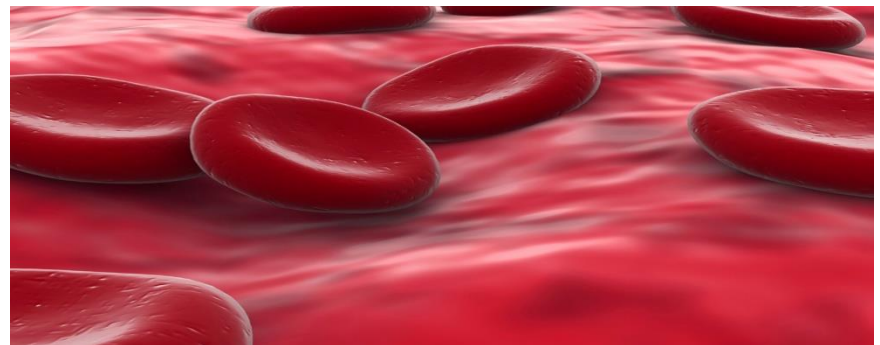
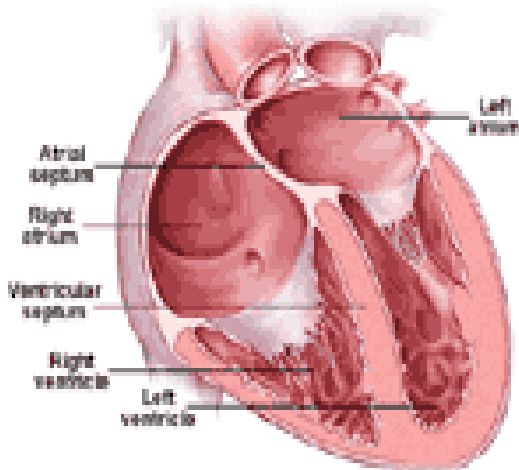


Circulatory System: Heart, Blood, Blood Vessels



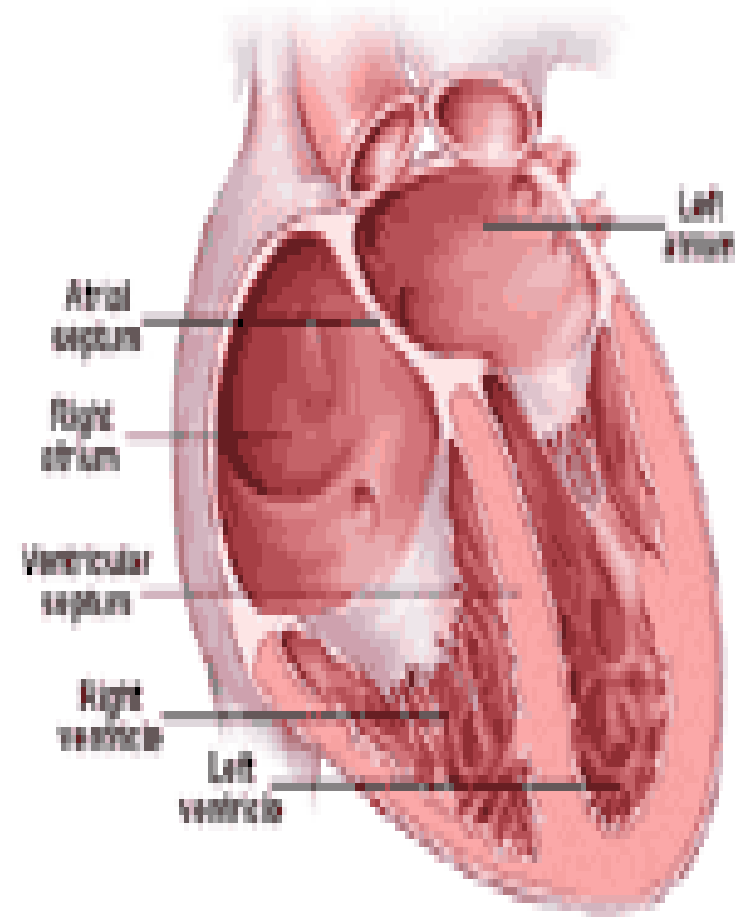
Transports Materials from the digestive and respiratory systems to the cells.

[Video about the Circulatory System](#)

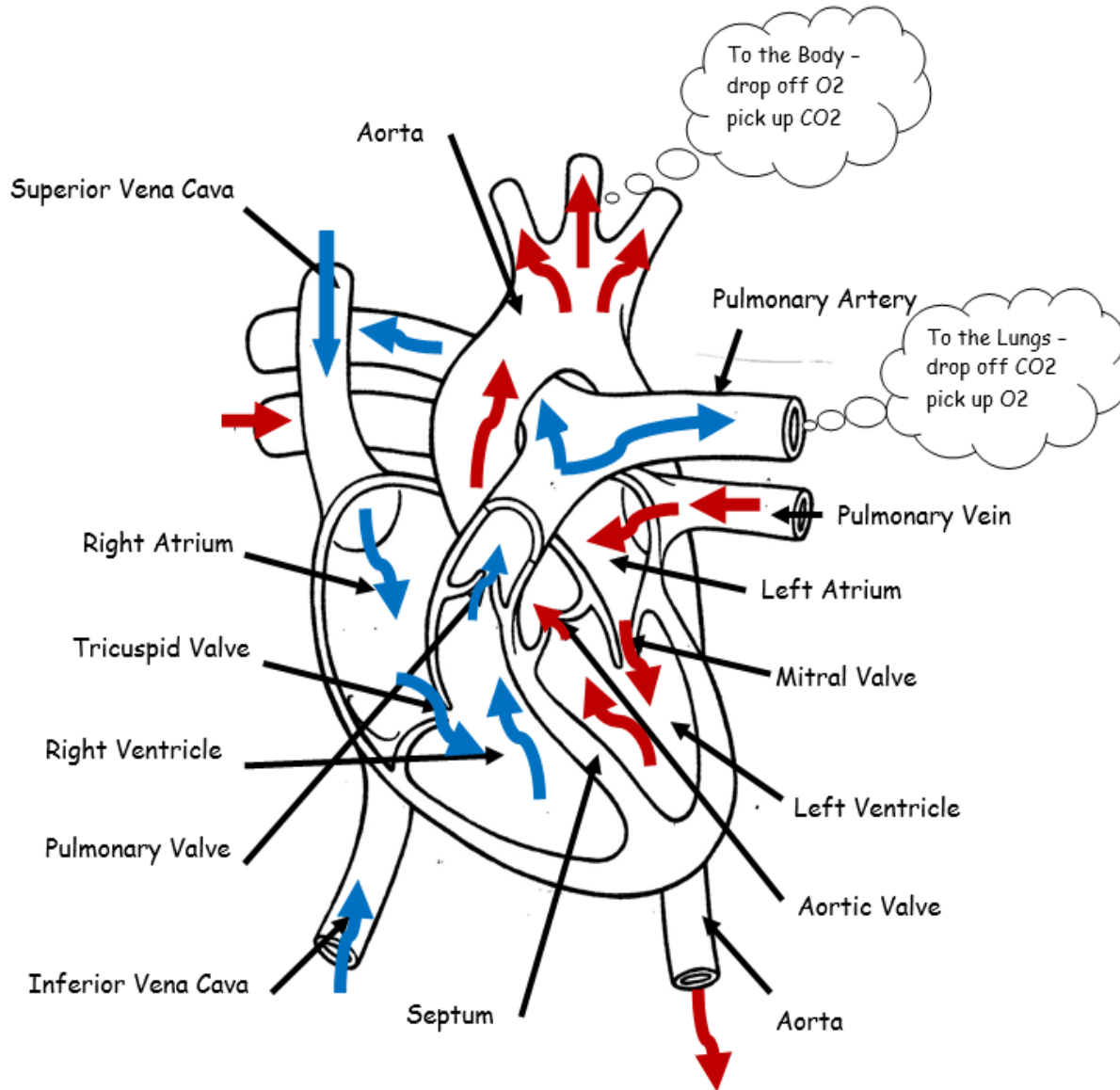


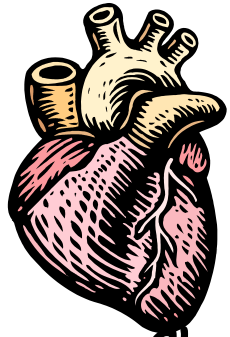
Structures in the Circulatory System

- Heart - pushes blood throughout the body.
 - Left side - pumps oxygen-rich blood to entire body
 - Right side - pumps oxygen-poor (used) blood to the lungs to receive oxygen.



The Heart



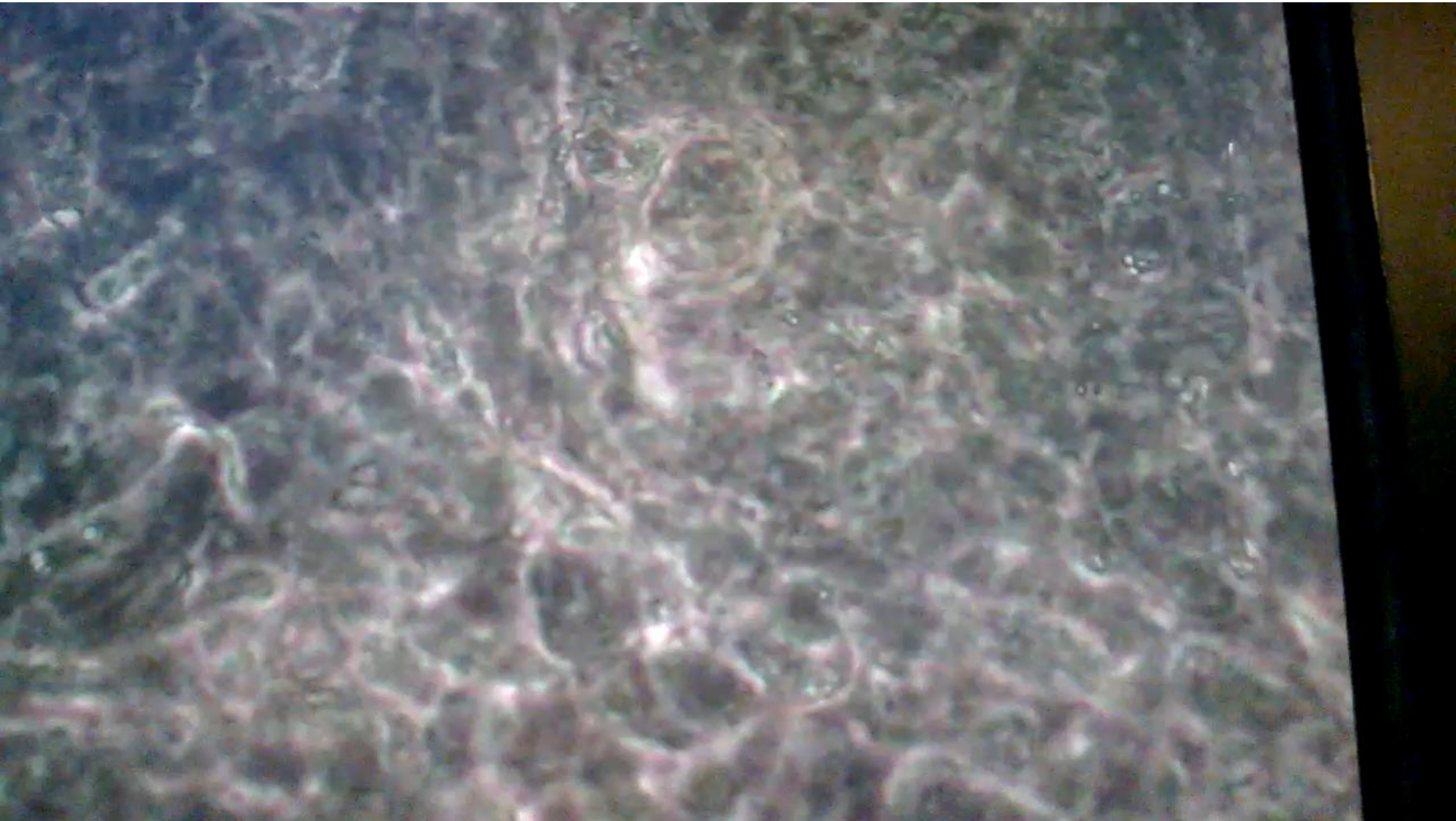


Heart Pumping

- Chambers - each side of heart divided into 2 parts - right and left atrium and ventricle.
 - Right atrium - receives oxygen poor blood from all parts of the body.
 - Right ventricle - pumps oxygen poor blood to the lungs.
 - Left atrium - receives oxygen-rich blood from the lungs.
 - Left ventricle - pumps oxygen - rich blood to all parts of the body.
- **Valves** - to prevent blood from flowing backwards (in the heart and some veins)
 - All blood is red, but oxygen rich blood is a much brighter and lighter shade of red. (charts usually show oxygen-poor blood in blue)

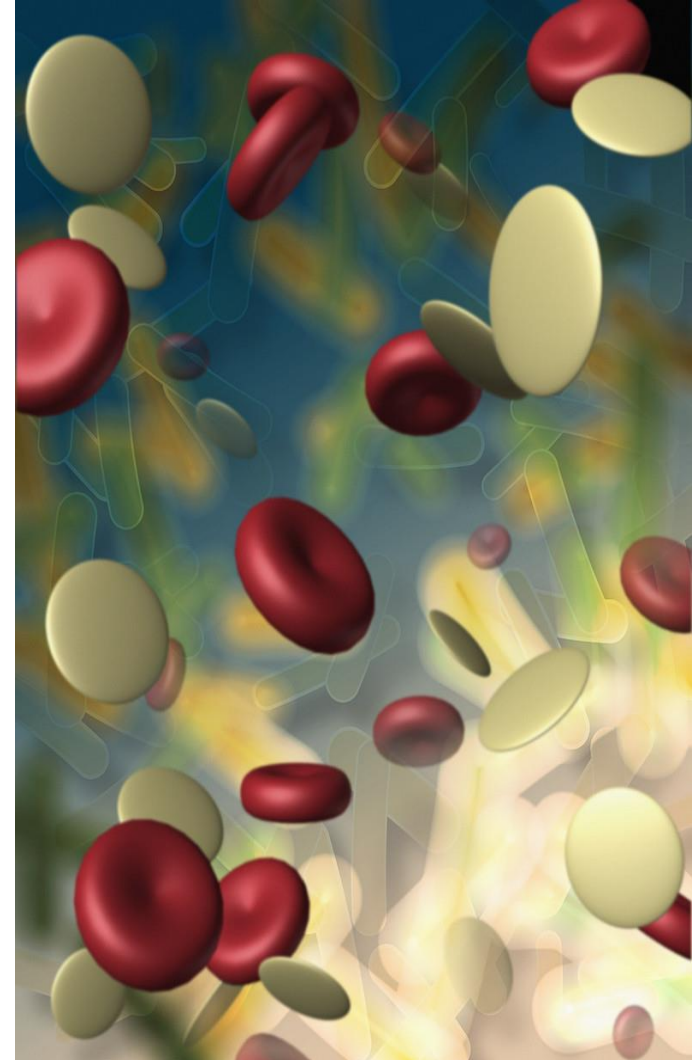


A Heart Pumping!



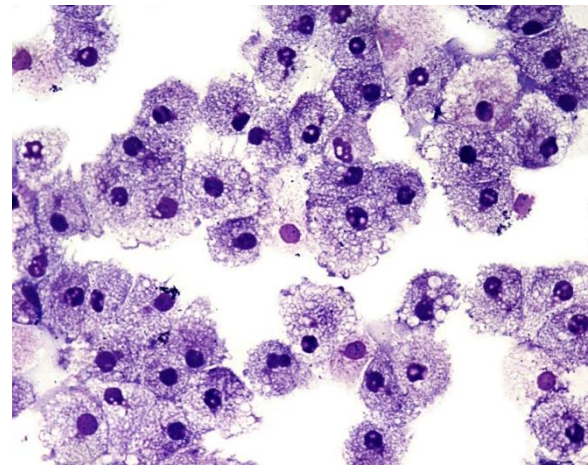
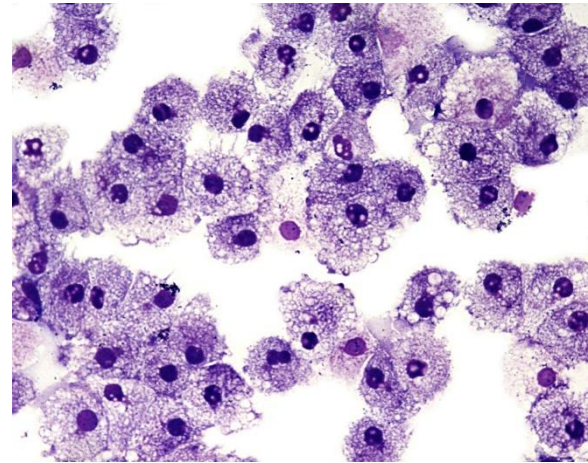
Blood

- **Blood** -a fluid that delivers oxygen and nutrients and removes CO₂.
Made up of plasma, red blood cells, white blood cells and platelets.
 - **60% is plasma** (A fluid that contains proteins, glucose, hormones, gases and other substances dissolved in water.)
 - **White Blood cells** - helps fight infection.
 - **Red blood cells** - picks up oxygen in lungs and transports it throughout body.
 - **Platelets** - large cell fragments, help form blood clots. Clotting keeps us from losing too much blood.



Blood Vessels

- Blood vessels - tube-shaped structures that move blood throughout body.
 - Arteries - take blood away from heart - strong, thick walls (carries oxygenated blood)
 - Veins - carry blood back to the heart, thinner (carries deoxygenated blood)
 - Capillaries - narrow, connects arteries with veins.



Blood Pressure

- Blood Pressure - the force produced when the heart contracts travels through the body.
- Must maintain healthy blood pressure to get blood to all parts of body.
- Too low - some cells will not get oxygen and other materials.
- Too high - force will weaken the vessels and require the heart to work harder to push the blood through.



Different Blood Types



- Each red blood cell has special proteins on its surface. The group of surface proteins determines blood type.
- There are 2 blood-type proteins - A & B.
- A person with A proteins in blood - Type A
- A person with B proteins in blood - Type B
- Some people have both proteins - Type AB
- Some people have neither proteins - Type O

4 Types of Blood - A, B, AB, O

TYPES	DISTRIBUTION	RATIOS
O +	1 person in 3	38.4%
O -	1 person in 15	7.7%
A +	1 person in 3	32.3%
A -	1 person in 16	6.5%
B +	1 person in 12	9.4%
B -	1 person in 67	1.7%
AB +	1 person in 29	3.2%
AB -	1 person in 167	0.7%