



INDIAN SCHOOL AL WADI AL KABIR

Class: VII	Department: SCIENCE 2020 - 21	Date: 27.10.2020
Worksheet No:10 With answers	Topic: Transportation in animals and plants	Note:A4 File format
Name of the student:	Class & Section:	Roll no.

I. OBJECTIVE TYPE QUESTIONS:

- The fluid part of blood is called:
i) RBC ii) WBC iii) Platelets **iv) Plasma**
- The arteries have thick elastic walls because:
i) Rapid blood flows at high pressure.
ii) Slow blood flows at low pressure.
iii) Rapid blood flows at low pressure.
iv) Slow blood flows at high pressure.
- A resting person usually has a pulse rate between:
i) 50 to 60 beats per minute. ii) 90 to 100 beats per minute.
iii) 72 to 80 beats per minute. iv) 52 to 60 beats per minute.
- White patches formed in areas like underarms are due to:
i) Salts present in the sweat. ii) Sugars present in the sweat.
iii) Water present in the sweat. iv) Bases present in the sweat.
- Blood platelets help in:
i) formation of urine ii) excretion of urine iii) sweating **iv) blood clotting**
- The following are the steps that occur during the formation and removal of urine in human beings. They have been jumbled up.
a) Ureters carry urine to the urinary bladder.
b) Wastes dissolved in water is filtered out as urine in the kidneys.
c) Urine stored in urinary bladder is passed out through the urinary opening at the end of the urethra.
d) Blood containing useful and harmful substances reaches the kidneys for filtration.
e) Useful substances are absorbed back into the blood.

Arrange the above statements in the correct order in which they occur during the formation and removal of urine in human beings.

- a) → b) → c) → d) → e)
- d) → e) → b) → a) → c)**
- a) → c) → b) → d) → e)
- a) → b) → c) → e) → d)

7. The major excretory product in humans is:
 i) Urea ii) Uric acid iii) Ammonia iv) Faeces
Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below-
- i) Both A and R are true and R is the correct explanation of the assertion.**
ii) Both A and R are true but R is not the correct explanation of the assertion.
iii) A is true but R is false.
iv) A is false but R is true
8. **Assertion(A):** Arteries always carry oxygen-rich blood away from the heart except pulmonary artery.
Reason(R): Pulmonary artery carries deoxygenated blood away from the heart to the lungs for purification hence it is called as an artery and not a vein. (i)
9. **Assertion(A):** Several droplets of water are seen on the margins of the leaves of roses in the morning.
Reason(R): We give water to the rose plants and some water falls on the leaves. (ii)
10. **Assertion (A):** Excretory system of humans consists of two kidneys, two ureters, a urinary bladder and urethra.
Reason (R): The useful substances are not absorbed back into the blood and is removed as urine. (iii)

II. BASIC CONCEPT LEVEL QUESTIONS:

1. What is meant by heartbeat? What is the normal range of heartbeat of a human body?
 [Hint: The rhythmic contraction and relaxation of muscles in the heart constitute a heartbeat. The normal range of heartbeat in an adult person is 70 to 80 times per minute]
2. Name the tissues present in vascular system. [Hint: xylem and phloem]
3. Define the term excretion. [Hint: The process of removal of wastes produced in the cells of the living organisms is called excretion.]
4. State the function of sweat? [Hint: sweat helps in cooling our body.]
5. What is meant by transpiration? [Hint: Transpiration is the process by which plants lose water in the form of water vapour through stomata present on the surface of the leaves.]
6. State the function of valves present in veins.
 [Hint: Valves present in veins allow blood to flow only towards the heart.]
7. Skin is also considered as an excretory organ. Give reason.
 [Hint: Skin is an excretory organ as it helps in eliminating wastes from our body. Excess of water, urea and salts are excreted in the form of sweat through our skin.]

III. INTERMEDIATE LEVEL QUESTIONS:

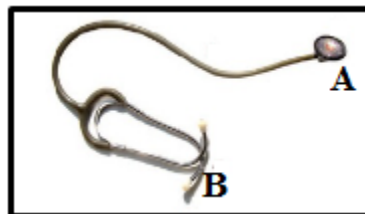
1. Mention the functions of the following blood cells.
 - a) RBC- Oxygen binds with haemoglobin present in RBC and is transported to all parts of the body.
 - b) WBC- WBC fights against the germs that may enter the body.
 - c) Platelets- Platelets help in clotting of blood.

2. What is the special feature present in human heart which does not allow mixing of blood when oxygen rich blood and carbon dioxide rich blood reach the heart?
3. [Hint: Heart has four chambers. Two upper chambers called atria and two lower chambers called ventricles. The partition which is called septum between the chambers helps to avoid mixing of oxygen rich blood with carbon dioxide rich blood.]
4. Sponges and Hydra do not possess any circulatory system then how do they carry out distribution of food and other substances?

[Hint: The water in which these organisms live brings them food and oxygen as it enters their bodies. The water carries away waste materials and carbon dioxide as it moves out.]

5. Explain the role of xylem and phloem in transportation of water and minerals in plants?
[Hint: Xylem transports water and minerals, Phloem transports food to all parts of the plant]
6. Observe the following figure and answer the given questions:

- a) Name the instrument. [stethoscope]
- b) Label the parts A and B. [A-Chest piece, B-Ear piece]



c) What is the role of this instrument? [Hint: Doctors listen to the sound of the heartbeat. It helps in amplifying the sound of the heart beat when it is placed on the chest near our heart and doctors get clues about the condition of the heart.]

7. Explain how water is absorbed by roots from the soil.
[Hint: Roots have root hairs which increases the surface area of the root for the absorption of water and mineral nutrients dissolved in water.]

IV. ADVANCED LEVEL:

1. Priya's grandfather was taken to the hospital as he was unable to perform excretory processes. Priya heard a nurse talking to her father that her grandfather's has kidney failure and needs to undergo dialysis. Priya later asked her father as to what is dialysis process and why does grandpa needs it. Her father smiles and tells her all the facts associated with this process.
 - a) What do you mean by dialysis? [Hint: Dialysis is the process used for cleaning of the blood by separating the waste products in an artificial medium.]
 - b) Why is there a need for dialysis in some people? [Hint: Dialysis is needed when the excretory organ of humans, kidney, becomes damaged or unfunctional due to some injury or infection.]
 - c) Excretion is an important life process. How? [Hint: Excretion process removes the waste products released in body after the utilisation of food and other components. These products are toxic and may harm us if not removed from our body.]
 - d) Which is the major excretory organ in humans? [Hint: Kidney]
2. Differentiate between arteries and veins.

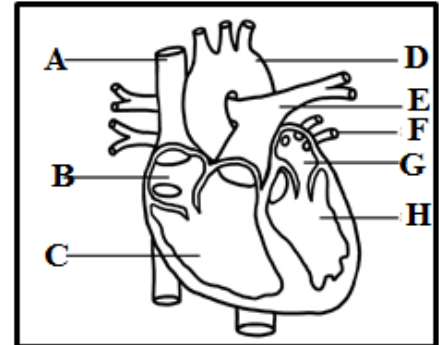
Arteries	Veins
Arteries are thick blood vessels.	Veins are thin blood vessels.
They transport blood away from the heart.	They transport blood towards the heart.
They carry oxygen rich blood from heart to all the parts of the body except pulmonary artery.	They carry carbon dioxide rich blood from all the parts of the body to heart except pulmonary vein.

There are no valves present.

Valves are present which allow blood to flow only towards the heart.

3. Label the given diagram and explain the path of blood circulation in the human body.

[Hint: A-Venacava, B- Right atria, C- Right ventricle, D-Aorta, E-Pulmonary artery, F-Pulmonary vein, G-Left atria, H-Left ventricle



- The right auricle and ventricle receives blood rich in carbon dioxide from all parts of the body through venacava.
 - The collected blood is then pumped to the lungs for the purification through pulmonary artery.
 - In lungs, the exchange of gases takes place and purified blood is sent back to left auricle through pulmonary vein.
 - It pumps blood to the left ventricle, which in turn pumps off the purified blood to all parts of body through aorta.]
4. Draw a neat labelled diagram of the urinary system and explain its various organs.

[Kidneys]: There are two kidneys which are richly supplied with blood capillaries.

When the blood reaches the kidneys, it contains both useful and harmful substances.

The useful substances are absorbed back into the blood and the wastes dissolved in water is removed as urine. **Ureters:** are two tube-like structures which connect the kidneys and the urinary bladder. They allow passage of urine from the kidney to the urinary bladder.

Urinary bladder: The urine produced by the kidneys is stored in the urinary bladder temporarily. **Urethra :** It is a small muscular tube which is connected on one side to the urinary bladder and the other side it opens to the outside through a small opening which helps in passing out urine.]

V. EXEMPLAR QUESTIONS:

1. Name the only artery that carries carbon dioxide rich blood .Why is it called an artery if it does not carry oxygen rich blood? [Hint: Pulmonary artery carries deoxygenated blood from right ventricle to the lungs. Arteries carry blood away from the heart, blood flows under high pressure, have thick walls and do not contain valves and pulmonary artery carries deoxygenated blood from heart to lungs for oxygenation.]
2. Where do plants store their waste products? [Hint-Plants store their waste products like gums and resins in the old xylem. Plants store wastes in leaves that fall off.]

Prepared by: Mrs. Sreeja.A

CHECKED BY : HOD - SCIENCE