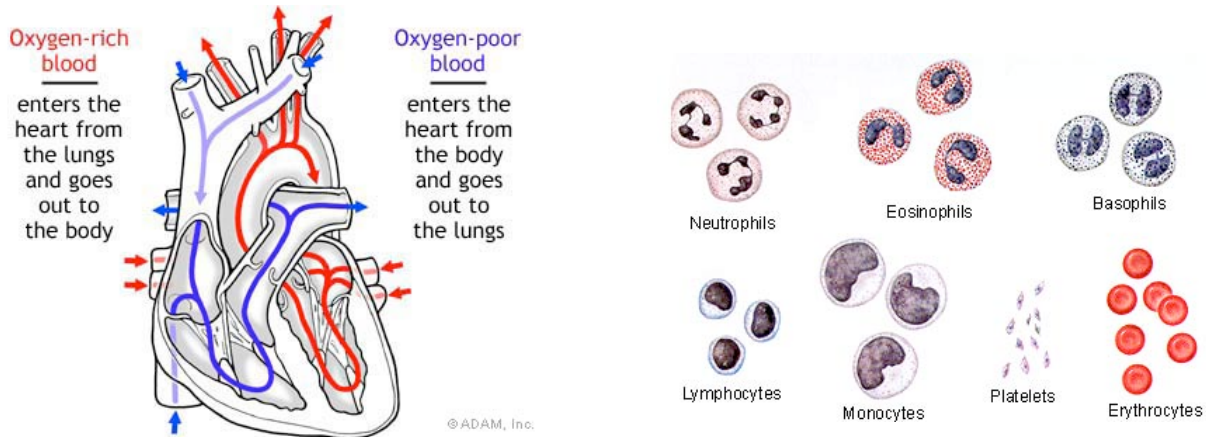


THE HEART



Oxygen is vital to life as it provides fuel for all the body's functions. The heart's role is to pump oxygen-rich blood to every cell in the body. The blood vessels — a network of interconnecting arteries, arterioles, capillaries, venules, and veins — provide the pathway in which blood travels. Arteries are the passageways through which the blood is delivered, the largest of which is the aorta. The aorta branches off the heart and divides into many smaller arteries, which have muscular walls that adjust their diameter to increase or decrease blood flow to a particular body area. Capillaries are thin walled, highly branched vessels that feed the tissues and collect wastes to be carried back to the lungs, liver, or kidney for elimination. Capillaries empty into the venules, which in turn drain into the veins that lead back to the heart. Veins carry deoxygenated blood to the lungs to pick up more oxygen, and then back to the heart once again.

1. Find a picture of a heart with arrows showing blood flow, oxygenated and deoxygenated.
2. Describe the aorta and vena cava. Be sure to include the basic oxygen levels in each.
3. Name the four coronary arteries that supply the heart tissue with blood.
4. Briefly explain how a heart attack could happen.
5. How can a heart be restarted if it stops?
6. Include a picture of a heart with the coronary arteries labeled.
7. Completely describe the difference between systemic and pulmonary circulation.
8. Describe the pulmonary arteries and pulmonary veins. How do they break the "RULES" of arteries and veins?
9. What are the functions of valves in the heart? Name the four found in the heart.