NCERT Class 7 Science Chapter 11 Transportation in Animals and Plants Summary and Notes Pdf

The Class 7 Science Notes for Quick Refresh include Chapter 11 on Transportation in Animals and Plants, available for free download. NCERT Class 7 Science Notes Chapter 11 on Transportation in Animals and Plants is available here. The chapter in the notes, which subject-matter specialists created, discusses how various organs and components of plants and people transport vital nutrients and chemicals throughout their internal structures. The excrement of people and animals is also covered in this chapter. The NCERT Class 7 Science Chapter 11 Notes are available on the Vedantu website, where you may study for the tests. In addition, the chapter's notes will offer a more precise understanding of the topic's overall notion.

NCERT Class 7 Science Chapter 11 Transportation in Animals and Plants Introduction

Any material moved from one location to another is considered in transit. Water and nutrients must be provided to all metabolic processes in the bodies of both plants and animals. For each cell to regularly get nutrients and oxygen for the release of energy through respiration, materials must be transported in plants and animals. This is because the food we eat to be absorbed by the cells is broken down into smaller components.
We are aware that all living things, including plants and animals, require food, oxygen, and water to thrive. These substances must be given to them to enable their body parts to perform as intended. Thus, a transport system is a need for all living things.

NCERT Class 7 Science Chapter 11 Transportation in Animals and Plants Summary

Transportation in Animals

The circulatory and excretory systems work together to support the animal movement. Food that has been digested is transported from the small intestine to other body regions by blood, a fluid that circulates through blood vessels. Blood vessels come in two different varieties: arteries and veins. The arteries carry the heart's oxygen-rich blood to various body parts, while the veins carry the body's oxygen-poor blood to the heart from every part of the body. Blood is pumped throughout the body mainly by the heart. Excretion is the term used to describe the elimination of waste from cells.
The body wastes that need to be expelled include carbon dioxide, excess salts, undigested wastes, nitrogenous waste, and excess blood sugar. Since they don't have specific excretory organs, lesser creatures like amoebas, hydra, and paramecium diffuse nitrogenous waste via the cell membrane. Kidneys, ureters, urinary bladders, and urethra make up the human excretory system. The primary organ for excretion, the kidneys, control the body's mineral and water balance. The blood's minerals are absorbed, and urine is produced to remove the blood's nitrogenous waste.

Transportation in Plants

The process of moving water, vital nutrients, gasses, and excretory products across the plant for diverse reasons is crucial. In plants, movement is accomplished through vascular tissues. In the plant, the suction force aids in the movement of minerals and water. Water is carried from root hairs to the rest of the plant via a vascular tissue called xylem. The phloem has a two-way transport system. Phloem assists in moving the food molecules to the required locations. The root hairs of the soil absorb water and nutrients, storing them in vacuoles. The suction power of the plants draws this water inside them.
The extra water in plants evaporates through the stomata in the leaves, where it is lost as water vapor. The term "transpiration" refers to this action. The components necessary to create food are transported to various plant organs through the phloem. In the plant's storage organs, the extra food is kept.

NCERT Class 7 Science Chapter 11 Transportation in Animals and Plants Notes

Human Circulatory System
1. The human body's circulatory system is a network that transports nutrients, liquids, oxygen, and other materials throughout the body.
2. The circulatory system is composed mainly of:
i)Blood
ii)the blood vessels
iii)Heart
Blood
1. The blood arteries in our bodies carry the crimson fluid known as blood.
Functions of blood:
1. The blood works as a conduit for the movement of nutrients and oxygen, two things that are vital for life throughout our bodies. The blood transfers oxygen from the lungs to the body's various cells.
2. The kidneys filter the blood after carrying waste to them in the blood. The small intestine breaks down and absorbs the nutrients from the meal. The blood has these nutrients in every region of the body.
3. By producing a blood clot at the site of the injury, the blood also helps to prevent the body from losing blood.
4. A unique chemical in the blood aids in controlling body temperature.
Blood's components, which include various chemicals, allow it to serve multiple purposes.
Blood plasma, or simply plasma, is the liquid component of blood. Blood plasma makes up around 55% of the blood. The transport of many chemicals throughout the body is facilitated by plasma. Water, salt, lipids, proteins, and sugar make up the blood plasma.
Red blood cells (erythrocytes) are widely distributed throughout the blood (40 percent to 45 percent). Hemoglobin, a unique pigment, is what gives them their red color. Every cell in the body receives oxygen through the blood when the oxygen we breathe in combines with hemoglobin.
Leukocytes, also known as white blood cells, account for approximately 1% of the body's total mass, yet they are vital to survival. For example, these cells defend the body from pathogens already there.

Blood platelets are the cells that help a blood clot form and prevent the body from losing blood after an injury.

vascular system

The blood vessels in our body are tube-like organs that aid blood movement throughout the body. According to the roles they play, our body has two different types of blood vessels:

1. Arteries
2. veins

Pulse

We are aware that the heart circulates blood through the arteries. Pulse is the medical term for this continual blood pumping that results in the rhythmic beating of the arteries.

pulse rate

Pulse rate is the term used to describe the number of heartbeats per minute. Humans typically have a pulse rate of 70 to 80 beats per minute.

pulmonary artery

A unique blood vessel called the pulmonary artery runs from the heart to the lungs. It transports blood from the heart to the lungs that have lost some oxygen content. Thus, it differs from other arteries that carry blood that is rich in oxygen.

Pulmonary Vein

The pulmonary vein is a distinctive blood channel that links the heart and lungs. It transfers oxygen-rich blood from the lungs to the heart. As a result, it differs from all other veins transporting oxygen-deprived blood.

Capillaries

Capillaries are tiny blood vessels. The capillaries formed by the division of the arteries carry oxygen-rich blood to the body's tissues. In addition, these capillaries transport deoxygenated blood from the tissues to the veins.

The Heart

The heart is the organ in our bodies that pumps blood into our blood arteries.

The chest cavity is where it is situated.

Its lowest portion leans slightly to the left.

The heart's four chambers keep the blood's oxygen and carbon dioxide concentrations separate.

Blood without oxygen is seen in the atria or upper chambers.

Blood enriched in oxygen is found in the ventricles, the heart's bottom chamber.

With the use of valves, the atria and ventricles are each separated into two chambers inside themselves.

The aorta, our body's largest artery, starts from the left ventricle.

Animal Excretion

Animal cells produce waste products as they carry out various jobs.
These waste materials must be eliminated from live species' bodies because they are poisonous.
Excretion is the process of removing waste materials created in the cells of living things.
In humans, the Excretory System
The set of organs in living organisms that are in charge of excretion is known as the excretory system. Various organs make up the excretory system:

Our bodies have two organs referred to as kidneys. These kidneys have blood capillaries that produce urine after filtering the blood of undesired chemicals.

Urinary bladder: The urinary bladder is where the kidneys' excreted urine is kept after it leaves the kidneys.

The muscular tube known as the urethra is the passageway by which urine leaves the body.

Different organisms excrete other wastes:

The primary excretory product in humans is urea. Different species excrete various wastes.
Urea (2.5 percent), hazardous wastes (2.5 percent), and water (2.5 percent) make up the pee (95 percent).

Depending on whether there is water available, waste compounds are eliminated from the animal's body in different ways. For example, fish and other aquatic species excrete ammonia in the water.

Snakes, lizards, and birds excrete semi-solid, white uric acid.
Moving about in Plants

Transportation of Water and Minerals
The roots of the plants ingest the water and vital elements from the soil.
There are hair-like structures on the roots.
These hairs enhance the roots' surface area, allowing excellent absorption.

Through specialized tissues known as vascular tissues, water and minerals are transferred from the roots to different regions of the plant. The plants have two types of vascular tissues:

The vascular tissue known as **the xylem** is in charge of moving water and nutrients throughout plants. The root cells absorb water and minerals and then transmit them to the xylem. It is transported without using energy in a unidirectional manner through xylem.

Phloem is a type of vascular tissue that carries food from the source, the plant's leaves, to the sink, which is every component of the plant. This energy-using, two-way flow is bidirectional. Translocation is the term for this.

Transpiration

Sometimes plants don't utilize all the water they take in.
Therefore, they must remove the extra water they contain.
Plant water loss occurs during the transpiration process, in which the water evaporates in the atmosphere through the stomata on the leaves.
On the leaves, microscopic holes called stomata let the passage of gases and water.

NCERT Class 7 Science Chapter 11 Transportation in Animals and Plants Conclusion

All living things require the transportation of water, food, minerals, and oxygen to various bodily sections. In addition, they support cellular development and respiration. The excretory organs receive the waste materials to be removed from the body. Transportation is required in plants for various reasons, including the circulation of gasses, excretory products, and essential nutrients. This transfer occurs in the plant's vascular tissues.

Faq :

Q1. What does the "human circulatory system" mean?
Answer. The lungs get oxygen from the circulatory system, which pumps blood from the heart. In addition, the heart pumps oxygen-rich blood through arteries to the rest of the body.

Q2. What constitutes blood's essential elements?
Answer. The four fundamental components of blood are platelets, white blood cells, red blood cells, and plasma.

Q3. What exactly are "capillaries"?
Answer. In addition to aiding the interchange of specific substances between blood and tissues, capillaries, incredibly tiny blood vessels, also assist in connecting the arteries and veins.