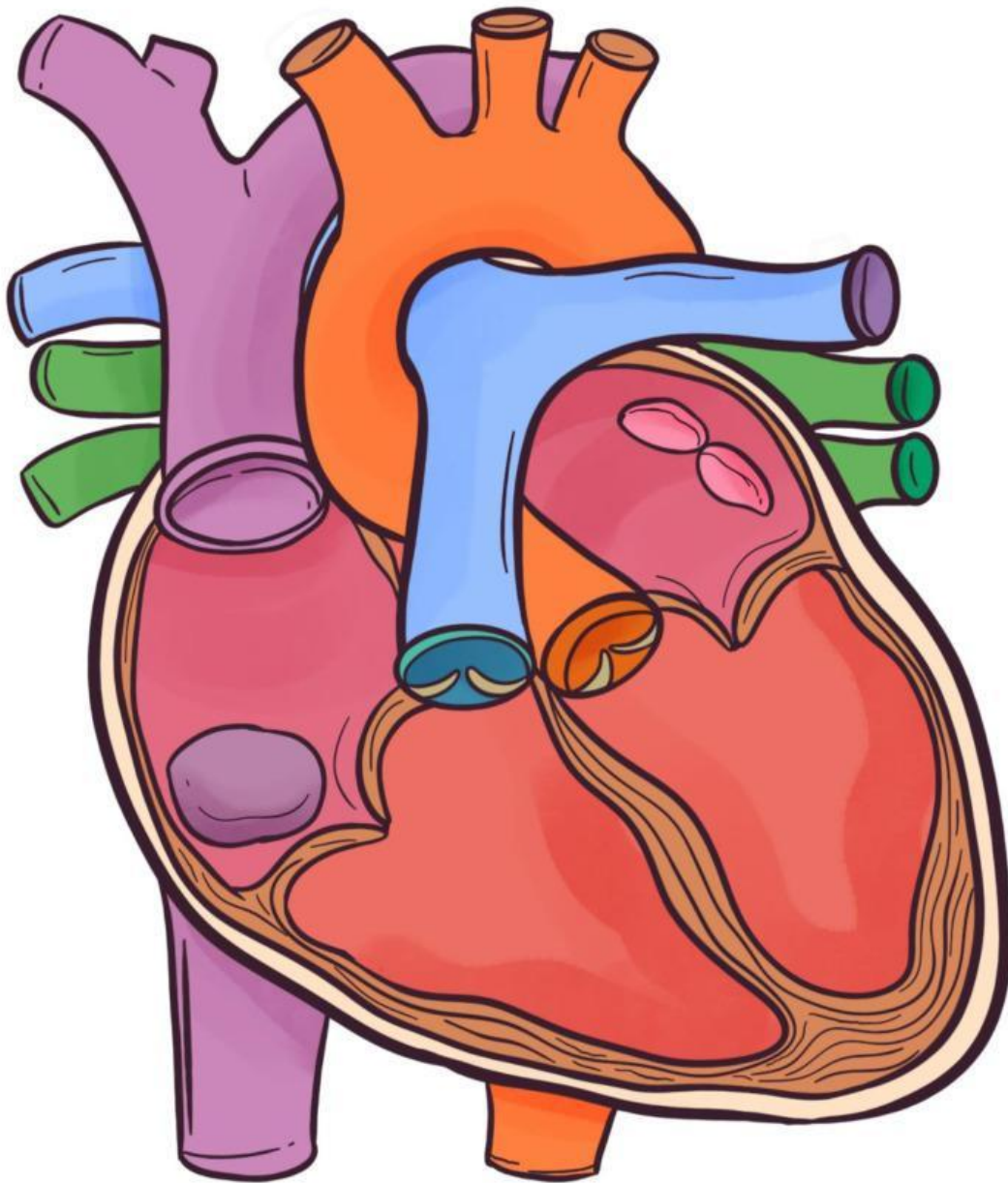


# LIVEWORKSHEET

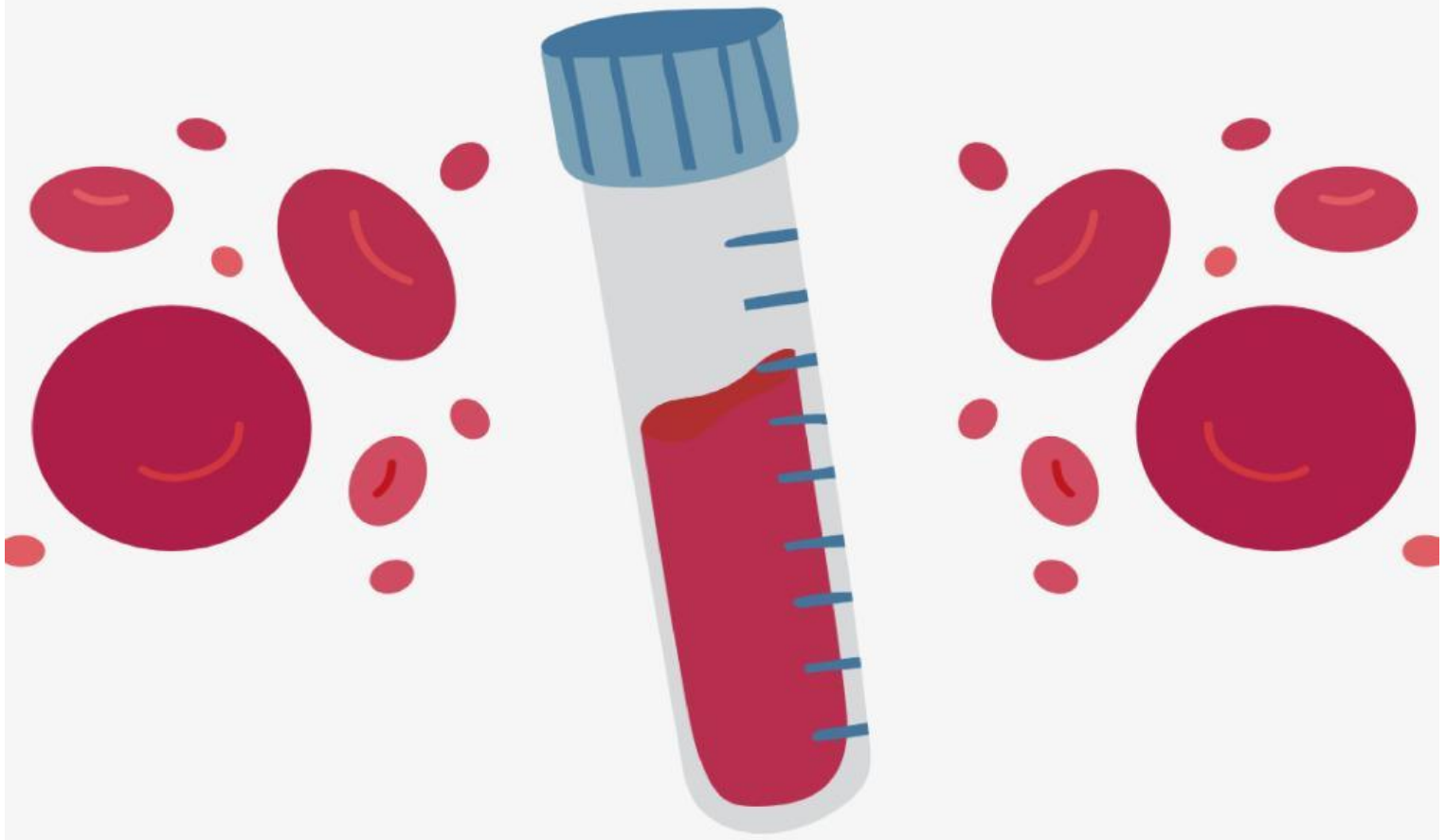
## Human Circulatory System

For 8th Grade Junior High School



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## 1st Meeting



# BLOOD COMPONENTS

Keywords

Erythrocytes, Leukocytes, Thrombocytes,  
Blood Plasma and Blood Type

Your Name :  
Class :

### 1<sup>st</sup> Meeting

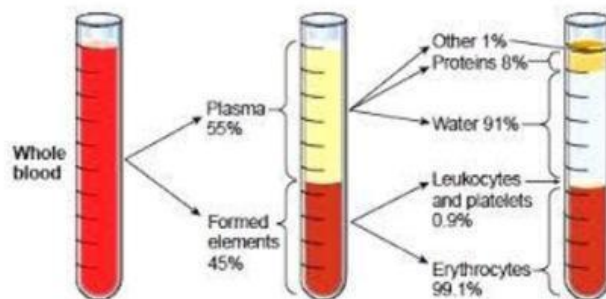
#### Learning Objectives

1. Students are able to understand the function of blood
2. Students are able to understand the components of blood
3. Students are able to understand the concept of blood type

#### Materials

The components of blood are containing of red blood cells, white blood cells, platelets and blood plasma. Blood supplies essential substances, such as sugars and oxygen, to cells and organs, and removes waste from cells. Blood has so many important functions for various functions of the circulatory system. Blood is a liquid that is classified as a connective tissue, blood function to distribute a wide variety of substances that are critically for life. (Whittemore & Cooley, 2004).

Human blood volume is about 8% of body weight. Blood is composed of 2 components, namely the fluid component and the blood cell component. The fluid component is called blood plasma, which accounts for 55% of the blood volume. while the blood cell component consists of 45% of blood volume. (Pujiyanto, 2020)



(source: [https://encyclopedia.lubopitko-bg.com/Blood\\_and\\_Blood\\_Components.html](https://encyclopedia.lubopitko-bg.com/Blood_and_Blood_Components.html))

#### A. PRE-MEETING ACTIVITY

Instruction:

*In this pre meeting activity we will use Think Pair Share (TPS) thinking routine.*

1. Think: Please read your textbook for the blood components section and watch the video with click this following link:  
After you got the points, please write what do you think about that topic.
2. Pair: please find your partner. Write down what your friends think about the material
3. Share: share with your friends the results of your thoughts about this material, write down your conclusions and the conclusions of your friends

## Think-Pair-Share

I think	My partner thinks	What will we share

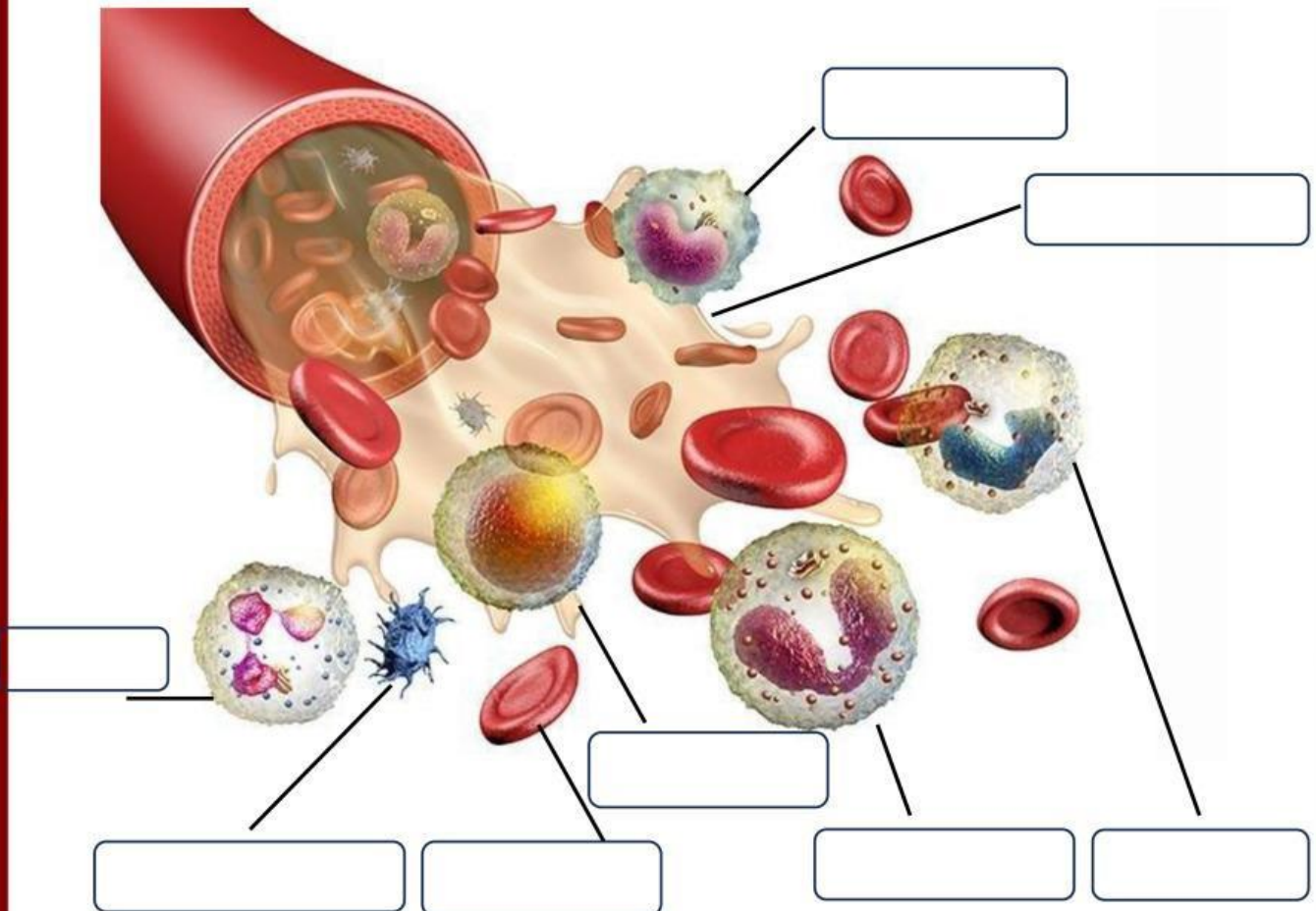


## B. DURING MEETING ACTIVITY

There are several questions, please answer them appropriately

### INSTRUCTION

1. Fill in the blank: Answer these following questions by filling the option as your best answer!



Erythrocytes

Neutrophils

eosinophils

Lymphocytes

Monocytes

Blood plasma

Basophils

Thrombocytes

2. Pairing: Match blood components with their characteristics and functions by drawing lines

Erythrocytes

Leukocytes

Thrombocytes

Blood  
plasma

Contains a nucleus and organelles, various subtypes (granulocytes and agranulocytes) with distinct nucleus shapes and granules

Small, disc-shaped, no nucleus, contains granules with clotting factors, helps in blood clot formation, lifespan of 7–10 days in the bloodstream.

liquid component of blood, making up about 55% of the total blood volume.

Biconcave, no nucleus, filled with hemoglobin, flexible membrane, no organelles, lifespan of 120 days.

transporting nutrients, gases, waste, and immune cells throughout the body, making it a vital component of blood.

Transport oxygen and carbon dioxide, help maintain blood pH balance through bicarbonate interactions.

provide immune defense against infections and foreign substances, participate in inflammatory responses and allergic reactions.

Initiate blood clotting by aggregating at injury sites to form a temporary plug.

3. Drag and Drop: determine the correct blood clotting process based on the observed video

Please click this following link to observe how process of blood clotting in our body

After watch the video, please arrange the following stages until it becomes the right process

Damaged Blood vessel

Prothrombin

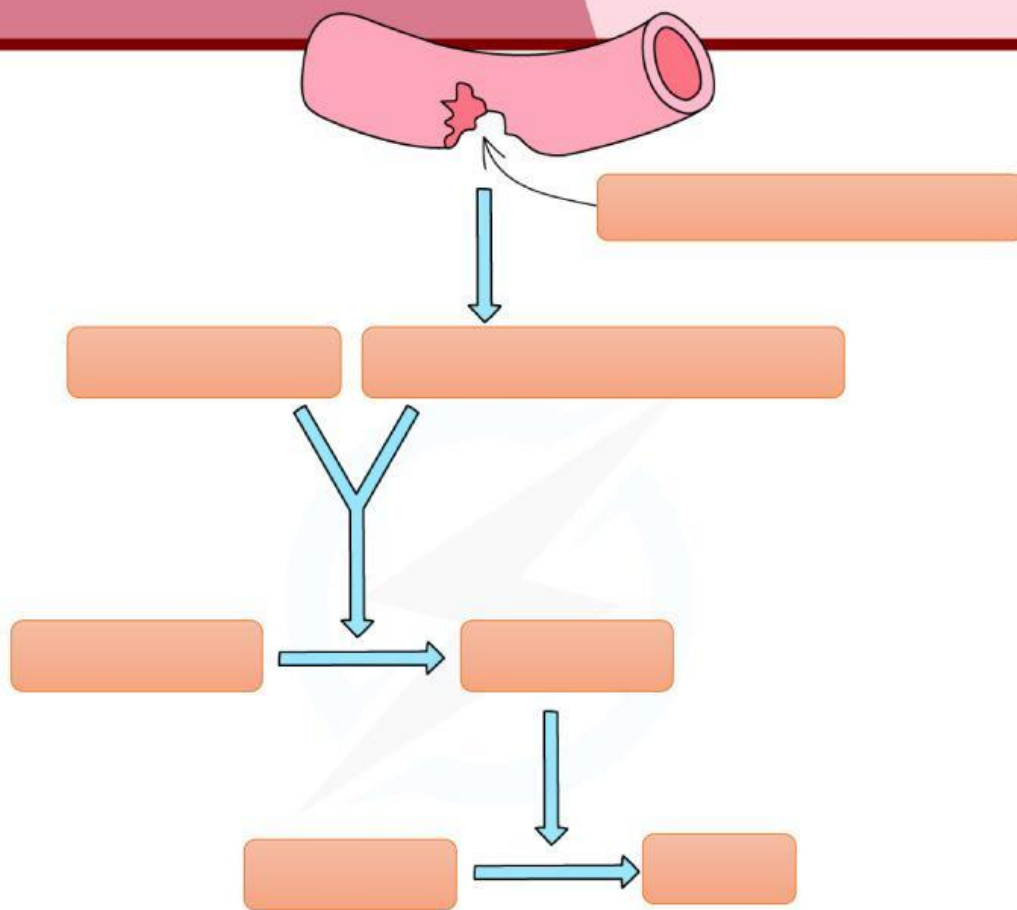
Fibrinogen

Fibrin

Releases  
thromboplastin

Calcium ions

Thrombin



#### 4. Checkbox: Blood Type compatibility

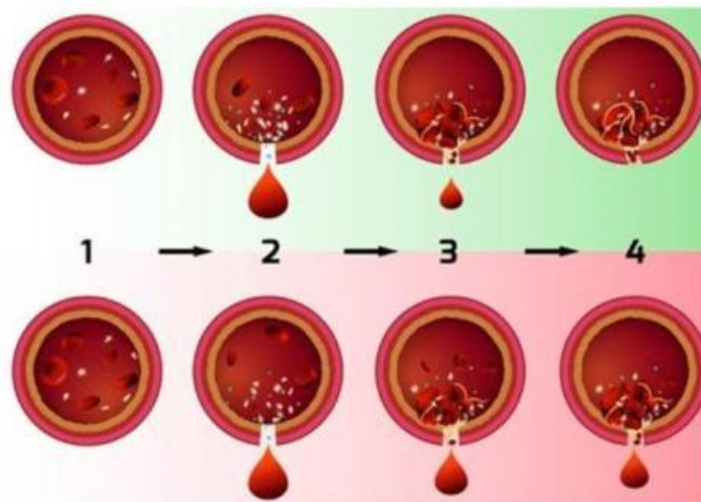
Please watch this video

After that you can determine the correct blood recipient and blood donor!

		You can receive ...							
If your blood is ...		A-	A+	B-	B+	AB-	AB+	O-	O+
	A-								
	A+								
	B-								
	B+								
	AB-								
	AB+								
	O-								
	O+								

### C. POST MEETING ACTIVITY

Analyze This question!



This illustration is the process of blood clotting in someone who has an injury to their body. In your opinion, which picture includes normal blood clotting, and which shows a blood disorder that is difficult to clot (hemophilia)? Please explain your reason!

### REFERENCES

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<https://www.savemyexams.com/> diakses pada 22 Oktober 2024 pukul 20.00

[https://encyclopedia.lubopitko-bg.com/Blood\\_and\\_Blood\\_Components.html](https://encyclopedia.lubopitko-bg.com/Blood_and_Blood_Components.html) diakses pada 22 Oktober 2024 puku; 13.00