence against invading microbes that might infect and cause illness.

Platelets: Also known as coagulation of blood, they create a structure like a shield at the site of injury to halt bleeding.

Plasma: The blood contains cells and fluid; the fluid part is known as plasma.

Functions of Blood

Blood's primary job is to carry carbon dioxide to the lungs for purification and oxygen from the lungs to every area of the body.

It delivers food that has been digested to every area of the body.

The body's blood keeps its temperature steady.

Moreover, it carries waste products to the kidneys for elimination.

Blood Vessels

Blood vessels are structures that resemble pipes and carry blood.

Blood Vessels Come in Three Types:

Arteries: These vessels transport blood enriched with oxygen from the heart to the body's tissues.

Veins: They transport blood that has lost oxygen from bodily tissue to the heart.

Capillaries: These link arteries and veins together by acting as a binding agent.

Heart

It is a fist-sized, muscular organ located on the left side of the chest.

Because it aids in the blood's ability to carry nutrients and oxygen, it is the most vital organ in our body.

To prevent the mixing of oxygenated and deoxygenated blood, the heart is split into four chambers.

The left atrium and right atrium are the two top chambers of the heart, which are referred to as atria.

The term "ventricles" refers to the lower two chambers of the heart, which are the left and right ventricles.

The contraction and relaxation of the muscles that comprise the walls of the heart's chambers is known as the heartbeat.

Pulmonary Circuit

It is the system of veins and arteries that joins the lungs and heart.
Blood that has lost oxygen is pumped to the lungs to replenish it.
After being oxygenated, the blood is returned to the heart and circulated throughout the body.

Valves

In addition to veins, the heart contains valves.
They are found in the heart near the base of large veins that exit the heart as well as in the space between the ventricles and atria.
Blood in the body flows in a single direction because of valves.
The lub-dub sound of the heart is caused by the valves in the heart opening and closing.

Pulse

Periodically, the heart pumps blood into the arteries, which likewise expand and contract in response to the blood passing through them. We refer to this as pulsation.
Certain parts of the body, including the wrist, can feel this artery pulse.
The number of heartbeats per minute, or simply pulse rate, is used to assess pulseation.

Excretion in Animals

Excretion is the process by which waste or undesired material is eliminated from the body.

The process of exhalation allows an animal's body to release carbon dioxide.

Egestion is the process by which undigested food is expelled from an animal's body.

Excretory System in Human

The excretory system is the one in charge of eliminating waste products from the body.

The kidney, ureter, urinary tract, and urethra make up this system.

Kidney: The kidney is a bean-shaped organ whose major function is to filter blood and eliminate waste products such as urine.

Urinary Bladder: It holds onto urine to prevent constant urinating.

The ureter is a structure that resembles a pipe that connects the kidney and bladder, allowing urine to travel from the former to the latter.

The urinary opening known as the urethra permits urine to exit our bodies.

Kidneys

The kidneys are the primary excretory organs of our body.
On either side of the spine, there are two kidneys.
The kidneys are bean-shaped, reddish-colored organs.
It contains millions of small tubules that operate as minuscule filters and filter out the useful and hazardous elements from the blood.
Only toxic compounds are concentrated, while the beneficial substances are once more reabsorbed into the blood.
Urine is now known to contain these dangerous compounds in a dissolved condition in water.
Excretion of urine from the body occurs.
The kidneys serve as our bodies' filters as a result.

Dialysis

Dialysis is the filtering of blood outside the human body using a machine when both the kidneys fail.

Transportation in Plant

For plants to survive, they require three essential things: carbon dioxide, water, and nutrients.

Through the process of photosynthesis, which combines carbon dioxide and water, the leaves prepare food.

Water and Mineral Transport

Through their roots, plants draw water and minerals from the earth.

Vascular tissues enable the movement of food, water, and minerals throughout plants.

Plants have vascular tissues, which resemble pipes and facilitate the passage of food, water, and minerals. It is joined at the roots to the leaves.

Osmosis

Osmosis is the movement of solvent molecules from a region of **lower solute concentration** to a region of **higher solute concentration** through a semi-permeable membrane.

Transpiration

The loss of water from leaves' stomata in the form of water vapour is known as transpiration. The plants' ability to absorb and disperse water through their roots is further aided by this process.
In tubes composed of xylem cells, transpiration creates a straw-like effect as water travels against gravity.

Vascular Tissues are of Two Types

Xylem: Assists in moving minerals and water from the roots to every part of the plant.

Phloem: Assists in distributing food made by leaves throughout the entire plant.

Since the water absorbed by the roots is intended to be transferred to the leaves, or upper portion of the plant, transpiration is the phenomenon responsible for the water's upward flow.

The process by which water evaporates from leaves is known as transpiration.

When leaves lose their ability to draw water from roots to leaves, they create a suction pull.

Benefits of CBSE Class 7 Science Notes Chapter 11

- provide concise, understandable descriptions of important ideas.
- simplifies difficult subjects for easier comprehension.
- Effective study aid for final exam preparation.
- improves the recall of important information.
- offers essential points and advice to help with efficient exam preparation.
- combines information to save time.
- Gives priority to significant subjects and inquiries.
- provides useful illustrations for linkages to the actual world.
- increases students' exam-taking confidence.