



Blood and Lymph Review Questions


- Blood consists of what 4 major parts?
- Describe blood plasma.
- What % of plasma is water?
- List the 6 typical components of plasma?
- Explain the three groups of blood proteins?
- Give 2 characteristics of red blood cells.
- What is the primary function of red blood cells?
- What is erythropoiesis?
- What is the name of the protein complex which carries oxygen?
- Why is blood red?
- Approximately how long do red blood cells live?
- Where do worn out red blood cells decompose?
- Where are red blood cells made?
- Explain blood anemia.
- Explain carbon monoxide poisoning.
- Describe white blood cells.
- What are the two classifications of leukocytes?
- What are the two functions of leukocytes?
- Where are white blood cells made?
- When is your white blood cell count high? Why does it get high?
- Describe platelets.
- What role do platelets play in our blood?
- Where are platelets made?
- A blood clot forms when strands of a sticky insoluble protein trap blood cells at the location of a damaged or broken blood vessel. What is the insoluble protein?
- Describe the difference between blood types (A,B,AB,O) with respect to the antigen found and the antibodies in the blood.
- Create and fill in a chart like the one below.

Blood Type	Can donate to:	Can receive from:
A		
B		
AB		
O		
A ⁺		
A ⁻		
B ⁺		
B ⁻		
AB ⁺		
AB ⁻		
O ⁺		
O ⁻		

- What blood type is a universal donor? Universal receiver?
- Describe what happens if someone receives incompatible blood.
- Explain Rh factor in terms of donor compatibility.
- Explain erythroblastosis fetalis.
- Compare the three methods in which complimentary proteins defend against the microbes.
- Explain how helper T cells, B cells and killer T cells work together to fight off invading microbes.
- Describe how an antibody neutralizes an invading microbe.
- Describe the lymphatic system.
- Describe lymph.
- Describe lymph nodes.
- Where are lymph nodes found on the body?
- What are the 2 main functions of the lymphatic system?
- Describe the pathway for blood clot formation.
- Given the following:

 = A antigen

 = B antigen

 = Rh antigen

Draw red blood cells to represent each of the following:

- B+
 - AB-
 - O-
 - A+
 - AB+
 - O+
- B-. List who can give to B-.
 - A-. List who A⁻ can give to.
- draw the universal recipient.
 - draw the universal donor.
- draw what it would look like if A⁺ blood were given to a B⁺ person. Include both blood cell types and antibody.

Antigen-Antibody Response

- A special type of macrophage called a **Dendritic Cell** engulfs the invading microbe and carries it through lymph vessels to the lymph nodes where the various types of **T-Cells** are waiting.
- Helper T-Cells** identify intruders by their antigen markers that protrude through the membrane of the **Dendritic Cell**. The **Helper T-Cell** then passes the antigen marker information on to both the **B-Cells** and **Killer T-Cells**.
- The **B-Cells** use the antigen marker information to produce antibodies. The antibodies head to the “battle field” to latch on to invading microbes antigens.
- The **Killer T-Cells** use the antigen marker information and head directly out to the “battle field” themselves to seek out and destroy cells infected with microbes (by rupturing cell membranes).