

Lab Instructor _____
Date _____

Name _____
Microscope # _____ Period _____

Objective: To observe the cell components of human blood

****Use full sentences when answering all questions.****

Background

Blood is a liquid tissue that consists of a liquid portion (plasma) and solid components (red blood cells, white blood cells and platelets). The blood serves as a medium of transport for nutrients, respiratory gases, and metabolic wastes. It serves a protective function against disease and is involved in the regulation of body temperature.

Pre-Lab

Read the entire lab description and appropriate text pages to answer the following questions.

1. Describe the proper technique for carrying a microscope in a laboratory setting.
2. Summarize the steps used to observe a prepared slide under high power with a microscope.
3. Explain how the digestive system is connected to the circulatory system.
4. What are the functions of the circulatory system?
5. Design an experiment to test a person's blood sugar level.

LAB _____

Read the appropriate section in the microviewer booklet #95 to guide you through this activity.

A. Introduction

How many miles of blood vessels service our cells?

Why must the blood reach a vicinity nearby each working cell?

1. **Human blood smear**

- a. What are the components of whole blood?

- b. Why is plasma said to be a complex solution?

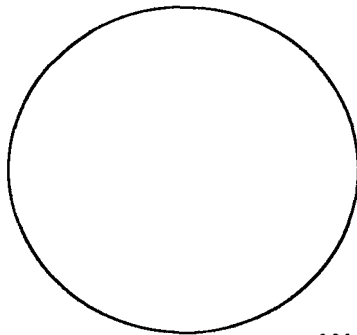
2. **Red corpuscles**

- a. What is the function of red blood cells?

- b. How are old or defective red blood cells removed?

- c. How do the shape and chemical components of red blood cells help them do their job?

- d. Using a prepared slide, draw and label a red blood cell you observed under high power.
Show the focused image to the teacher.



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3. **White corpuscles (leukocytes)**

- a. How does the number of white blood cells compare to red blood cells?

- b. Why are lymphocytes considered to be detectives involved in chemical warfare?

4. **Phagocytes**

In what way are leukocytes similar in activity and structure to an ameba?

5. **Blood type B**

Describe what happens if a person with type B blood receives type A blood in a transfusion.

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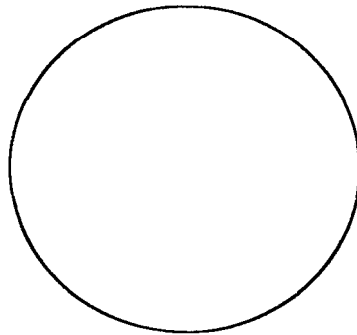
6. Fibrin

- a. When a wound occurs that injures the blood vessel wall, what signals the blood that damage has occurred?

- b. Draw a picture of what you think the clot would look like once complete.
Label the various components of the clot. →

7. Sickle cells

Using a prepared slide, draw and label a sickle cell you observed under high power.
Show the focused image to the teacher.



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What are the effects of having sickle cells?

8. Infected blood

Describe three ways in which we avoid getting infected blood. (Use your prior knowledge, not the microviewer booklet.)