Your circulatory system is responsible for circulating blood. Blood is used to deliver nutrients to organs and take waste away from organs. Arteries carry nutrients to the organs. Veins carry waste away from the organs. Without the circulatory system, our organs would not be able to survive.

Blood is made up of 4 main components: plasma, platelets, red blood cells, and white blood cells. Plasma makes up the majority of our blood and red blood cells make up the second most part of our blood. Platelets and white blood cells only account for a little portion of our blood.

Each of this parts of the blood have their own scientific name, their own job, and can cause certain diseases if their numbers are not in the correct range. Blood cells are made in bone marrow.
Plasma makes up the largest portion of the blood; it makes up 55% of the blood. It is usually a yellow color. Plasma contains 92% water, 7% proteins, and 1% salt, water, sugars, fats, hormones, and vitamins. This is used to transport the other parts of the blood from place to place. It is the fluid portion of the blood.

Platelets, also called thrombocytes, make up less than one percent of blood. They are used for blood clotting. The clot that is made is called a thrombus. Clots stop our body from bleeding out, but can be harmful and cause strokes. They are usually colorless.

Red blood cells are called erythrocytes. RBC make up 45% of the blood. They are responsible for carrying oxygen to the organs. They use hemoglobin to do this. When the gene that is used to make the hemoglobin is mutated, the hemoglobin does not form the correct shape. It makes a sickle shape. This causes sickle cell anemia. Red blood cells are red because they contain iron which gives them their red color. Red blood cells are used to determine the 8 main blood types.

White blood cells are called leukocytes. They make up less than one percent of your blood. They are used to fight off infections; therefore, they are a part of your immune system. When numbers of WBC are not in a normal range it is an indicator that you are getting sick, fighting an infection, or may have cancer. There are 5 different types of white blood cells.
### Task #1

Write the number of each of the following facts in the correct portion of the chart.

<table>
<thead>
<tr>
<th>Plasma</th>
<th>RBC</th>
<th>WBC</th>
<th>Platelets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Called thrombocytes
2. Called erythrocytes
3. Called leukocytes
4. Clots blood
5. Fights infections
6. Transports cells in the blood
7. Fluid
8. Yellow
9. Red
10. Colorless
11. Colorless
12. Carries oxygen to organs
13. Made of hemoglobin
14. Contains iron
15. 55% of blood
16. 1% of blood
17. 1% of blood
18. 45% of blood
19. Contains mostly water
20. Creates a thrombus

1. Which of the following carries blood away from the heart?
   a. Arteries
   b. Veins
   c. Capillaries
   d. Plasma

2. Which of the following carries blood to the heart?
   a. Arteries
   b. Veins
   c. Capillaries
   d. Plasma

3. Which organ system is the blood apart of?
   a. Respiratory
   b. Circulatory
   c. Skeletal
   d. Muscular

4. Which organ system are the WBC apart of besides your answer above?
   a. Immune
   b. Endocrine
   c. Excretory
   d. Reproductive

5. Which of the following is the role of blood?
   a. Carry nutrients to the organs
   b. Carry waste away from the organs
   c. Support the Body
   d. Both A and b
Task 2

Answer the following in complete sentences.

1. What are the 4 main components to blood?

2. What is plasma?

3. What components make up plasma?

4. What is the main job of plasma?

5. What is another name for red blood cells?

6. How much volume of blood does red blood cells taken up?

7. What do red blood cells look like?

8. What is the role of red blood cells in the body?

9. What is hemoglobin?

10. What is another name for white blood cells?
11. What volume of blood is white blood cells?

12. What is another name for platelets?

13. What is the role of platelets?

14. Why is blood clotting important for the body?
1. Which is not found in the plasma?
   a. Antigens
   b. Antibodies
   c. Proteins
   d. Water

2. What part of the blood makes up 55% of blood?
   a. WBC
   b. RBC
   c. Plasma
   d. Platelets
   e. Both A and B

3. What part of the blood makes up 45% of blood?
   a. WBC
   b. RBC
   c. Plasma
   d. Platelets
   e. Both B and C

4. What part of the blood makes up 1%?
   a. WBC
   b. RBC
   c. Plasma
   d. Platelets
   e. Both A and D

5. Which part of the blood is fluid and transports nutrients?
   a. WBC
   b. RBC
   c. Plasma
   d. Platelets

6. Which part of the blood contains hemoglobin and transports oxygen?
   a. WBC
   b. RBC
   c. Plasma
   d. Platelets

7. Which part of the blood fights infections?
   a. WBC
   b. RBC
   c. Plasma
   d. Platelets

8. Which part of the blood is used for clotting?
   a. WBC
   b. RBC
   c. Plasma
   d. Platelets

9. What is the medical term for RBC?
   a. Erythrocytes
   b. Leukocytes
   c. Thrombocytes
   d. Lymphocytes

10. What is the medical term for all WBC?
    a. Erythrocytes
    b. Leukocytes
    c. Thrombocytes
    d. Lymphocytes

11. What is the medical term for platelets?
    a. Erythrocytes
    b. Leukocytes
    c. Thrombocytes
    d. Lymphocytes

12. How many white blood cells are there?
    a. 6
    b. 54
    c. 5
    d. 10

13. How many different blood types are there?
    a. 5
    b. 18
    c. 9
    d. 8