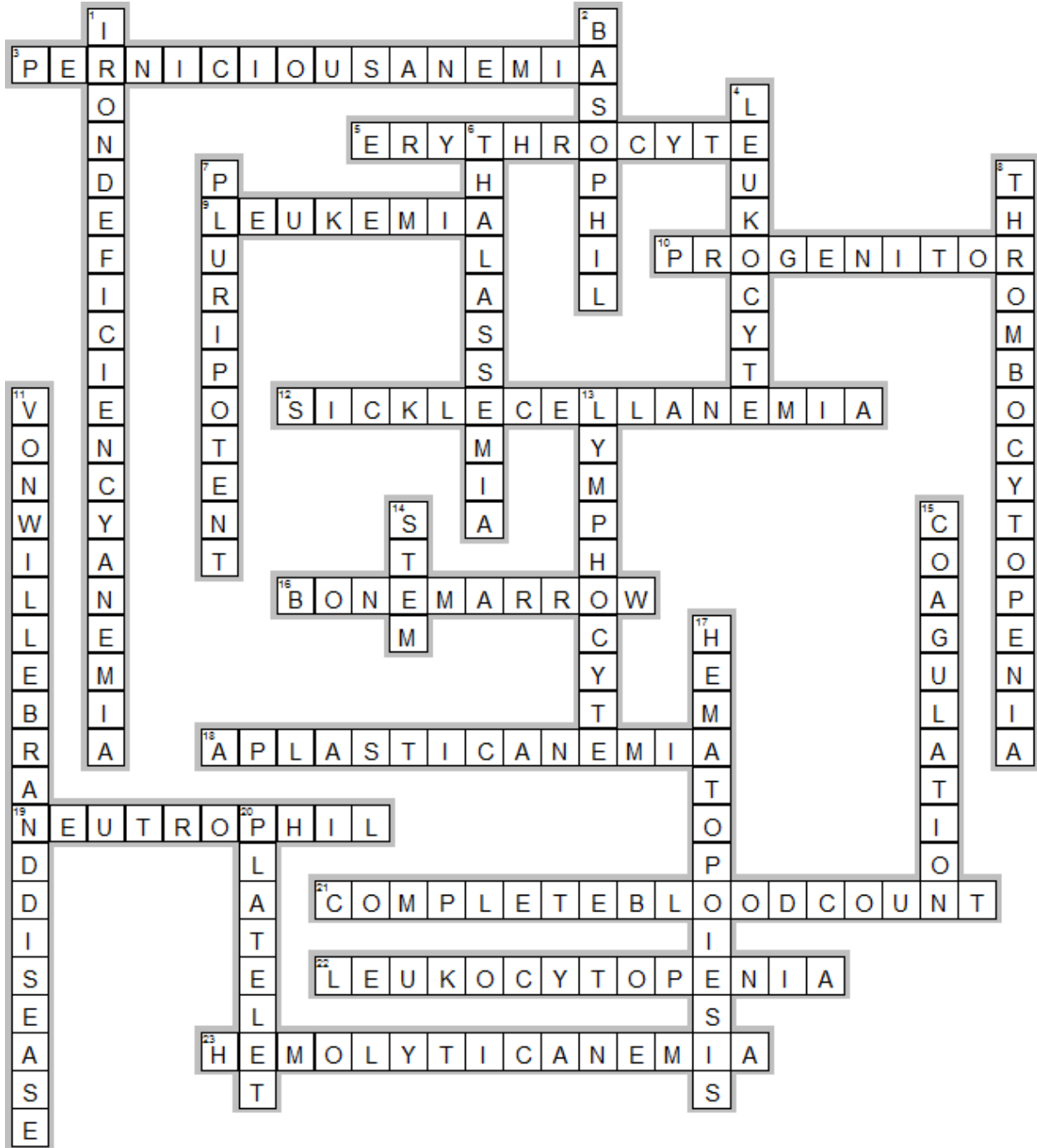


# Answer Key

## Blood and Blood Disorders Crossword Puzzle

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## Across

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3. **PERNICIOUSANEMIA**—Type of anemia due to lack of intrinsic factor (protein that helps in the absorption of vitamin B12) leading to Vitamin B12 Deficiency
5. **ERYTHROCYTE**—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
9. **LEUKEMIA**—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. **PROGENITOR**—Cells that are early descendants of stem cells which differentiate into one or more kinds of mature cells
12. **SICKLECELLANEMIA**—Type of anemia characterized by "*crescent-shaped*" RBCs; has a genetic component; mostly affects Black race
16. **BONEMARROW**—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. **APLASTICANEMIA**—"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. **NEUTROPHIL**—"Polymorphonuclear leukocyte"; most abundant of the WBCs; role in fighting infections & immune response; first responders at the site of infection
21. **COMPLETEBLOODCOUNT**—Test which gives information of the RBCs, WBCs, platelets, hemoglobin & hematocrit in the blood to detect a wide range of disorders
22. **LEUKOCYTOPENIA**—Abnormal decrease in the WBCs < 3,500/uL
23. **HEMOLYTICANEMIA**—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

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1. **IRONDEFICIENCYANEMIA**—Most common type of anemia due to insufficient amount of iron
2. **BASOPHIL**—The least common among the WBCs; contains heparin (anticoagulant) & histamine(vasodilator); plays a role in allergies & parasitic infection
4. **LEUKOCYTE**—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. **THALASSEMIA**—Inherited form of blood disorder characterized by abnormal form of hemoglobin (protein in RBC that carries O<sub>2</sub>); has *Alpha & Beta* types, and the *Major & Minor* forms
7. **PLURIPOTENT**—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. **THROMBOCYTOPENIA**—Decrease in the amount of platelets <50,000/uL associated with abnormal bleeding; can be due to infections, medications, or disorders like leukemia
11. **VONWILLEBRANDDISEASE**—Most common inherited bleeding disorder due to a deficiency / defect in the blood clotting protein called vW factor
13. **LYMPHOCYTE**—Type of WBC that forms a major component of the immune system; divided into large (*Natural Killer/NK cell*) & small (*T & B cells*)
14. **STEM**—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. **COAGULATION**—Test to measure the ability of the blood to clot; includes bleeding time, prothrombin time, thrombin time, activated PTT, & Fibrin Degradation products (*FDP*)
17. **HEMATOPOIESIS**—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. **PLATELET**—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