

## SECTION 7: THE BLOOD

### Introduction to the Blood:

God created your body with a life-sustaining fluid called blood. Blood is pumped by your heart and travels throughout your body via a network of arteries and veins.

Blood is essential for good health for many reasons, here are a few. The body depends on a steady supply of fuel and oxygen, carried by your blood, to reach its billions of cells. The blood that flows through the vessels of your heart brings nourishment to its muscular walls. Blood also carries carbon dioxide and other waste materials to the lungs, kidneys, and digestive system; from there they are removed from the body. Blood helps regulate our body temperature, fight infections, and get rid of waste products.

**Words to Know:** Words or phrases are listed here to provide you with definitions and/or pronunciations. If a definition is not listed here, it appears elsewhere in this section.

**Alveoli** (al vee' oh lie): The alveoli are tiny air sacs within the lungs where the exchange of oxygen and carbon dioxide takes place.

**Arteriole** (ar teer' ee ol): An arteriole is a small branch of an artery which leads to a group of capillaries.

**Capillaries** (kap' i lar eez): Capillaries are tiny blood vessels.

**Diffusion** (dih fyoo' zhun): In a process called diffusion, oxygen moves from the alveoli to the blood through the capillaries that line the alveolar walls.

**Erythrocytes** (ih rith' ruh sytes): Erythrocyte is another name for red blood cells.

**Granulocytes** (gran' yuh low sytes): A granulocyte is a type of white blood cell.

**Hemoglobin** (hee' muh glow bun): Hemoglobin is the iron-rich, oxygen-carrying pigment of red blood cells that gives them their red color and serves to convey oxygen to the tissues.

**Leukocytes** (loo' kuh sytes): Leukocytes is another name for white blood cells.

**Lymphocytes** (lim' fuh sytes): A lymphocyte is a type of a white blood cell.

**Oxygenated blood:** Oxygenated blood is blood that has received oxygen from the lungs.

**Phagocytes** (fah' guh sytes): A phagocyte is a type of cell, such as a white blood cell, that engulfs and absorbs waste material, harmful microorganisms, or other foreign bodies in the bloodstream and tissues.

**Platelet** (playt' lit): A platelet is a small colorless disk-shaped cell fragment without a nucleus. Platelets are found in large numbers in the blood and are involved in blood clotting.

**Red blood cells:** Red blood cells are sometimes abbreviated RBCs, and are also called erythrocytes.

**Thrombocytes** (throm' buh sytes)

**Venule** (vin' yool): A venule is a very small blood vessel that allows blood to return from the capillary beds to the larger blood vessels called veins.

**White blood cells:** White blood cells are sometimes abbreviated WBCs, and also are called leukocytes.

### Fascinating Facts about the Blood that God Created

**Directions:**

1. Read the fact.
2. Write the fact.
3. Make sure your letters are the same shapes and sizes as the examples.
4. Read the fact again.

*The most important blood we will  
ever encounter is the sacrificial,  
saving blood of Jesus Christ.*

*It is only by the atoning blood of  
Jesus that we can be reconciled  
with God.*

The blood God created in your body is useful for transporting oxygen and nutrients, picking up waste from your cells, carrying white blood cells that destroy foreign cells or foreign material, carrying platelets that clot blood at a wound, carrying messengers called hormones that deliver messages throughout your body, controlling the temperature of your body, and many other functions.

God created your body with two types of blood vessels called arteries and veins.

The arteries and veins in your body are like a major road network with blood flowing through them to almost every part of your body.

Arteries carry blood away from your heart, and veins carry blood to your heart.

As arteries and veins branch out, they become smaller, turning into arterioles and venules.

As your heart beats, you can feel blood traveling through your body at your pulse points in your neck

and the wrist where large, blood-filled arteries run close to the surface of the skin. This is called your pulse.

The blood that flows through your network of veins and arteries is called whole blood.

The four major components of blood are plasma, red blood cells, white blood cells, and platelets.

Blood cells and platelets travel through the circulatory system suspended in the yellowish, liquid portion of the blood called plasma.

Plasma, which is 92 percent water, constitutes 55 percent of the blood volume.