

INTRO. TO BLOOD

Define the following:

1. tissue fluid: liquid found outside the blood vessels that surrounds the cells.
2. Lymph: fluid in lymph vessels. Contains lymphocytes, and collected plasma that leaked out of blood vessels (capillaries).
3. formed element(s): The red blood cells, white blood cells, and platelets in the blood. (Basically the cell-like items.) Anything that is NOT plasma.
4. viscous (use a useful dictionary): Fluid thickness. E.g. vegetable oil is more viscous than water.
5. Hemoglobin: A respiratory pigment (coloured molecule) that allows blood to carry LOTS of oxygen at once.
6. Oxyhemoglobin: hemoglobin (Hb) that has combined with oxygen. (box, below)
E.g. $\text{Hb} + \text{O}_2 \rightleftharpoons \boxed{\text{HbO}_2}$
7. reduced hemoglobin: Hemoglobin that has lost its oxygen (given it up to tissue fluid) E.g. $\boxed{\text{Hb}} + \text{O}_2 \rightleftharpoons \text{HbO}_2$
8. heme: A complicated iron-containing structure that binds to oxygen so it can be transported to cells. There are 4 heme groups per hemoglobin. There are about 200million hemoglobin molecules in one red blood cell.
9. anemia (dictionary): A disease characterized by a LACK of red blood cells (or hemoglobin) in the blood. The blood can't carry as much oxygen and sufferer is tired and sluggish all the time.
10. Carbaminohemoglobin: hemoglobin that has bound with & is CO_2 . (It can't carry much CO_2 .)
11. carbonic anhydrase: An enzyme that speeds up the reaction of CO_2 with water in the blood so it (CO_2) can be carried to lungs for expiration.
12. Clotting: The stopping of a 'leak' of blood out of a broken vessel (capillary, arteriole, artery, venule, or vein) by platelets and fibrin.
13. Platelets: Fragments (bits) of cells that START the clotting process. They SLOW the bleeding by plugging up the hole.
14. Fibrinogen: The precursor to FIBRIN, the threads that wrap around the platelet plug and stop the flow of blood out of a damaged vessel.
15. Prothrombin: A chemical in the blood that gets turned into THROMBIN when a blood clot needs to be made.
16. Thrombin: Causes fibrinogen to turn into fibrin - the threads which help in clotting.
17. Fibrin: A long threadlike polymer molecule that helps in clotting by wrapping around the platelet plug.

18. Serum: Light yellow liquid left after blood has clotted. (Basically it's plasma without the plasma proteins)
19. Granulocytes: White blood cells which look most grainy inside.
20. Agranulocytes: White blood cells which look least grainy inside.
21. Antigens: Proteins (usually on invading bacteria) that antibodies fight against.
22. Antibodies: A defense mechanism in your blood which attacks antigens.
23. phagocytosis (as related to blood cells): What occurs when a macrophage finds a bacterium and ingests it by enveloping it.
24. Macrophage: A monocyte which has left the bloodstream and 'lives' in the tissues. They grow larger and phagocytize bacteria.
25. Agglutination: Clumping of red blood cells when an antibody attacks its antigen on the red blood cell.
26. fetal erythroblastosis: [Also called hemolytic disease of the newborn (HDN)] A condition in which the mother has antibodies against Rh and they attack her 2nd Rh positive fetus's red blood cells. (They CAN attack the 1st fetus as well, later in the pregnancy, if mom makes antibodies fast enough)
27. REF (renal erythropoietic factor): OMIT