

# Blood

by Sophia



## WHAT'S COVERED

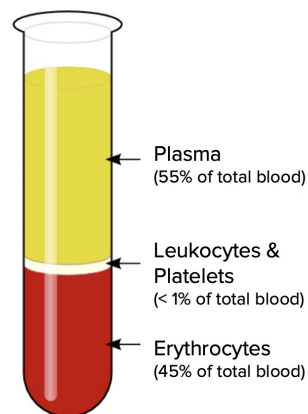
In this lesson, you will learn to understand the makeup of blood. Specifically, this lesson will cover:

## 1. Components of Blood

Blood is a very important part of our body because it helps to transport oxygen and other important minerals and nutrients to our tissues and cells. Blood also helps to get rid of carbon dioxide from the body. In the human body, there are around five liters of blood pumping around the entire circulatory system.

Blood is made up of three main components: plasma, blood cells, and platelets.

Components of Blood	
<b>Plasma</b>	This component makes up around 55% of your total blood composition and is mostly water. Plasma transports blood cells, proteins, iron, glucose, gases, other important nutrients and ions throughout your blood. In addition, plasma contains proteins that aid in clotting, assist the immune system and compose certain hormones.
<b>Blood cells</b>	There are two different types: erythrocytes (red blood cells) and leukocytes (white blood cells)
<b>Platelets</b>	Their role is in clotting blood.



### IN CONTEXT

Have you or someone you know donated plasma before? How can you donate only one component of your blood?

What happens is the blood gets centrifuged, which basically means it gets spun very fast, causing the different parts of the blood to separate. Plasma settles out on top while heavier components

such as blood cells and platelets settle to the bottom. Plasma is kept, and the blood cells and platelets are returned to the body.



#### TERMS TO KNOW

##### **Plasma**

A component of blood that helps to transport various substances such as blood cells, platelets, iron and proteins.

##### **Blood Cells**

A component of blood that includes both red and white blood cells each of which play a different role in the body.

##### **Platelets**

A component of blood that assists in clotting.

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## 2. Types of Blood Cells

As mentioned before, there are two types of blood cells:

- Erythrocytes
- Leukocytes

**Erythrocytes** is another word for red blood cells. They make up around 45% of your blood and are the part of your blood that carries oxygen. They can do this because they contain a protein called hemoglobin, which binds to oxygen. Red blood cells help to get rid of excess carbon dioxide that's built up in the cells and tissues as well.

Red blood cells are shaped like a thin disk with a dimple in the middle. This shape is important to their function; sickle cell anemia is a disease where red blood cells are misshapen.

Blood type is determined by antigens on these red blood cells. A person can have blood types such as A, B, AB, or O.

**Leukocytes** are white blood cells, and there are a total of five different types of white blood cells that all play a role in our body's defense system.

- Neutrophils
- Eosinophils
- Basophils
- Lymphocytes
- Monocytes



#### TERMS TO KNOW

##### **Erythrocytes**

Erythrocytes are red blood cells whose main role is to transport oxygen and carbon dioxide to and from body tissues.

## Leukocytes

White blood cells that participate in the body's defense system.



### SUMMARY

There are three main **components of blood**: plasma, blood cells, and platelets. Plasma is mostly water and comprises most of our blood. It carries cells, proteins, iron, glucose, gases, nutrients, and minerals throughout the body. There are two **types of blood cells**: erythrocytes and leukocytes. Erythrocytes are red blood cells which carry oxygen throughout the body and help rid the body of carbon dioxide. Leukocytes (white blood cells) come in five different types and are part of the body's defense system. Platelets play an important role in clotting.

Keep up the learning and have a great day!

Source: THIS WORK IS ADAPTED FROM SOPHIA AUTHOR AMANDA SODERLIND



### ATTRIBUTIONS

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### TERMS TO KNOW

#### Blood Cells

A component of blood that includes both red and white blood cells, each of which play a different role in the body.

#### Erythrocytes

Erythrocytes are red blood cells whose main role is to transport oxygen and carbon dioxide to and from body tissues.

#### Leukocytes

White blood cells that participate in the body's defense system.

#### Plasma

A component of blood that helps to transport various substances such as blood cells, platelets, iron and proteins.

#### Platelets

A component of blood that assists in clotting.