

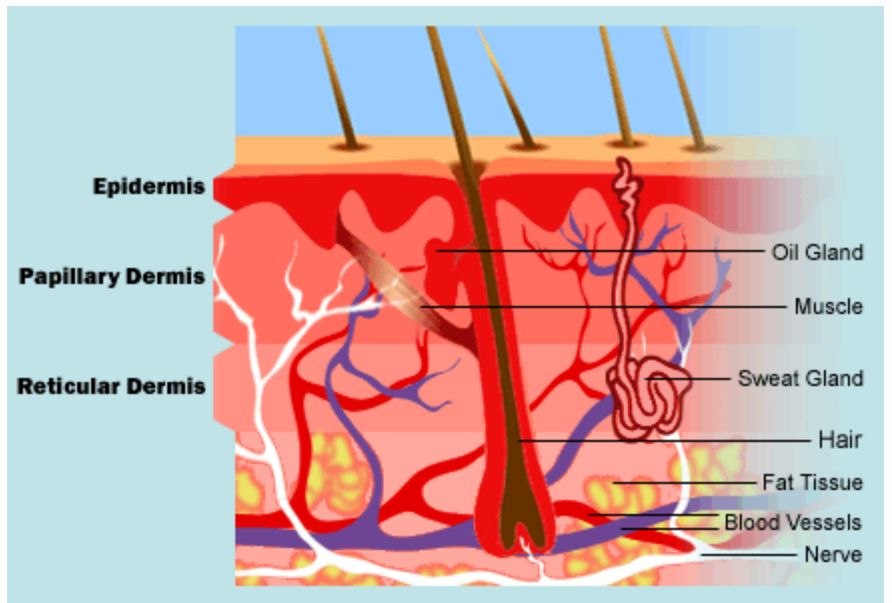
The Skin

Skin serves as a barrier against infection and injury, helps regulate the body temperature, removes wastes and provides UV protection.

Epidermis: out layer of skin.

Differences in skin color are caused by different amounts of melanocytes (cells that produce melanin).

Dermis: inner layer of skin, contains blood vessels, nerve endings, glands and sense organs.



Circulatory System

Consists of the heart, series of blood vessels, and blood.

Heart

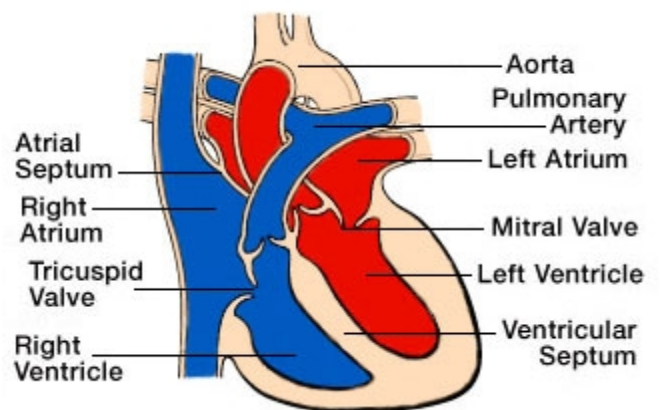
Contracts about 72 times per minute.

In 1 year, person heart pumps enough blood to fill an Olympic swimming pool.

Septum divides heart and prevent O₂ rich blood from mixing with O₂ poor.

Atrium: upper chamber, receives blood.

Ventricle: lower chamber, pumps out blood.



Circulation in Body

Right side pumps blood from HEART to LUNGS (a.k.a.: pulmonary circulation).

In the lungs, CO₂ leaves the blood while O₂ is absorbed.

Left side pumps blood from LUNGS to BODY (a.k.a.: systematic circulation).

Blood Flow through Heart

Blood enters heart through right atrium.

As heart contracts, blood flows into right ventricle.

Valves prevent blood from the atrium and ventricle from mixing.

Heart contracts, blood is forced through pulmonary arteries.

Blood is oxygenated in lungs and sent to the left atrium via Pulmonary Veins

Blood is pumped into left ventricle (mitral valve prevents backflow).

O₂ rich blood is pumped from the left ventricle to the aorta, which supplies the entire body with blood.

Sinoatrial node sets the pace for heart contractions (a.k.a.: pace maker).

Blood Vessels

As blood flows, it moves through arteries, capillaries and veins.

Capillaries: smallest (one cell thick) of the blood vessels.

Veins: return blood to the heart. May contain valves.

Arteries: carries blood from heart to rest of body.

Blood Pressure (BP)

BP decreases when heart relaxes (diastolic), increases when it contracts (systolic).

Atherosclerosis: fatty deposits called plaque build up on walls of arteries.

Heart attack, stroke, and high blood pressure.

