



DISTRICT PUBLIC SCHOOL & COLLEGE DEPALPUR
SUBJECT: SCIENCE

SUMMER VACATION HOME WORK

Session 2021-202

CLASS: 7TH



STUDENT'S NAME: _____ **FATHER'S NAME:** _____

CLASS: _____ **SECTION:** _____

TOTAL MARKS: _____ **OBTAIND MARKS:** _____

CLASS TEACHER'S NAME AND SIGN: _____

SECTION HEAD'S SIGN _____ **PRINCIPAL'S SIGN** _____



BLOCK SYLLABI OF 1ST SEMESTER 2021-2022Class: 7th**SUBJECT: SCIENCE**

CHAPTER 1: THE DIGESTIVE SYSTEM	(Book and Workbook)
CHAPTER 2: RESPIRATION AND ENERGY FROM FOOD	(Book and Workbook)
CHAPTER 3: THE HUMAN TRANSPORT SYSTEM	(Book and Workbook)
CHAPTER 4: TRANSPORT IN PLANTS	(Book and Workbook)
CHAPTER 5 : REPRODUCTION IN PLANTS	(Book and Workbook)
CHAPTER 6: ENVIRONMENT AND FEEDING RELATIONSHIPS	(Book and Workbook)
CHAPTER 7: WATER, WATER EVERYWHERE	(Book and work Book)

SINGLE NATIONAL CURRICULUM

Single National Curriculum Is A Diversion. Quality and Access to Education is what Matters. Single National Curriculum is a must For social cohesion and National Integration

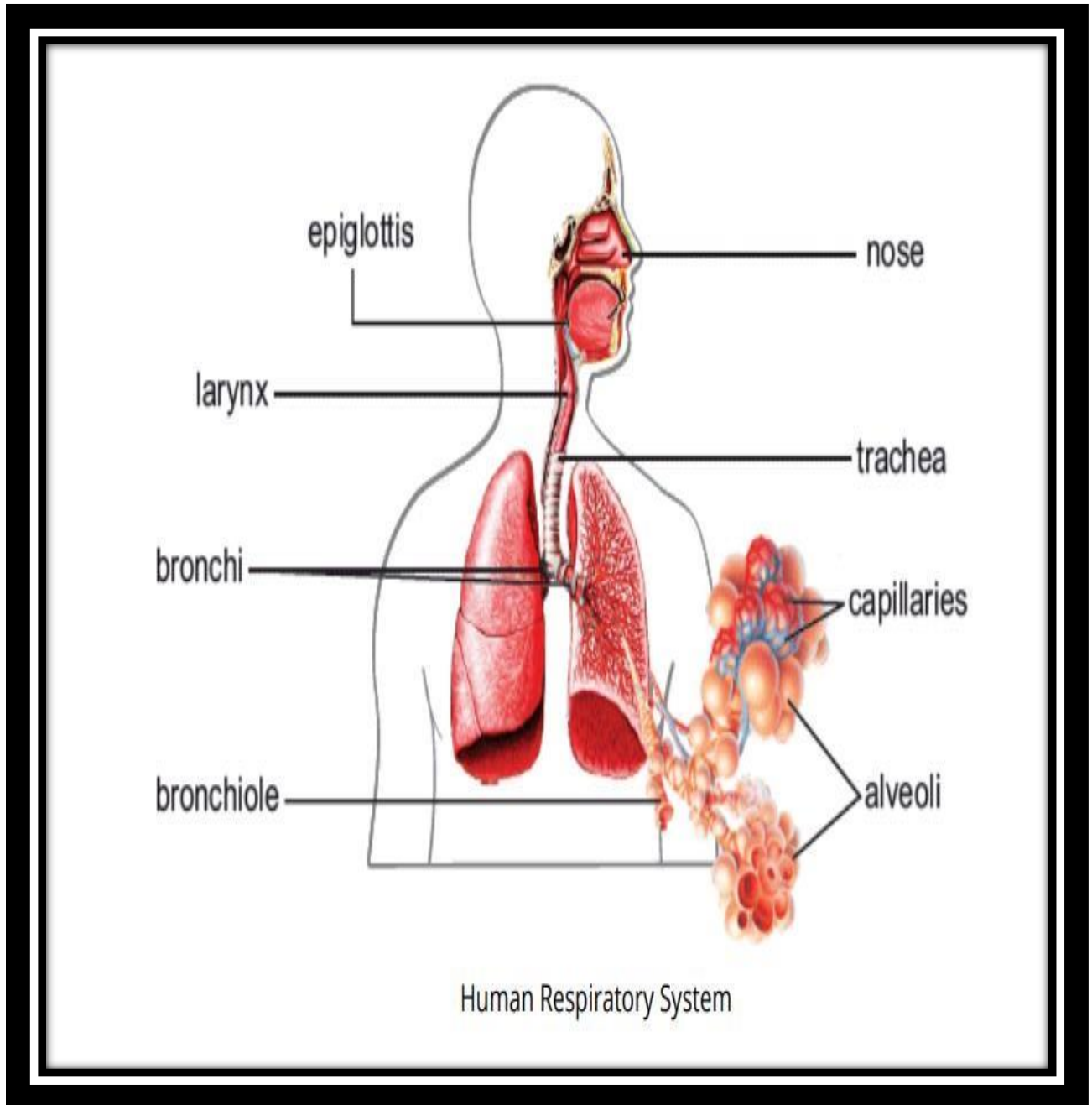
ONE NATION ONE CURRICULUM

Non-uniformity in the curriculum has created a gap between the opportunities available for, rich and the poor, leading to disintegration in society. Implementation of a Single National Curriculum at all levels of education ties the society together by eliminating a major disparity which, later on, may prove to be the root cause of other social divides. Single National Curriculum aims to achieve cohesion and integration in society by gathering all and sundry on a single platform to achieve their goals in life. It overlooks the divisions in society which are based on class, color, language, social status, religion and culture, and provides a strong reason to remain united. The effective implementation of the policy of Single National Curriculum is based on inclusion of all forms of knowledge coming from different cultures, introduction of modern methods of learning and focusing on the development of critical thinking among students.

Salient Features of science according to SNC

- Realignment in view of latest global trends and practices in Science education
- Addition of Technology based content as separate chapters
- Integration of themes such as conservation, bio-ethics, scientific responsibilities & care for the environment and all living beings
- Promotion of inquiry-based learning
- Integration of ICT into the curriculum through web links and project work
- Integration of STEAM as a cross cutting strand

CHAPTER: 02 RESPIRATION AND ENERGY FROM FOOD



Date: 1-07-2021

Day: Thursday

CHAPTER 2 Respiration and energy from food**Topic: Work book MCQs****Learning Objectives:**

To enable the students to choose the correct option.

Question 1 Choose the correct options

- We breathe in
(A) **Oxygen** (B) carbon dioxide (C) nitrogen (D) water vapours
- The process in which energy is released from the food is known as
(A) **Respiration** (B) breathing (C) circulation (D) Digestion
- The body needs to use anaerobic respiration during:
(A) **Exercise** (B) illness (C) sleep (D) walking
- The gas which passes into and out of the lungs unchanged is:
(A) Oxygen (B) **nitrogen** (C) carbon dioxide (D) water vapour
- The larynx is also known as
(A) Bronchi (B) **voice box** (C) voice tube (D) none of these
- The wind pipe branches into two tubes
(A) Trachea (B) alveoli (C) **bronchi** (D) bronchioles
- Air passes into the body through the _____
(A) Bronchi (B) **windpipe** (C) bronchioles (D) alveoli
- Respiration occurs in the:
(A) Nasal cavity (B) lungs (C) red blood cells (D) **cells of the body**
- _____ is released during respiration
(A) Oxygen (B) nitrogen (C) **carbon dioxide** (D) water vapour

Date: 2 -07-2021

Day: Friday

CHAPTER 2 Respiration and energy from food**Topic: Work book MCQs****Learning Objectives:**

To enable the students to choose the correct option.

Question 1 Choose the correct options

- The gas which passes into and out of the lungs unchanged is:

(A) Oxygen **(B) nitrogen** (C) carbon dioxide (D) water

vapour

- The body needs to use anaerobic respiration during:

(A) Exercise (B) illness (C) sleep (D) walking

- When we breathe in, the diaphragm is pulled _____.

(A) Up **(B) down** (C) equal (D) back

- The movement of diaphragm and ribs is controlled by _____.

(A) Lungs **(B) muscles** (C) chest (D) none of these

- Lungs are such vital organs, they must be kept _____ dry

B)moist c)Clean

d)Cover

- The mucus _____ the air when it is breathed in.

A) Clean B)protect c)moist d)warm

- Dogs and cats can cause _____ attacks in some people

(A) Influenza (B) polio (C) coughs and colds **(D) asthma**

- Air passes into the body through the _____

(A) Bronchi **(B) windpipe** (C) bronchioles (D) alveoli

- The average sneeze will spread over _____ viruses

(A) **100.000** (B) 100.00 (C) 200.000 (D) 200,00

Date: 3 -07-2021

Day: Saturday

CHAPTER 2 Respiration and energy from food

Topic: Fill in blanks

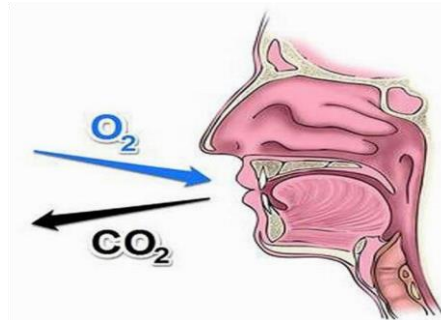
Learning Objectives: To enables the students to give the suitable answer of blanks

- Every cell in the body requires _____ and food. **(oxygen)**
- Respiration is a _____ process which takes place in the cells. **(Chemical process)**
- Aerobic means in the presence of _____ **(Oxygen)**
- Energy is released by the reaction of dissolved _____ with the oxygen. **(food)**
- The walls of the voice box are made up of _____. **(cartilage)**
- The alveoli are _____ in color. **(pink)**
- Each lungs contain _____ of alveoli. **(million)**
- The composition of oxygen in the air that is inhaled by a person is _____. **(21 %)**
- Carbon dioxide is breathed out through _____. **(Mouth)**
- Diaphragm is a tough and _____ shape sheet of muscle. **(dome)**
- The movement of the cilia sweeps _____ remaining dust and germs. **(mucus)**

Date: 4 -07-2021**Day: Monday****CHAPTER 2 Respiration and energy from food****Topic: Unseen question answers****Learning Objectives:** To enables the students to give logical and conceptual answer of any asked question**Define respiration in your own words.****Answer: Respiration** is a process by which energy is released from food.

Answer: _____

- **Which gas is required and which gas is released during the process of respiration?**

Answer: oxygen is required for respiration and carbon dioxide gas is released.

What is difference between aerobic respiration and anaerobic respiration?**Answer: Aerobic respiration:** the process in which energy is released from the food in the presence of oxygen. **Anaerobic respiration:** the process in which energy is released from the food in the absence of oxygen.

Answer: _____

- **Write the names of the parts of human respiratory system.**

Answer: Nose or mouth, larynx, trachea, bronchi, bronchioles and lungs.

Answer: _

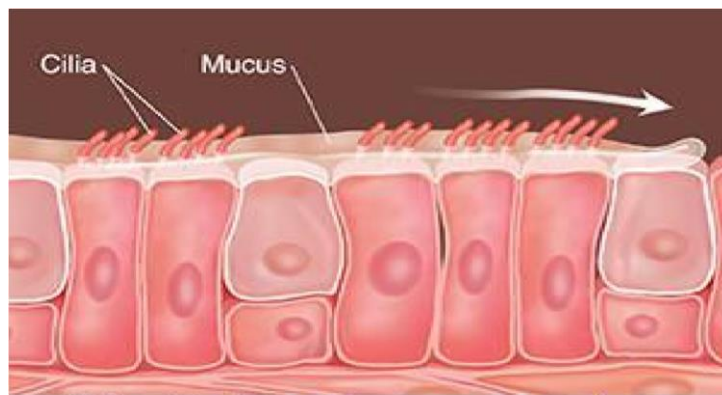
- **What are alveoli?**

Answer: Bronchioles end in microscopic air sacs called alveoli.

Answer: _____

- **Define cilia.**

Answer: Microscopic hairs, called cilia, are found along your air passages and move in a sweeping motion to keep the air passages clean.



Cells with cilia and mucus on top. Arrow shows mucus being swept along.

Date: 5 -07-2021**Day: Tuesday****CHAPTER: 02 Respiration and energy from food****Topic: Exercise (Question/answers)****Learning objectives:** To enables the students to give logical and conceptual answer of any asked question**Write answers of the following questions on the lines below****Question 1. What is the difference between breathing and respiration?****Answer:** **Breathing** is the movement of air passing in and out of the lungs. **Respiration:** it is a process by which energy is released from food.

Answer: _____

Question 2. In which parts of living organisms does respiration take place?**Answer:** Respiration takes places in the cells of living organisms.

Question 3. Burning and respiration both use oxygen and both produce energy. Make a table to show the similarities and differences between burning and respiration.**Answer:** Comparison of burning and respiration:

Burning	Respiration
releases energy from a fuel	releases energy from a fuel (food)

uses oxygen and releases carbon dioxide	uses oxygen and releases carbon dioxide
releases energy rapidly and is difficult to control	releases energy slowly and can be controlled
involves heat and light (flames)	heat produced, but not light

Answer:

Question 3. Burning and respiration both use oxygen and both produce energy. Make a table to show the similarities and differences between burning and respiration.

Answer: Comparison of burning and respiration:

Burning	Respiration
releases energy from a fuel	releases energy from a fuel (food)
uses oxygen and releases carbon dioxide	uses oxygen and releases carbon dioxide
releases energy rapidly and is difficult to control	releases energy slowly and can be controlled

involves heat and light (flames)	heat produced, but not light
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Question 4. Why do you breathe faster and your heart rate increases when you run?

Answer: When we run, body needs more energy for respiration. The faster rate of breathing gets oxygen into the lungs faster and releases carbon dioxide and water vapour to the air more quickly.

Date: 6 -07-2021

Day:Wednesday

CHAPTER: 02 Respiration and energy from food

Topic: Exercise (Question/answers)

Learning objectives: To enables the students to give logical and conceptual answer of any asked question

Question 5. Make a list of all the parts of the body that air flows through on its way to the lungs.

Answer: The parts of the body the air flows through on its way to the lungs are:

- Mouth/nose-nasal cavity
- Voice box or larynx
- Trachea or windpipe

- bronchi

- bronchioles

- Alveoli or air-sacs.

Question 6. Explain the part played by the diaphragm and the inter-costal muscles in breathing.

Answer: When breathing in, the diaphragm is pulled down and the intercostal muscles contract pulling the rib cage upwards. The space inside the chest gets bigger, and air rushes into the lungs to fill up the extra space. Breathing out occurs when the muscles relax. The diaphragm moves upwards and the rib cage are lowered. The space in the chest gets smaller and air is forced out of the lungs.

Date: 8-07-2021

Day: Thursday

CHAPTER 2 Respiration and energy from food

Topic: Exercise (Questions answers)

Learning Objectives: To enables the students to give logical and conceptual answer of any asked question

Question 7. Why is it better to breathe through your nose than through your mouth?

Answer: it better to breathe through your nose than mouth because hairs and mucus in the nose and nasal cavity filter dust and germs from the air and the numerous blood capillaries warm the air.

Question 8. Draw is a diagram of the chest and lungs. In your notebook, label the parts of the diagram.

Answer:



Date: 9 -07-2021**Day: Friday****CHAPTER 2 Respiration and energy from food****Assessment****Marks: 20****Question 1****Encircle the correct option**

_____ is released during respiration

- (A) Oxygen (B) nitrogen (C) carbon dioxide (D) water vapour

The gas which passes into and out of the lungs unchanged is:

- (A) Oxygen (B) nitrogen (C) carbon dioxide (D) water vapour

The body needs to use anaerobic respiration during:

- (A) Exercise (B) illness (C) sleep (D) walking

Air passes into the body through the _____

- (A) Bronchi (B) windpipe (C) bronchioles (D) alveoli

The average sneeze will spread over _____ viruses

- (A) 100.000 (B) 100.00 (C) 200.000 (D) 200,00

/5

Question 2**Fill in the blanks****/5**

- Energy is released by the reaction of dissolved _____ with the oxygen.
- The walls of the voice box are made up of _____
- The alveoli are _____ in color.
- Diaphragm is a tough and _____ shape sheet of muscle. **(dome)**

- The movement of the cilia sweeps _____ remaining dust and germs. **(mucus)**

Question 3**Write answers of the questions on the lines below****/10**

- **How we can treat coughs and colds?**

- **Why is it better to breathe through your nose than through your mouth?**

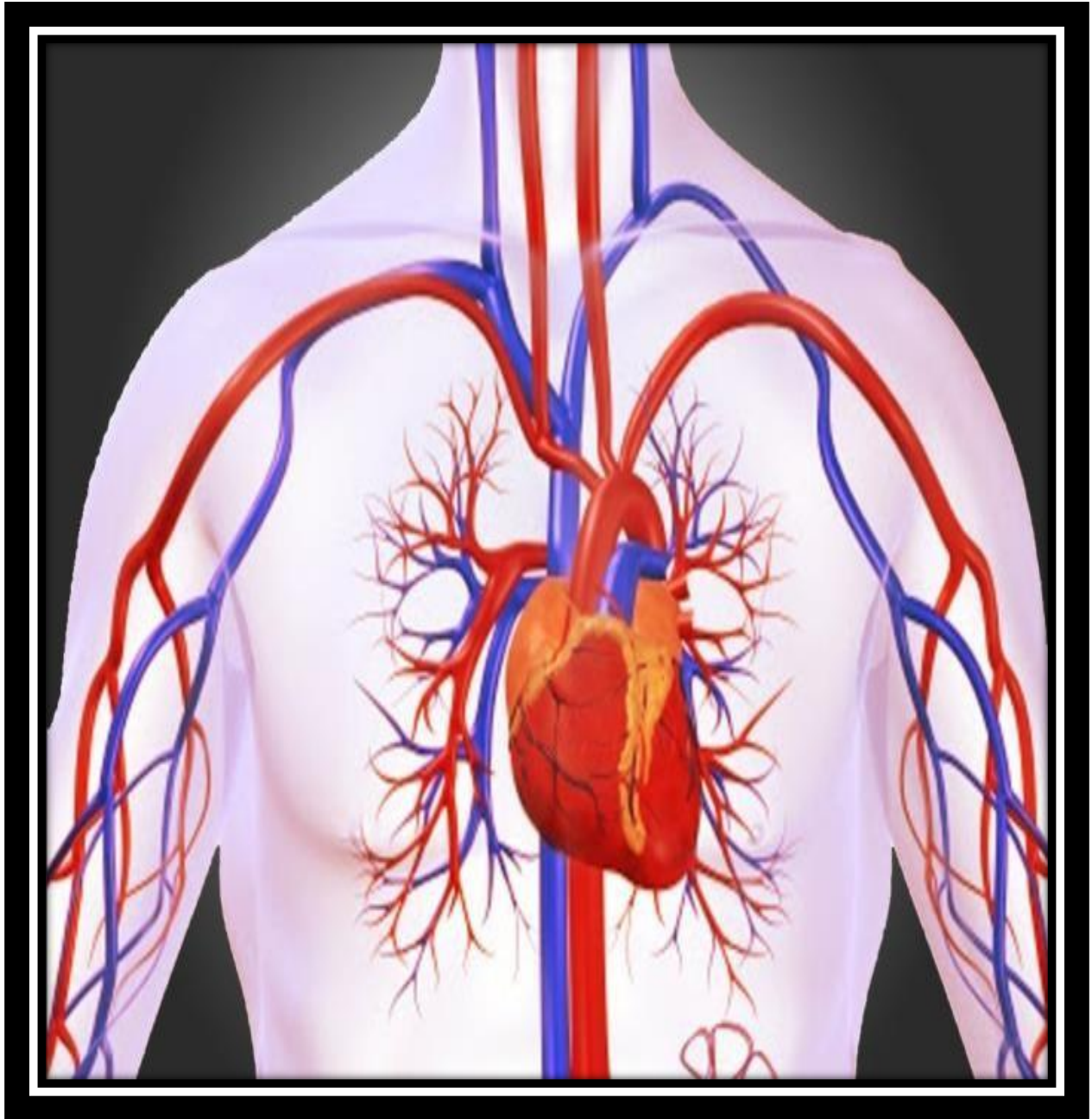
What is difference between breathing and respiration?

Answer:

Question 4. Why do you breathe faster and your heart rate increases when you run?

Question 5. Make a list of all the parts of the body that air flows through on its way to the lungs.

CHAPTER 3 THE HUMAN TRANSPORT SYSTEM



Date: 10-07-2021**Day: Saturday****CHAPTER 3 THE HUMAN TRANSPORT SYSTEM**

Topic: Work book MCQs

Learning Objectives: To enable the students to choose the suitable option**Question 1****Encircle the correct option**

- The pulse beat is measured in:
(A) Vein **(B) an artery** (C) a nerve (D) the heart
- The average pulse rate per minute for an adult at rest is: Which part of the heart has the thickest walls?
(A) Left atrium (B) right atrium **(C) left ventricle** (D) right ventricle
- To where does the aorta carry blood?
(A) The heart (B) the lungs **(C) towards the body** (D) the veins
Which side of the heart carries oxygenated blood?
(A) The right **(B) the left** (C) neither side (D) both sides
- Which part of the heart has the thickest walls?
(A) Left atrium (B) right atrium **(C) left ventricle** (D) right ventricle
- To where does the aorta carry blood?
(A) The heart (B) the lungs **(C) towards the body** (D) the veins
- Which part of the blood is mainly water?
(A) red blood cells (B) white blood cells (C) platelets **(D) plasma**
- Which cells of the body do not have a nucleus?
A) red blood cells (B) white blood cells (C) skin cells (D) epithelial cells
- What is the work of the platelets?
(A) to protect against disease **(B) to clot the blood** (C) to carry hormones (D) to carry oxygen

Date: 12 -07-2021

Day: Monday

CHAPTER 3 THE HUMAN TRANSPORT SYSTEM

Topic: Work book MCQs

Learning Objectives: To enables the students to choose the suitable option**Question 1****Encircle the correct option**

- The main function of haemoglobin in the red blood cells is to:
A) help the blood to clot (B) distribute heat (C) destroy bacteria **(D) carry oxygen round the body**
- The space inside a long bone contains:
• (A) blood **(B) marrow** (C) nerves (D) nothing
- How many blood vessels carry blood away from the heart?
(A) 1 **(B) 2** (C) 3 (D) 4
- The pulse beat is measured in:
• (A) a vein **(B) an artery** (C) a nerve (D) the heart
- To where does the aorta carry blood?
• (A) the heart (B) the lungs **(C) towards the body** (D) the veins
- Which side of the heart carries oxygenated blood?
• (A) the right **(B) the left** (C) neither side (D) both sides
- The average pulse rate per minute for an adult at rest is:
• (A) 98.4 (B) 37 (C) 58 **(D) 70**

Date: 13-07-2021

Day: Tuesday

CHAPTER 3 THE HUMAN TRANSPORT SYSTEM

Topic: Fill in blanks

Learning Objectives: To enable the students to choose the suitable option

Question: 01 Fill in blanks

- Blood is a kind of **tissue**.
- Blood is made up of **four** main parts.
- Red blood cells, white blood cells, **platelets** and plasma.
- The **plasma** is a watery liquid that contains dissolved food, mineral salts, and **carbon dioxide**.
- The **red blood cells** contain a pigment called **haemoglobin**.
- The **white blood cells** fight infection and disease.
- The **platelets** clot the blood if you cut yourself.
- The **heart** pumps blood around the body and the whole system of blood vessels is called the blood system

Date: 14 -07-2021

Day: Wednesday

CHAPTER 3 THE HUMAN TRANSPORT SYSTEM

Topic: (Questions answers)

Learning Objectives: To enables the students to give logical and conceptual answer of any asked question.

Question: 01

What is the life of red blood cells?

Answer: The life of red blood cell is 100.

What is function of antibodies produce by white blood cells?

Answer: Antibodies kill germs and change the poisonous chemical produce by germs into harmless substance.

What is the function of Platelets?

Answer: Platelets help to seal wounds by clotting the blood.

What is the life of red blood cells?

Answer: The life of red blood cell is 100.

Date: 15-07-2021

Day: Thursday

CHAPTER 3 THE HUMAN TRANSPORT SYSTEM

Topic: Exercise (Questions answers)

Learning Objectives: To enables the students to give logical and conceptual answer of any asked question

Question: 1 What is the main job of circulatory system?

Answer: The main job of the circulatory system is to transport, or carry, substances around the body.

Question: 2 Name four of the material carried by the blood?

Answer: The materials carried by the blood include dissolved food, water, oxygen, carbon dioxide, urea, and hormones.

Question: 3 How much blood is there in the body of an adult human being?

Answer: The average human being has about 5 litres of

blood. _____

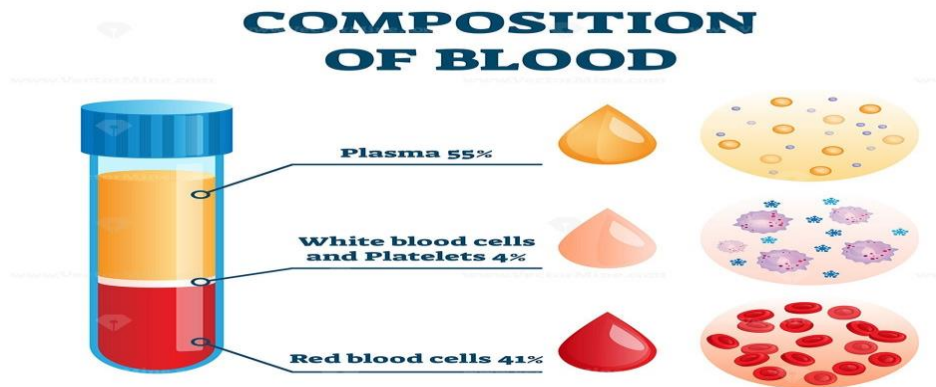
Question: 4 What are the four parts of the blood? Describe what each of them?

Answer: The four main parts of the blood are:

Red blood cells: red blood cells which carry oxygen.

White Blood Cells: white blood cells which help to kill germs and produce substances called antibodies. These kill germs and change the poisons produced by germs into harmless substances.

Plasma: is the liquid part of the blood. The red and white cells float in it and it contains many dissolved food substances, such as glucose, amino acids, vitamins, and mineral salts. The plasma also carries carbon dioxide and another waste product, urea, as well as hormones. Plasma also contains some blood proteins, including one called fibrinogen, which helps the blood to clot. Finally, there are platelets in the blood. These small cell fragments help to seal wounds by clotting the blood.



Question:5 What does haemoglobin do in the body?

Haemoglobin is a protein combined with iron which enables the red blood cells to carry oxygen.

Question: 6 Why does lack of iron in the diet sometimes lead to anaemia?

If the diet lacks iron, the body may not be able to make enough haemoglobin and so the blood will not be able to carry sufficient oxygen and the person will lack energy.

Date: 16 -07-2021**Day: Friday****CHAPTER 3 THE HUMAN TRANSPORT****SYSTEM****Topic: Exercise (Questions answers)**

Learning Objectives: To enables the students to give logical and conceptual answer of any asked question

Question: 7 A drop of blood has just left one of your lungs. Describe the route it takes to get back to the lungs?

Answer: A drop of oxygenated blood leaving the lungs passes to the left atrium of the heart. From there it is pumped to the left ventricle which pumps it into the main artery, the aorta. The drop of blood eventually reaches the blood capillaries which carry the blood into the tissues. As the blood leaves the tissues, the capillaries join up to form veins. Veins carry the blood back to the right atrium of the heart. An artery called the pulmonary artery then pumps the deoxygenated blood back to the lungs.

Question: 8 Why is it much easier to stop blood flowing from a vein than an artery?

Answer: Blood flowing from a cut vein is under very low pressure and so it is much easier to stop the flow of blood than it is from an artery.

Question: 9 Why does blood spurt out of a damaged artery?

Answer: Blood spurts from a damaged artery because it is under high pressure, and the spurts are caused by each beat, or pumping action, of the heart.

Question: 10 Why it is not correct to say that all arteries carry oxygenated blood and all veins carry deoxygenated blood?

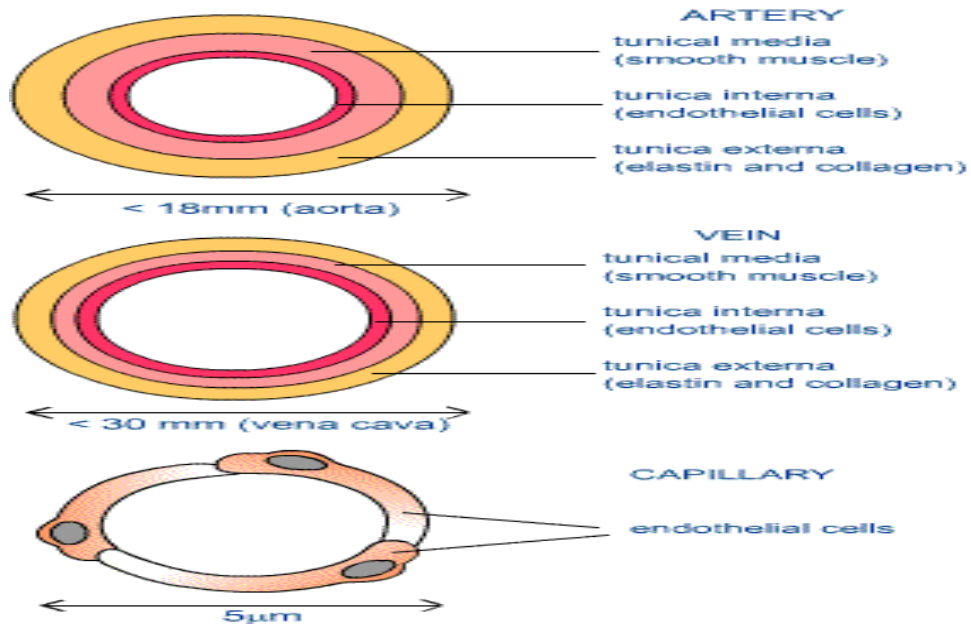
All arteries carry oxygenated blood, except for the pulmonary artery which carries deoxygenated blood from the heart to the lungs. All veins carry deoxygenated blood, except for the pulmonary vein which carries oxygenated blood from the lungs to the heart.

Question: 12 How do veins differ from capillaries and arteries in their structure and function ?

Answer). The table below shows the differences in structure and function of veins, capillaries, and arteries:

Arteries	Capillaries	Veins
They carry blood from the heart.	They link arteries to veins.	They carry blood to the heart.
They have thick walls of muscle and elastic fibres.	The walls are one cell thick.	They have fairly thick walls which contain some elastic fibres.

Valves are present only where arteries leave the heart.	They have no valves.	Valves are found in the long veins of the arms and legs.
Blood flows in pulses.	Blood flows steadily.	Blood flows steadily.
Blood is under high pressure.	Blood pressure changes.	Blood is under low pressure.
Blood is bright red and contains oxygen (except in the pulmonary artery).	Blood is losing oxygen and gaining carbon dioxide.	Blood is dull red and contains very little oxygen (except in the pulmonary vein).



Date: 17 -07-2021

Day: Saturday

CHAPTER 3 THE HUMAN TRANSPORT SYSTEM

Topic: Exercise (Questions answers)

Learning Objectives: To enables the students to give logical and conceptual answer of any asked question

Question: 15 What is a pacemaker and when is it needed?

Answer: .A pacemaker is a device which produces a small but regular pulse of electricity to the heart to keep it beating steadily. It is needed by a person whose natural pacemaker is faulty.

Question: 16 **What work does a valve or vein do?**

Answer. A valve in the heart or a vein stops the blood from flowing backwards. If the valves of the heart do not shut properly, the heart cannot work efficiently. Sometimes a faulty valve can be replaced with an artificial valve.

Question: 17 **What happens if a person has high level of glucose in his blood and what can be done to control the level of glucose?**

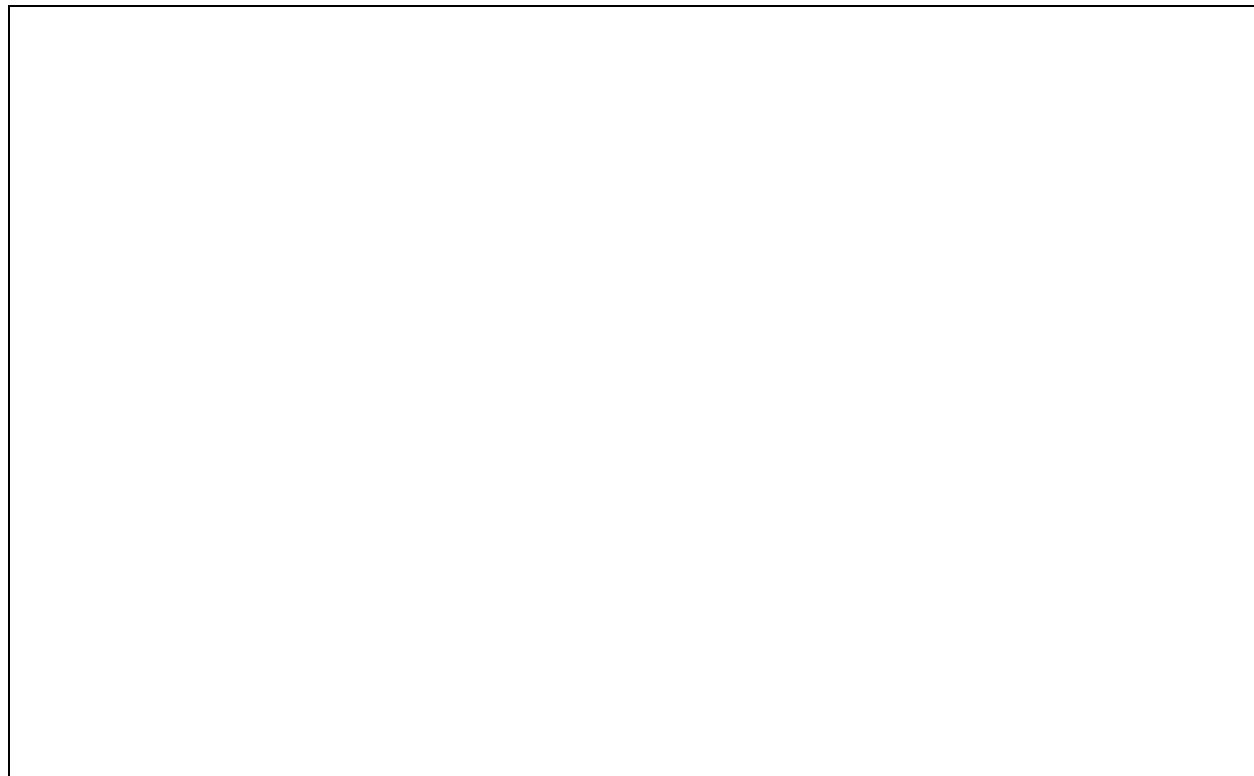
Answer. The level of glucose in the blood is controlled by a hormone called insulin. People who do not produce enough insulin have a disease called diabetes. The person with diabetes may feel weak and sleepy as the level of glucose in his or her blood changes, Because fats and muscle proteins have to be used to supply the body with energy, the person loses weight. Diabetes can be controlled by injections or tablets of insulin, or by careful control of the diet.

Question: 18 What are the advantages and disadvantage of heart transplant?

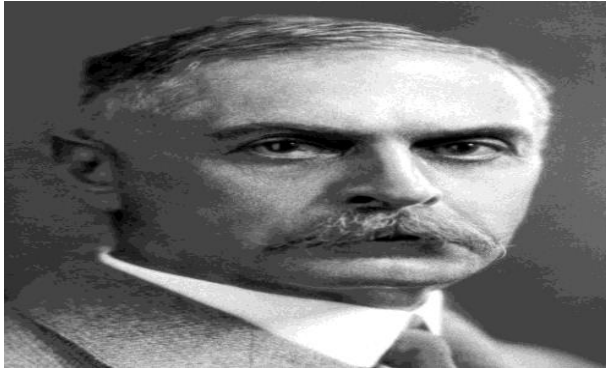
Answer: A heart transplant is a life-saver for someone with heart failure. However, it is very difficult to find a replacement heart, usually from someone who has died in an accident, which the patient's own body will not reject. A major operation is needed to transplant a heart and special drugs have to be taken for the rest of the patient's life to reduce the risk of the body rejecting the new heart. Heart transplants lengthen the life of someone who would otherwise die from a seriously faulty heart.

Activity:

Draw and label the diagram of human heart



Biography of karl landstenier



Karl Landsteiner was an Austrian biologist, physician, and immunologist.

He distinguished the main blood groups in 1900, having developed the modern system of **classification of blood groups** from his identification of the presence of agglutinins in the blood, he discovered the **polio virus** in 1909. He received the **Aronson Prize** in 1926.

In 1930, he received the Nobel Prize in Physiology or Medicine.

In 1900 Karl Landsteiner found out that the blood of two people under contact agglutinates, and in 1901 he found that this effect was due to contact of blood with blood serum.

As a result, he succeeded in identifying the **three blood groups A, B and O**, which he labelled C, of human blood.

Landsteiner also found out that blood transfusion between persons with the same blood group did not lead to the destruction of blood cells, whereas this occurred between persons of different blood groups. Based on his findings, the first successful blood transfusion was performed by **Reuben Ottenberg** at Mount Sinai Hospital in New York in 1907.

Landsteiner was elected to the National Academy of Sciences in 1932 and awarded the Cameron Prize for Therapeutics of the University of Edinburgh in 1937. He was elected a Foreign Member of the Royal Society) in 1941. In 1946, he was posthumously awarded the Lasker-DeBakey Clinical Medical Research Award.

Reference: https://en.wikipedia.org/wiki/Karl_Landsteiner

Read the above paragraph and give the answer of following questions.

Which virus discovered by **Karl Landsteiner**?

What are the discoveries of karl Landsteiner?

Which blood group discovered by karl Landsteiner?

Date: 19 -07-2021**Day: Monday****CHAPTER 3 THE HUMAN TRANSPORT SYSTEM****Assessment****Marks: 20****Question 1****Encircle the correct option**

- The pulse beat is measured in:
(A) Vein (B) an artery (C) a nerve (D) the heart
- The average pulse rate per minute for an adult at rest is: Which part of the heart has the thickest walls?
(A) Left atrium (B) right atrium c) left ventricle (D) right ventricle
- To where does the aorta carry blood?
(A) The heart (B) the lungs (C_) towards body (D) the veins
- Which side of the heart carries oxygenated blood?
(A) The right B)Left (C) neither side (D) both sides
- Which part of the heart has the thickest walls?
 - Left atrium (B) right atrium c) left ventricle (D) right ventricle

QUESTION: 02 Fill In Blanks

- Blood is a kind of _____.
- Blood is made up of _____ main parts.
- Red blood cells , white blood cells _____ and plasma.

- The _____ is a watery liquid that contains dissolved food, mineral salts, and **carbon dioxide**.

- The red blood cells contain a pigment called _____.

QUESTION:03 Give the answer of the following questions

- Question: 1 **What is Varicose veins and what causes their development?**

- Question: 2 **What type of people are prone to developing blood related diseases?**

- Question: 3 **What work does a valve or vein do?**

- Question: 4 **What happens if a person has high level of glucose in his blood and what can be done to control the level of glucose?**

- Question: 5 **What is function of red blood cells?**

Date: 24 - 07-2021

Day:Saturday

C H A P T E R: 04 T R A N S P O R T I N P L A N T S

Topic: work book MCQs

Learning Objectives: To enables the students to choose the correct option

Choose the correct answer:

- ❖ The process by which water is lost from the leaves of a plant is called:
A) condensation (B) decomposition (C) diffusion **(D) transpiration**
- ❖ The process by which foods made by photosynthesis are moved in a plant is called:
A) transpiration **(B) translocation** (C) transference (D) transmission
- ❖ Transpiration takes place from:
A) All parts of a plant (B) the leaves (C) the stem **(D) the above-ground parts of a plant**
- ❖ The plant tissue which allows water and mineral salts to pass from the roots to the leaves is:
A) Phloem **(B) xylem** (C) epidermis (D) cuticle
- ❖ The plant tissue which moves sugars and other foods from the leaves to the growing points and storage places is:
A) Epidermis (B) cuticle (C) xylem **(D) phloem**
- ❖ On which surface of leaves are stomata present?
A) upper only (B) lower only (C) mostly upper **(D) mostly lower**
- ❖ Cells which are full of water and rigid are said to be:
A) support cells (B) flaccid **(C) turgid** (D) none of these

Date: 26 -07-2021

Day:Monday

C H A P T E R: 04 TRANSPORT IN PLANTS

Topic: work book MCQs

Learning Objectives: To enables the students to choose the correct option

Choose the correct answer:

- ❖ Much of the transpiration from a plant takes place through the:
 - A) **stomata** (B) lenticels (C) epidermis (D) cuticle

- ❖ Roots absorb water through:
 - A) epidermal hairs **(B) root hairs** (C) root xylem (D) root phloem

- ❖ Sap rises in a plant because of:
 - A) root pressure (B) transpiration pull **(C) both (A) and (B)**(D) osmosis

- ❖ Stomata open and close because of:
 - A) the presence of valves (B) hormones **(C) water pressure of the guard**

- ❖ Mineral salts are absorbed into cells by:
 - A) osmosis (B) diffusion **(C) active transport** (D) air pressure

- ❖ Food is transported in the phloem as:
 - A) glucose **(B) sucrose** (C) fats (D) amino acids

- ❖ The movement of particles from a region of higher concentration to a region of lower concentration is called:
 - A) osmosis **(B) diffusion** (C) active transport (D) sap flow

Date: 27-07-2021

Date: Tuesday

CHAPTER: 04 TRANSPORT IN PLANTS

Topic: Exercise (Question answers)

Learning Objectives: To enables the students to give logical and conceptual answer of any asked question

Question1: Why do larger, multi cellular (many-celled) plants need a transport system?

Answer: Large, many-celled plants need a transport system because it would take a long time for gases and other materials to diffuse into and out of the plant.

Answer:

Question 2: What are the name of the two sets of tubes which make up the transport system of plants?

Answer: The two sets of tubes which make up the transport system of the plant are called phloem and xylem.

Answer:

Question3. Whereabouts would you find the two sets of transport tubes in a leaf

Answer: In a leaf, phloem and xylem tubes are found in the veins.

Answer:

Question 4: What is the name of process by which water enters the root hairs?

Answer: Water enters root hairs by a process called osmosis.

Answer:

Date: 28 -07-2021

Day:Wednesday

CHAPTER: 04 TRANSPORT IN PLANTS

Topic: Exercise question answer

Learning Objectives: To enables the students to give logical and conceptual answer of any asked question

Question5.Which set of tubes carries water and dissolved minerals? And how it does.

Answer: Xylem moves water and mineral salts from the roots to the leaves of the plant. Water enters the root hairs by osmosis, while some mineral salts enter the roots by diffusion. Other mineral salts enter the roots by what is called active transport. The main force which draws water up the plant is transpiration— the evaporation of water from the plant leaves.

Answer:

Question 6.Which set of tubes carry dissolved food to storage areas, growing points and other places where it is needed?

Answer: The phloem cells carry dissolved food to storage areas, growing points, and other places where it is needed.

Answer:

Question 7:Most garden plants would die if you watered them with a strong salt solution

explain why?

Answer: Most plants would die if they were watered with a strong salt solution. This is because the concentration of salts outside the root hairs would be higher than the concentration inside the root hairs. As a result, water would leave the root hairs by osmosis, and the plants would wilt and die.

Answer:

Question8: What is transpiration stream?

Answer. A transpiration stream is the flow of water and dissolved mineral salts from the roots to the leaves. The water and mineral salts are pulled up the xylem tubes and water evaporates from the plant leaves.

Answer:

Date: 29-07-2021**Day: Tuesday****Al-Zahrawi**

Al-Zahrawi surgeon and chemist. Considered to be the greatest surgeon of the Middle Ages, he has been referred to as the "father of modern surgery".

Al-Zahrawi's principal work is the *Kitab al-Tasrif*, a thirty-volume encyclopedia of medical practices

The surgery chapter of this work was later translated into Latin, attaining popularity and becoming the standard textbook in Europe for the next five hundred years.

Al-Zahrawi's pioneering contributions to the field of surgical procedures and instruments had an enormous impact in the East and West well into the modern period, where some of his discoveries are still applied in medicine to this day.

He pioneered the use of catgut for internal stitches, and his surgical instruments are still used today to treat people.

He was the first physician to identify the hereditary nature of haemophilia, and was the first to discover the root cause of paralysis. He also developed surgical devices for Caesarean sections and cataract surgeries.

Reference/weblink: <https://en.m.wikipedia.org/wiki/Al-Zahrawi>

Read the above paragraph and give the answer of the following questions.

What is famous book of Al-Zahrawi?

What is the role of Al-Zahrawi in the field of science?

Date: 30 -07-2021

Day: Friday

CHAPTER: 04 TRANSPORT IN PLANTS

Topic: Question answers

Learning Objectives: To enables the students to give logical and conceptual answer of any asked question

Question9: What kind of climate and weather conditions do you think will produce a high rate of of transpiration ?

Answer: The highest rates of transpiration would occur in hot, dry, or windy conditions in bright sunshine.

Answer:

Question10:Explain why a potted plant placed on sunny windowsill will soon start to wilt?

Answer. A potted plant on a sunny windowsill will soon start to wilt because water is evaporating from the leaves faster than it is being taken up by the plant roots.

Answer:

Question11:Why do you think the rate of transpiration is greatly reduce at night?

Answer.The rate of transpiration is greatly reduced at night because light levels are lower, the stomata are closed, water is not needed for photosynthesis and the temperature is usually lower.

Answer:

Question12: Why in the summer is it better to water potted plants during the evening than during the day?

Answer: In summer it is better to water potted plants in the evening when the rate of transpiration is lower. The water has time to soak into the soil or compost and the plant roots can take up enough water to make up for that lost by transpiration during the day.

Answer:

Date: 30 -07-2021

Day: Friday

C H A P T E R: 04 TRANSPORT IN PLANTS

Assessment

Choose the correct answer:

- ❖ The process by which water is lost from the leaves of a plant is called:
B) condensation (B) decomposition (C) diffusion (D) transpiration
- ❖ The process by which foods made by photosynthesis are moved in a plant is called:
B) transpiration (B) translocation (C) transference (D) transmission
- ❖ Transpiration takes place from:
B) All parts of a plant (B) the leaves C) the stem (D) the above-ground parts of a plant
- ❖ The plant tissue which allows water and mineral salts to pass from the roots to the leaves is:
B) Phloem (B) xylem (C) epidermis (D) cuticle

Question 1. Define stomata?

Answer:

Question 2: What are the name of the two sets of tubes which make up the transport system of plants?

Answer:

Question3.Whereabouts would you find the two sets of transport tubes in a leaf?

Question 4: What is the name of process by which water enters the root hairs?

Question 05: Why in the summer is it better to water potted plants during the evening than during the day?

Date: 31 -07-2021

Day: Saturday

CHAPTER: 04 TRANSPORT IN PLANTS

Assessment

Question1: Why do larger, multi cellular (many-celled) plants need a transport system?

Answer: Large, many-celled plants need a transport system because it would take a long time for gases and other materials to diffuse into and out of the plant.

Answer:

Question 2:What are the name of the two sets of tubes which make up the transport system of plants?

Answer: The two sets of tubes which make up the transport system of the plant are called phloem and xylem.

Answer:

Question3.Whereabouts would you find the two sets of transport tubes in a leaf?

Answer:

Question 4:What is the name of process by which water enters the root hairs?

Answer:

Question5.Which set of tubes carries water and dissolved minerals? And how it does.

Answers:
