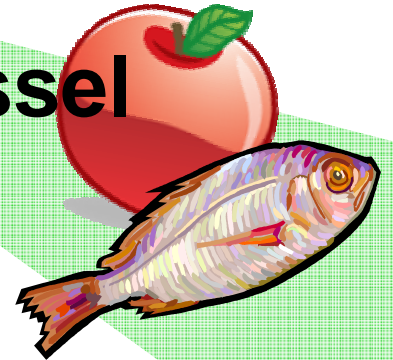


**LS – Activity #24**

# Life in a Blood Vessel



**QUESTION:** What are the components of blood and what job does each perform?

**MATERIALS:**

5 x 8 index card  
paper

paper clip  
yarn

**PROCEDURE:**

1. Be assigned one of the following roles:  
red blood cell      pathogen  
white blood cell    platelet  
antibody
2. Draw a detailed diagram of the blood component you have been assigned on a 5 x 8 card. Color your diagram and label it clearly. Use a hole punch to punch holes in the top right and top left corners so that you can tie yarn to each corner. Loosely hang the sign around your neck.
3. Now follow the directions given by your teacher and play the game “Life in a Blood Vessel” to learn how the components of blood move through the body.
4. Once you have completed the game complete the Data table below.

**DATA :**

Blood Component	Number	Percent	Function
Red blood cell			
White blood cell			
Antibody			
Platelets			
Pathogens	NA	NA	

**QUESTIONS:**

1. What type of blood cell is the most common?
2. Compare and contrast red blood cells and white blood cells.
3. What blood component stopped the “flow” of blood out the door when it was opened?
4. How did the percentage of each blood component in this simulation compare to the actual percentages of each component in the blood?

## ***LS – Activity #24***

# **Teacher Background**

## ***Life in a Blood Vessel***

Give each student a blank sheet of paper, have them draw their particular role and label it at the top (textbooks usually have pictures of these for them to copy).

With most of the students being assigned as red blood cells, have them form a line, continually picking up a paperclip (or other object) from a certain area (which you will label as the lungs) and drop them off at different desks, evenly distributing the paperclips (which symbolize oxygen), and then returning to the paperclip source for another one. This process goes on continually while the rest of the action takes place.

White blood cells will be patrolling the area, as well as the antibodies, doing nothing until a pathogen appears. The pathogens are stored in a corner until the instructor calls out "pathogen release." It helps to describe a certain external influence that may introduce these pathogens (classmate sneezes, student touches contaminated surface then eats without washing). When the pathogens are on the loose, the white blood cells and antibodies immediately WALK towards the intruders, and escort them back to their corner where they are out of commission. The pathogens must comply with the white blood cells and antibodies when they are tapped.

Finally, the platelets are simply roaming around until the teacher opens the door(symbolizing a cut). When the teacher opens the door the students all try to walk out, until the platelet gets to the door and closes it (The teacher may wait a second, and then let the escaped students back in).