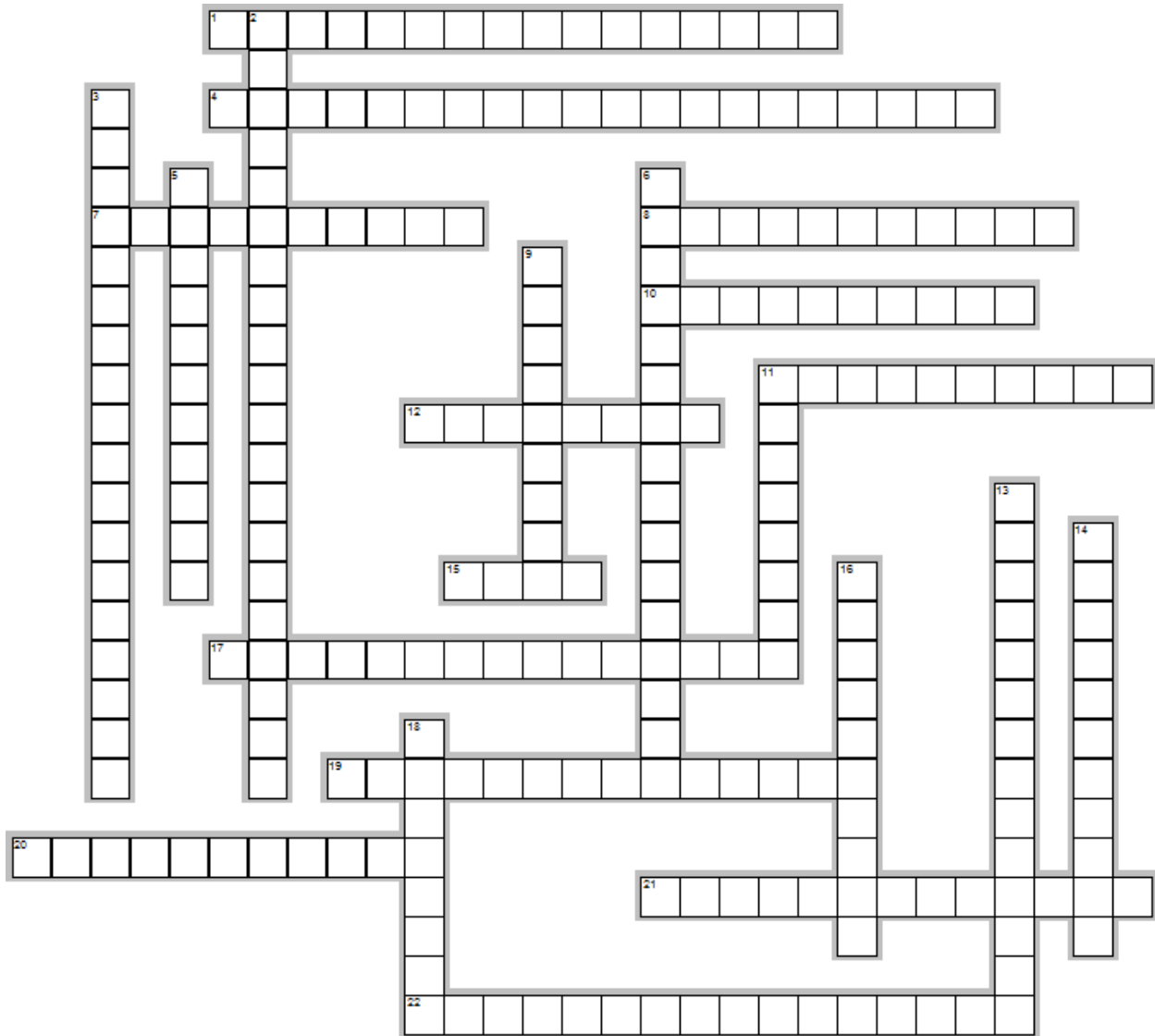


Blood and Blood Disorders Crossword Puzzle

By [Maria A.Reed](#) medical coder, Las Vegas Paiute Tribe Health & Human Services and University Health System (University of Nevada School of Medicine)



Across

- Type of anemia due to lack of intrinsic factor (protein that helps in the absorption of vitamin B12) leading to Vitamin B12 Deficiency
- Red blood cell (*RBC*); most numerous of the blood cells that contains hemoglobin (iron containing protein which gives the red color) & carries oxygen; normal value of 5 million/uL & normal life span of 100-120 days
- Cancer of the blood cells that starts in the bone marrow, characterized by abnormal amount of WBCs; types include acute lymphoblastic (*ALL*), acute myelogenous (*AML*), chronic Lymphocytic (*CLL*), & chronic myelogenous (*CML*)

10. Cells that are early descendants of stem cells which differentiate into one or more kinds of mature cells
12. Type of anemia characterized by "*crescent-shaped*" RBCs; has a genetic component; mostly affects Black race
16. Soft, spongy tissue found inside of long bones that involves in the production of different cells that give rise to RBCs, WBCs, platelets, granulocytes, & lymphocytes
18. "*Bone marrow failure*"; type of anemia where the bone marrow fails to produce enough blood cells (all cell lines are decreased); some causes include infections, drugs/chemicals, immune disorders, or can be unknown
19. "*Polymorphonuclear leukocyte*"; most abundant of the WBCs; role in fighting infections & immune response; first responders at the site of infection
21. Test which gives information of the RBCs, WBCs, platelets, hemoglobin & hematocrit in the blood to detect a wide range of disorders
22. Abnormal decrease in the WBCs < 3,500/uL
23. Type of anemia wherein the bone marrow is unable to replace RBCs that are being destroyed; classified as inherited (hereditary) due to intrinsic causes & acquired due to extrinsic causes

Down

1. Most common type of anemia due to insufficient amount of iron
2. The least common among the WBCs; contains heparin (anticoagulant) & histamine (vasodilator); plays a role in allergies & parasitic infection
4. White blood cell (*WBC*) or "*granulocyte*"; the largest but the fewest of the blood cells; acts as defense against infection & foreign materials; normal value=4-10/mL; types are neutrophil, eosinophil, basophil, lymphocyte & monocyte
6. Inherited form of blood disorder characterized by abnormal form of hemoglobin (protein in RBC that carries O₂); has *Alpha & Beta* types, and *Major & Minor* forms
7. A type of hematopoietic stem cell from which all blood cell types come from; gives rise to progenator cells from which mature blood cells are derived; found in adult bone marrow, spleen, umbilical cord, fetal liver & peripheral blood
8. Decrease in the amount of platelets <50,000/uL associated with abnormal bleeding; can be due to infections, medications, or disorders like leukemia
11. Most common inherited bleeding disorder due to a deficiency / defect in the blood clotting protein called *vW* factor
13. Type of WBC that forms a major component of the immune system; divided into large (*Natural Killer/NK cell*) & small (*T & B cells*)
14. Undifferentiated cells that can differentiate into specialized cells; has the ability to self-renew or multiply while maintaining their potential to develop into other cell type
15. Test to measure the ability of the blood to clot; includes bleeding time, prothrombin time, thrombin time, activated PTT, & Fibrin Degradation products (*FDP*)
17. The process of production, multiplication, & specialization of the cellular components of the blood occurring primarily in the bone marrow, but may also occur extramedullary in the spleen & lymph nodes
20. Smallest & lightest of the blood cells; produced in the bone marrow from megakaryocyte which transforms into giant cell that undergoes fragmentation to release this type of cell; main function is for bleeding; normal value=150,000-300,000/uL