

Lab Title:... *Observing Blood Cells*.....Lab #.....

Lab Partners:.....

Your Lab Score will be based on the following:

Neatness: All labs must be **well-written and done in pencil** unless directed otherwise. There are to be no cross-outs or misspelled words. Questions should be answered in complete sentences.

Accuracy: Certain **questions will be checked** for accuracy.

Completeness: All questions are to be answered completely. There are to be **NO BLANKS** or incomplete sections.

Lab Class Procedure: You are to **follow directions** and use lab equipment properly, work for the entire period, and follow proper clean-up procedures

Rubric:

Lab Score Category	Points Earned										
Neatness	0	1									
Accuracy	0	1	2	3	4						
Completeness	0	1	2	3							
Lab Class Procedure	0	1	2								
<u>Total Lab Score</u>	0	1	2	3	4	5	6	7	8	9	10

You are to submit all lab material with this lab report:

Comments:

OBSERVING BLOOD CELLS

Background: Blood is not the simple liquid it appears to be. It is a complex fluid tissue that transports materials throughout the body. Blood has both liquid and solid parts. **Plasma**, the liquid portion of blood consists mainly of water and proteins. It transport digested food, wastes, salts, hormones and antibodies. The solid portion of blood consists mainly of *red blood cells*, *white blood cells* and *platelets*. The red blood cells carry oxygen to the body cells. The white blood cells help the body fight infection. The platelets aid in the clotting process.

Objectives: In this lab you will:

- 1) Observe the different types of blood cells.
- 2) Observe the relative amounts and structure of the different types of blood cells
- 3) Compare the blood of a normal person to the blood of the blood of someone with sickle cell anemia.

Procedures: Using a compound light microscope, observe a prepared slides of human blood smears, one normal and one with sickle cell anemia, under low and then high power. Make your observations under high power. You will need to make a rough sketch of both blood smears. Using color will make your diagrams easier to follow.

Observations and Interpretations:

Draw your fields of view. Be sure to include **red** and **white** blood cells **and** **platelets**.

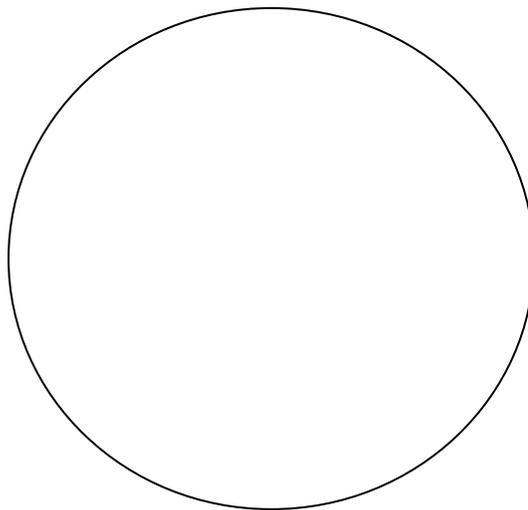
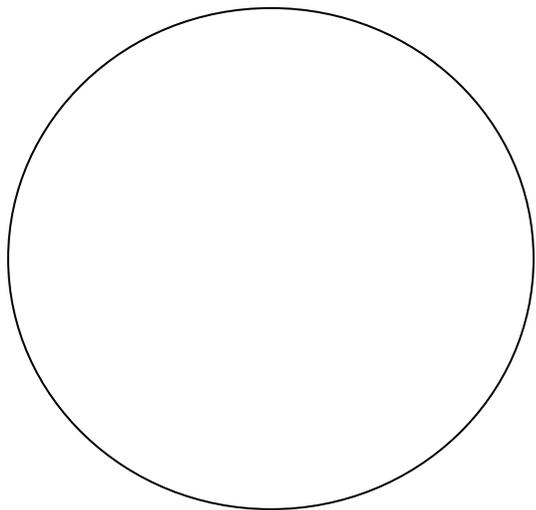
Label the different components (including plasma) in each view.

Smear: _____

Smear: _____

Total Magnification: _____

Total Magnification: _____



Make sure you put your microscope away properly and returned the slides to the tray

More on back!

Conclusion questions:

- 1) Describe the size, appearance and relative number of red blood cells (RBCs) in the normal blood smear.
- 2) Compare the RBCs in the normal smear with the sickle cell smear. How are they different?
- 3) Describe the size, appearance and relative number of white blood cells in the smear.
- 4) Do red blood cells have nuclei? Do white blood cells have nuclei? How do you know (describe them)?
- 5) Compare the size and appearance of platelets with red blood cells and white blood cells. What is the function of platelets?
- 6) What is the important transport protein in RBC's? What does it transport?
- 7) What important immune proteins are made by white blood cells?
- 8) What is sickle cell anemia? What causes this disease? What might be a problem associated with this condition? Is it ever "good" to have this disease? (Do some research for this one)