

# Unit 8 study guide

[Science](#), [Biology](#)



Unit 8 Study Guide 1. How many liters of blood does the average adult have? 5 Liters 2. What are the components of blood? Red blood cells, white blood cells, platelets, and plasma. 3. What does the hematocrit measure? The number of cells or volume. 4. What percentage of blood is cells? 45% 5. What percentage of blood is made of plasma? 55% 6. What do erythrocytes look like and what is their function? Erythrocytes are biconcave disks that are 7.5 micrometers. They have no nucleus, even after they have matured and they are composed of one third hemoglobin. They function as a transportation system for gas. . How do mature erythrocytes differ from immature ones? They lack a nucleus when they mature 8. What is a normal RBC Count? 4, 600, 000/cubic centimeter 9. What makes blood red? Hemoglobin 10. How long does the average RBC live? 120 days 11. What hormone controls the rate of rbc synthesis? Erythropoietin 12. What element is part of a red blood cell? Iron 13. What is sickle-cell anemia and what is its cause? Sickle-cell anemia is a disorder in the red blood cells which reduces the oxygen in the blood and results in the RBC's being crescent shaped. 14. What are the causes of Anemia

The causes of Anemia include a lack of enough RBC's, including iron deficiency, B complex deficiency, erythropoietin deficiency, or too many RBC's destroyed, which includes sickle cell anemia, sickle trait, thalassemias (Alpha hemoglobin chain, beta hemoglobin chain, small RBC's. ) 15. What is the difference between sickle cell anemia and sickle trait? It is possible for a person to have a mixture of normal and bad hemoglobin in red blood cells without having sickle cell disease. This condition is "sickle cell trait" in which people have enough of the normal hemoglobin in their red blood cells

to prevent them from becoming sickle haped, causing sickle cell anemia. 16. What percentage of white blood cells are eosinophils? 1-3% 17. What is a Lymphocyte? A Lymphocyte is a small, round long lived agranulocyte that is composed of 25-33% of white blood cells. Its function is to attack antigens. 18. What is a chemical that stimulates cells to produce antibodies? Antigen 19. What percent of blood is lymphocytes 25-33% of the blood 20. What is a normal white Blood Cell Count? 5, 000-10, 000 White blood cells 21. What does a rise in WBCS indicate? A decrease?

A rise indicates an infection such as leukocytosis and a decrease, or leucopenia, may be a sign of viral infections. 22. What is a normal WBC differential? 4, 500-10, 000 23. What is pus? It is made up of leukocytes, bacteria, and damaged body cells. 24. What do elevated monocytes indicate? They could indicate an infection 25. What is Diapedesis? It allows WBC's to leave circulation 26. What is leukemia? It is a type of cancer that begins in the tissue that forms blood. Leukemia patients bleed because of platelet deficiency. 27. What is the function of fibrinogen?

It helps stop bleeding by helping blood clots to form. It is converted into fibrin during blood coagulation. 28. What are 3 Lipoprotein molecules? VLDL – triglycerides LDL – cholesterol HDL – high protein 29. What is agglutination? Agglutination is a clumping together of bacteria or red cells when held together by antibodies, or agglutinins. 30. What keeps blood from clotting? Anticoagulants are what prevent the clotting of blood. 31. What is fibrinogen? Fibrinogen is a protein that the liver produces which helps stop bleeding by helping to form blood clots. 32. What is a globulin?

A globulin is a plasma protein which transports lipids and fat-soluble vitamins in the blood and helps to produce antibodies.

33. What are the major ABO groups? A, B, AB, and O blood types

34. What are antigens and antibodies associated with each blood group? Type A blood contains the antigen A and Anti B antibodies, type B blood contains antigen B and Anti A antibodies, type AB has antigens A and B and no antibodies, and type O has no antigens and Anti A and B antibodies.

35. What blood type is universal donor? Universal recipient? Type O is the universal blood donor and type AB is the universal recipient.

6. What is the Rh factor and why is it significant? The Rh factor is an antigen that can be found in the red blood cells of most people. People with Rh factor are considered Rh positive and those who do not are considered Rh negative. Rh negative people are unable to be transfused with positive blood once they are exposed to it. A Rh negative mother is able to develop antibodies to donate to her Rh positive child. Blood which is used in transfusions must match donors for Rh status and ABO blood group. Rh-patients will develop anemia if they are given Rh+ blood.