

Name: _____ Class Period: _____ Lab Day: _____

Lab 16 Blood and Blood diseases

Background: Blood is a **tissue** that is made up of living cells and non-living liquid. The four components of blood are listed below. *Using Wikipedia*, 1. Find the scientific name of each and, 2. The function (job) of each of component of blood.

- **Red blood cells:**

- Scientific name: _____
- Function(s): _____

- **White blood cells:**

- Scientific name: _____
- Function(s): _____

- **Platelets:**

- Scientific name: _____
- Function(s): _____

- **Plasma**

- Function(s): _____

Objectives:

1. Examine and diagram the 3 types of blood cells
2. Compare the 3 types of blood cells as to shape, function, and number
3. Examine plasma
4. Identify common blood diseases and disorders by looking at slides
5. Observe blood of other vertebrates and compare to human blood

Materials:

Pencil
Human blood slide
Various slides of blood diseases
Various slides of vertebrate blood
Computer

Procedure:

Task #1- Observing Red Blood cells, White Blood cells, and Platelets

1. Open up Lab #16 Blood by doing the following:

- a. My computer → Assignments (drive N:) → KE → Freidenberg Lab #16. ppt

2. Go to the first slide in the PowerPoint with red blood cells.

3. You are looking at a drop of blood magnified 800X, showing only red blood cells.

4. Fill in the information required about red blood cells in the data table on the next page by following the directions on the left hand side of the slide.

5. **Repeat** the procedure for white blood cells and platelets.

Human Blood Cell Drawings and Counts

Blood Cell Type	Drawings and Labels	Number of cells in field of view (Count)
Red Blood Cell		
White Blood Cell		
Platelets		

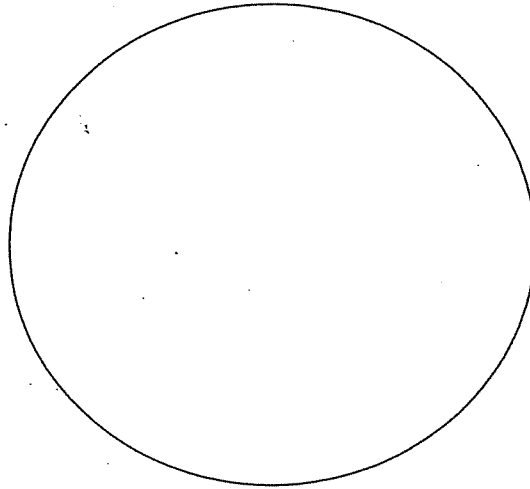
6. Observe the slide that shows how blood separates due to density. Follow the directions on the slide.

Task #2- Observing a healthy human blood smear

1. Follow the directions on the PowerPoint as to what to DRAW, IDENTIFY, AND LABEL. Your drawing is to be done in the circle below.

HEALTHY HUMAN BLOOD SMEAR

Magnification _____X

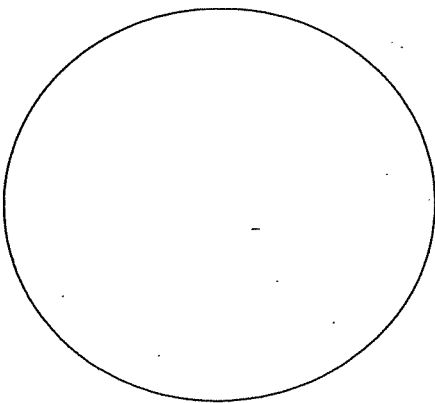


Task #3- Observing common blood diseases and disorders

1. Follow the directions on the PowerPoint as to what to DRAW, IDENTIFY, AND LABEL for each disease. Your drawings are to be done in the circles below.

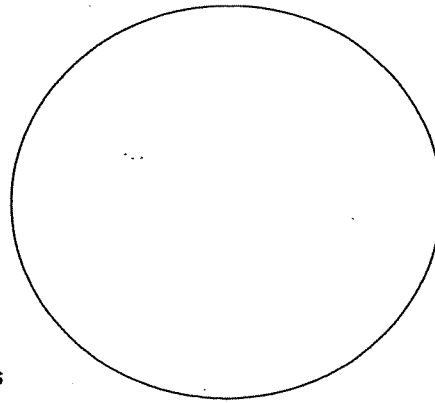
Leukemia

Magnification _____X



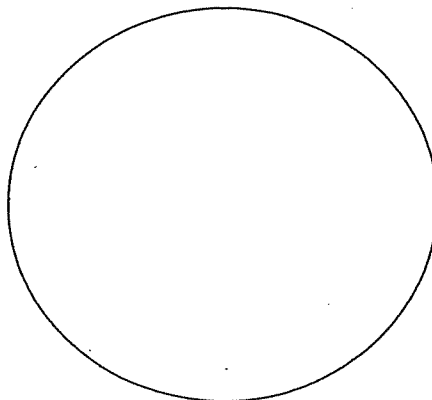
Sickle Cell Anemia

Magnification _____X



Mononucleosis

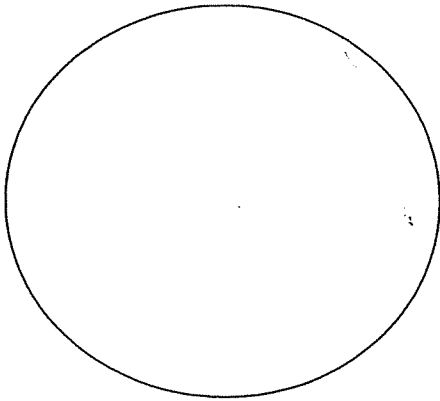
Magnification _____X



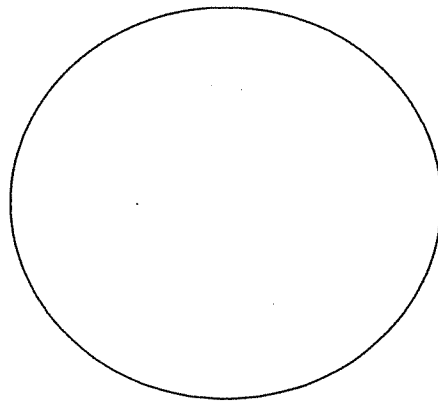
Task #4- Observing the blood of other vertebrates

1. Follow the directions on the PowerPoint as to what to DRAW, IDENTIFY, AND LABEL for each vertebrate blood type below. Your drawings are to be done in the circles below.

Frog Blood



Bird Blood



Analysis Questions

1. Using the numbers of cells from your data table, *tell which cell type on the blood slide is:*
 - a. Most numerous: _____
 - b. Next most numerous: _____
 - c. Least numerous: _____
2. What color is plasma? _____
3. What gas is carried by red blood cells that make them red? _____
 - a. What is the protein called that binds this gas to red blood cells? _____
4. What is the process that white blood cells use to engulf bacteria and viruses? (Hint: think of amoebas) _____
5. What would a very high white blood cell count from a sample of your blood indicate to your doctor?

6. If your platelet count suddenly dropped, what would happen the next time you got a paper cut?

7. How does human blood DIFFER from frog blood? _____

8. How does human blood DIFFER from bird blood? _____
