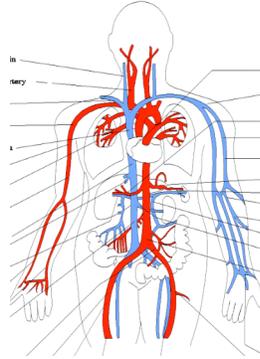
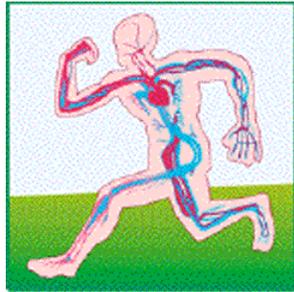


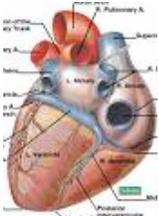
# Mini-Unit: The Circulatory System Ms. Strang DATE:

**Circulatory System** = organ system that \_\_\_\_\_ materials (nutrients, water, oxygen) throughout the body to billions of body cells. It also carries away \_\_\_\_\_ such as carbon dioxide that body cells produce.



**\*Think of this system as a network of highways and roads**

**Parts of the Circulatory System:** \_\_\_\_\_



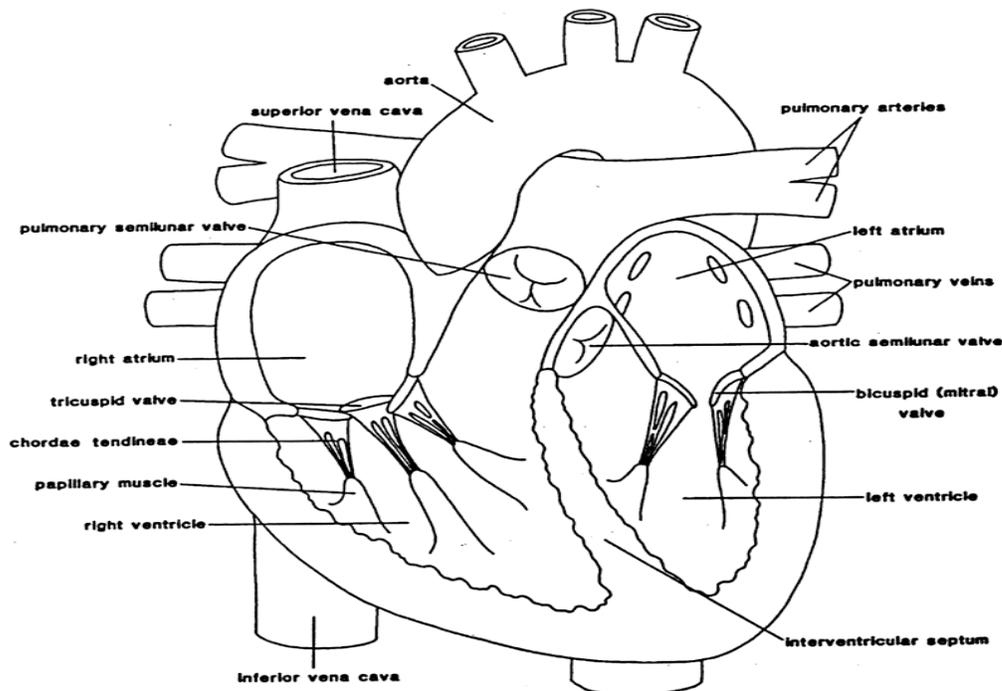
**I. The Heart = a blood pumping muscle** about the size of your fist, located in the center of your chest slightly to the left.

A. composed of \_\_\_\_\_ chambers:

\_\_\_\_\_

Keep your heart healthy...it's has to beat about **3 BILLION times** during your lifetime!

Blood Flow in your heart!

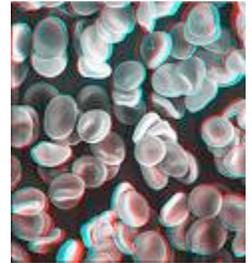


## II. The Blood

- A. pumped by the \_\_\_\_\_
- B. travels through thousands of miles of \_\_\_\_\_
- C. carries \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
and \_\_\_\_\_ to and from your body cells
- D. A young person has about a gallon of blood. An adult has about 5 quarts.
- E. Your blood is not just a red liquid!

- i. the liquid is called \_\_\_\_\_
  - about \_\_\_\_\_ of your blood is liquid
  - the liquid helps the blood flow
  - the liquid is made by the \_\_\_\_\_

- ii. the solids in the blood are \_\_\_\_\_:
  - **Red blood cells** = pick up \_\_\_\_\_ in the lungs and transport it to all the body cells. After delivering the oxygen to the cells it gathers up the \_\_\_\_\_ (a waste gas produced as our cells are working) and transports it back to the lungs where it is removed from the body when we exhale.



*FUN FACT:* There are about **5 million** red blood cells in ONE drop of blood!!!

- **White blood cells** = attack and destroy invasive bacteria and viruses. When you have an infection your body will produce more white blood cells to help fight an infection.



*FUN FACT:* There are about **10,000** white blood cells in ONE drop of blood!!!

- **Platelets** = blood cells that help stop \_\_\_\_\_.  
How does this happen?



*FUN FACT:* There are about **250,000** platelets in ONE drop of blood!!!

**Where are blood cells made?** \_\_\_\_\_

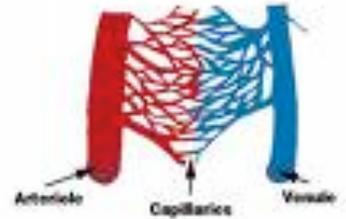
**III. The Blood Vessels** = transport tubes for blood

**1. Arteries** = blood vessels that carry blood \_\_\_\_\_ from the heart.  
(memorization device: **A**rteries **A**way from heart)



**2. Capillaries** = thin blood vessels that connect \_\_\_\_\_ to \_\_\_\_\_

Food substances (nutrients), oxygen and wastes pass in and out of your blood through the capillary walls.



**3. Veins** = blood vessels that carry blood back \_\_\_\_\_ your heart .

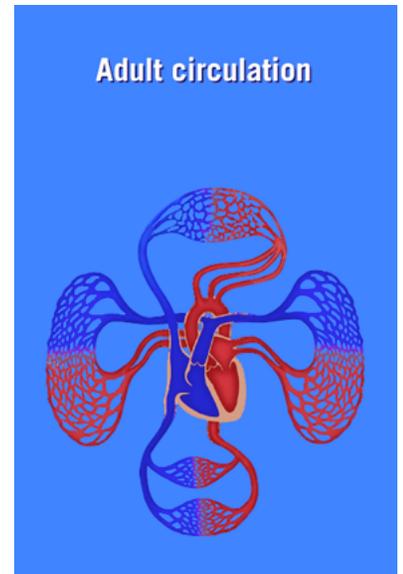
My Circulatory System has **HOW** many circuits?

Yes, you have \_\_\_\_\_ circuits that transport blood throughout your body.

\_\_\_\_\_ Circulation.

Systemic Circulation:

Pulmonary Circulation:



But, you just don't use your heart, blood and blood vessels to stay healthy!

**Accessory Organs** (two organs closely associated with the circulatory system):

\*These organs get harmful Nitrogen compounds out of the body in less harmful packages.

1. Kidney-

2. Liver-

Microscopic View of Gas Exchange:

→ From the \_\_\_\_\_

Back to the \_\_\_\_\_!

Carbon Dioxide Heading back to the Lungs!

Physiological Feedback Loops!

**Feedback Loop**= A pattern in which a signal is looped back to control a system within itself.

Examples: