

Class 3.

I. Vocabulary training

Task 1. Translate the words and word combinations:

Покрывать сердце; содержать предсердия и желудочки; отделять клапанами; поступать в камеры сердца; сосудистая система; нагнетать по сосудам; включать артерии, вены и капилляры; удары сердца; сокращение предсердий; отделять плазму; нести к органам; содержать эритроциты, лейкоциты и тромбоциты.

Task 2. Answer the questions to the text Cardiovascular System:

- 1) What is the heart?
- 2) What main parts does the heart consist of?
- 3) Does the vascular system consist of three groups of vessels? What are they?
- 4) How is the blood pumped?
- 5) What components does the blood consist of?

Task 3. Read and translate the text

to circulate - циркулировать

to perform - выполнять

to transport - переносить

nutrients – питательные вещества

to regulate - регулировать

to sustain – поддерживать, сохранять

to protect – защищать, беречь

to detoxify – обеззараживать

Biological functions of the blood

The blood is the most specialized fluid tissue which circulates in the vascular system. The blood performs such functions as:

1. Transport of gases (mainly, RBCs). Oxygen from lungs is carried to the tissues and carbon dioxide is transported from the tissues to the lungs.

2. Transport of nutrients to all cells of the organism (glucose, amino acids, fatty acids, vitamins, ketone bodies, trace substances and others). Substances such as urea, uric acid, bilirubin and creatinine are taken away from different organs for excretion.

3. Regulatory or hormonal function. Hormones are secreted into the blood and they are transported by the blood to their target cells.

4. Thermoregulation function means that the blood provides an exchange of heat between the tissues thus sustaining the heat.

5. Osmotic function. The blood sustains osmotic pressure in the vessels.

6. Protective function. The blood provides the most important defence mechanism by the phagocytic action of leucocytes and by the actions of antibodies.

7. Detoxification function means neutralization of toxic substances which is connected with their decomposition with the help of blood enzymes.

The pH of blood lies in the range of 7.35 to 7.45, which is necessary for its normal functioning.

Task 4: Answer the questions to the text using the prompts. (К собеседованию по теме)

- 1) What does the blood transport?

The blood transports газы – кислород и углекислый газ, питательные вещества и гормоны.

2) What does the blood sustain?

The blood sustains тепло и осмотическое давление в сосудах.

3) How does the blood protect our organism?

Leucocytes and antibodies protect the organism by действием фагоцитов. Blood enzymes help to обеззараживать токсичные вещества.

Task 5. Compose the sentences using the following words and word combinations. (An example is given in bold)

Blood	carry	nutrients to all cells of organism
It	decompose	in the range of 7.35 to 7.45 for normal functioning
RBCs	executes	in the body
Blood	perform	oxygen from lungs to tissues
Hormones	are carried	toxic substances
Blood	takes part	at least seven functions
Leucocytes and antibodies	should be	protective functions by neutralizing harmful substances
Blood enzymes	circulates	by blood to the target cells
Acid-base balance of blood	transports	in thermoregulation

II. Grammar training

Task 6. Complete the text using the verbs in the correct form (simple or continuous).

The amount of blood taken for the testing should be reduced. Laboratory procedures of blood sampling often (require) too much blood. This procedure (expose) the hospital patients to the risks of blood loss, hepatitis and a lot of infections. Last year The New England Journal of Medicine (publish) the results of the research done by two doctors from Boston – Dr. Bruce Smoller and Dr. Margot Kruskall. According to the obtained results, an average adult (lose) nearly 1 litre of blood during the stay in intensive care unit. The idea gradually (spread) among the medical community. So doctors now (search) for the ways to reduce the amount of blood sampled for the tests.

Task 7. Put the verbs into the correct form (simple or continuous).

1) The blood constantly (circulate) in the vascular system without ever stopping.
2) What functions the blood (perform)? 3) The temperature gradually (fall) and the child (feel) better now. 4) Day by day, year after year, the blood (transport) nutrients to the organs and tissues. 5) The students could watch how the laboratory assistant (study) the blood composition. 6) Don't shout, I (hear) you perfectly well. 7) You (learn) new words by heart now? 8) What rules the teacher (explain) to you throughout the whole lesson yesterday? 9) The teacher (explain) you these rules yesterday? 10) The blood (provide) an exchange of heat between the tissues. 11) We have added a contrast substance, so you may see how the blood (pass) through these vessels. 12) The detoxifying agent gradually (neutralize) the toxic substance.