

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 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:

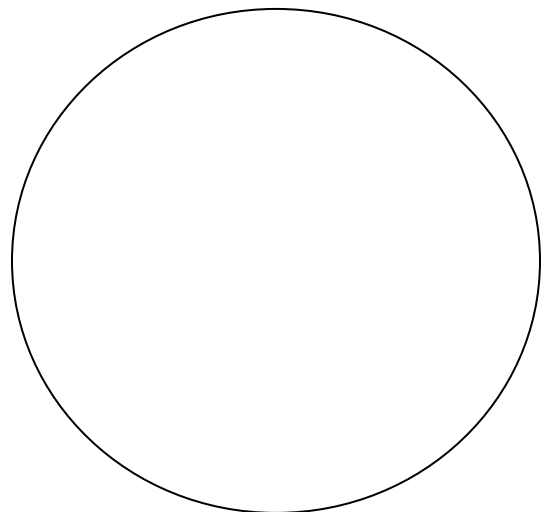
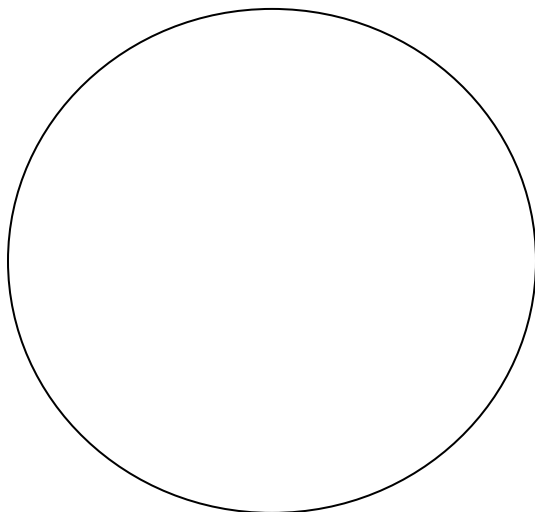
- 1) Draw your fields of view. Be sure to include Red and white blood cells and platelets. Label the different components (including plasma) in each view.

Smear: _____

Smear: _____

Magnification: _____

Magnification: _____



- 2) Describe the size, appearance and relative number of red blood cells in the normal blood smear.

- 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?

- 5) Do the platelets have nuclei? Compare the size and appearance of platelets with red blood cells and white blood cells.

- 6) Make sure you put your microscope away properly and returned the slides to the tray.

- 7) 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)