Erasmus+
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ALIVE

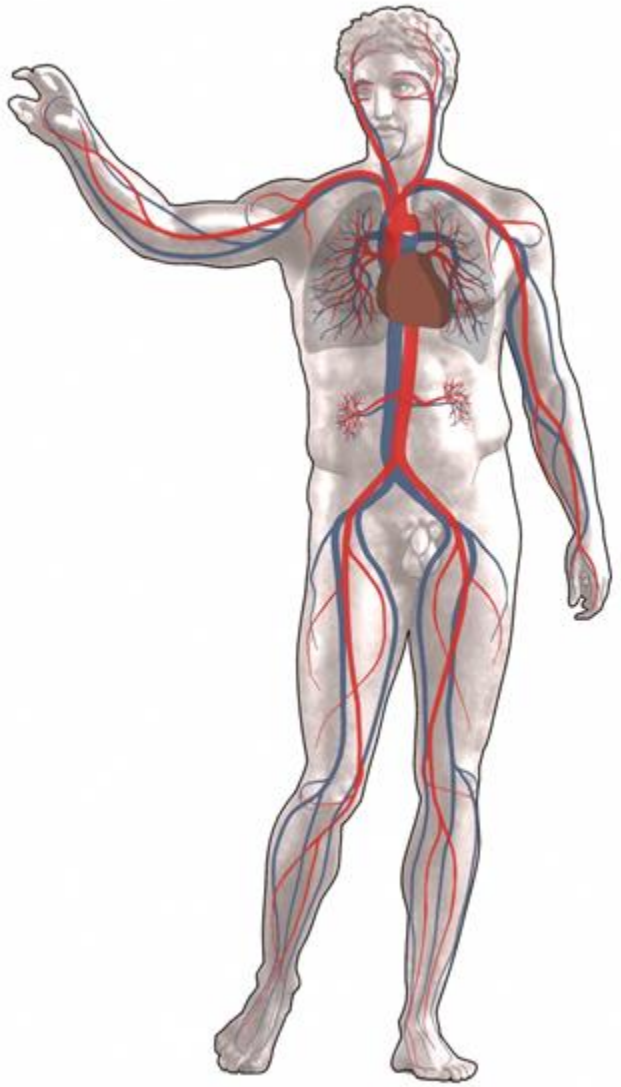
Circulatory system + Blood types

The importance of the circulatory system and its individual parts

ALIVE

WHAT IS CIRCULATORY SYSTEM?

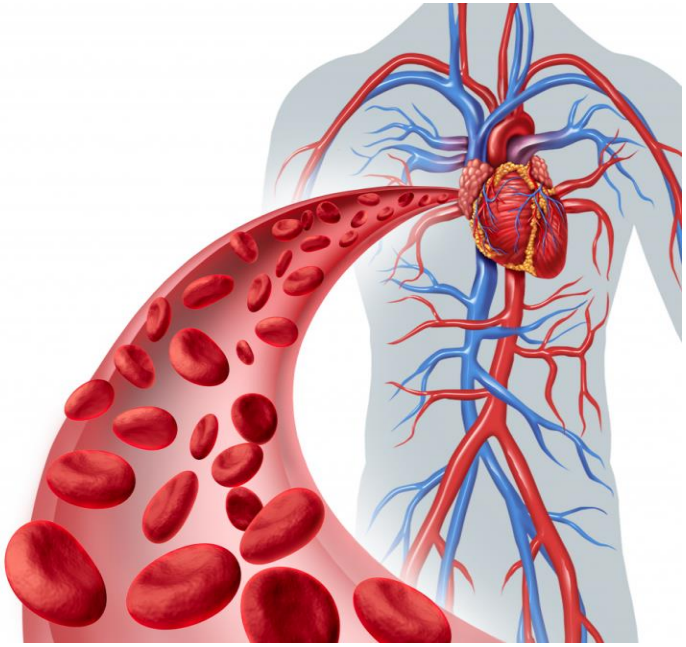
- Ensuring flow in blood vessels
- Distribution of nutrients, oxygen
- Waste colection



MAIN PARTS OF CIRCULATORY SYSTEM

ALIVE

- Blood – a fluid, that allows the transfer of all substances in the body
- Pulp – a body fluid, that distributes nutrients



MAIN PARTS OF CIRCULATORY SYSTEM

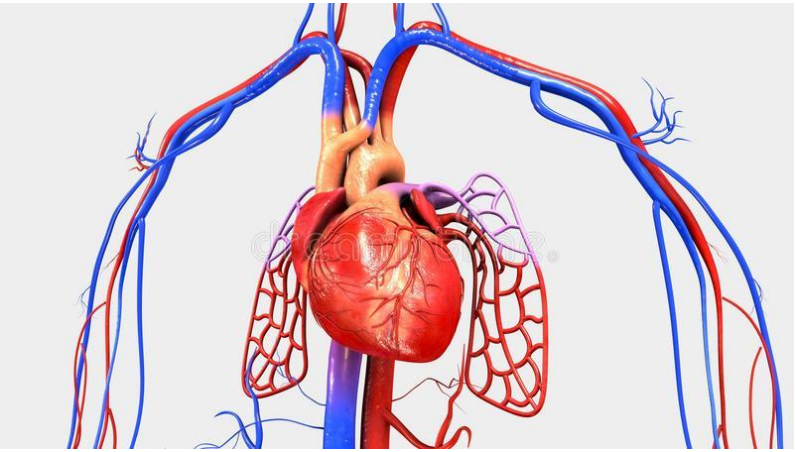
ALIVE

- Vessels
- Blood vessels – blood flows through them
- Pulmonary vessels – the pulp flows through them

- Heart – an organ, that pumps blood to all parts of the human body

FUNCTIONS OF CIRCULATORY SYSTEM

- Transport
- Brings oxygen, hormones, minerals, nutrients through the blood to the cells
- Removes waste products (eg. carbon dioxide) from the cells through the blood



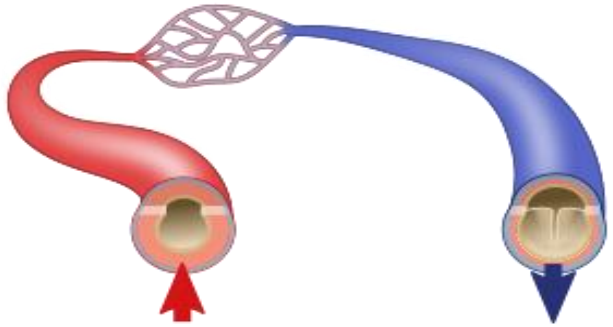
FUNCTIONS OF CIRCULATORY SYSTEM

- Thermoregular
- Helps maintain a constant temperature of the body

- Defensive
- Protects the body from bacteria, viruses, fungi, parasites through white blood cells

DIVISSION OF BLOOD VESSELS

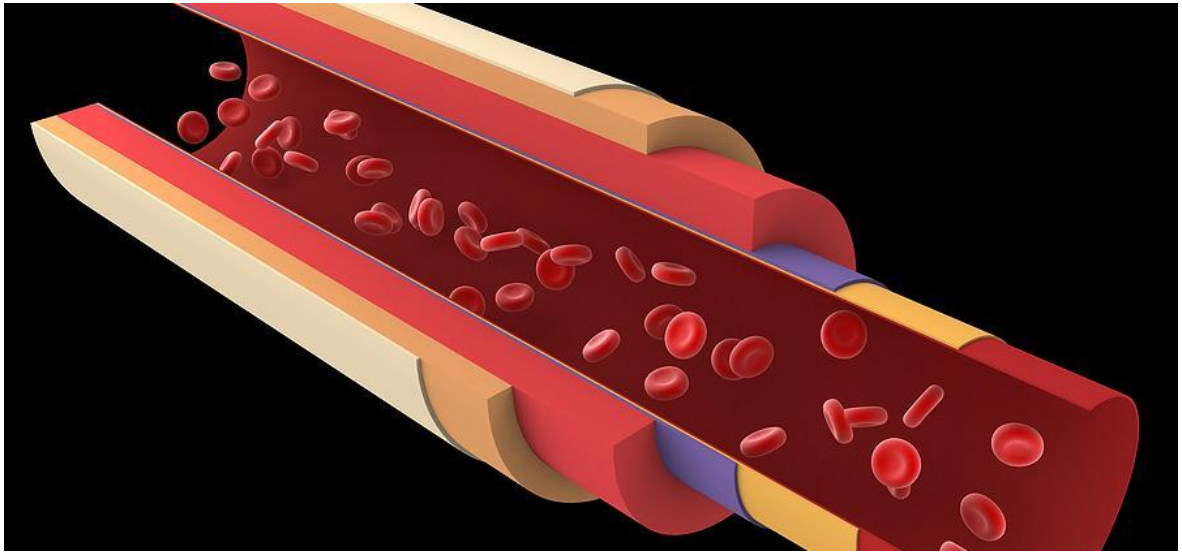
- Arteries
- Solid blood vessels through which oxygenated blood flows from the heart
- Most powerful and the main artery of the human body – aorta



- Veins
- Blood vessels through which deoxynated blood flows to the heart

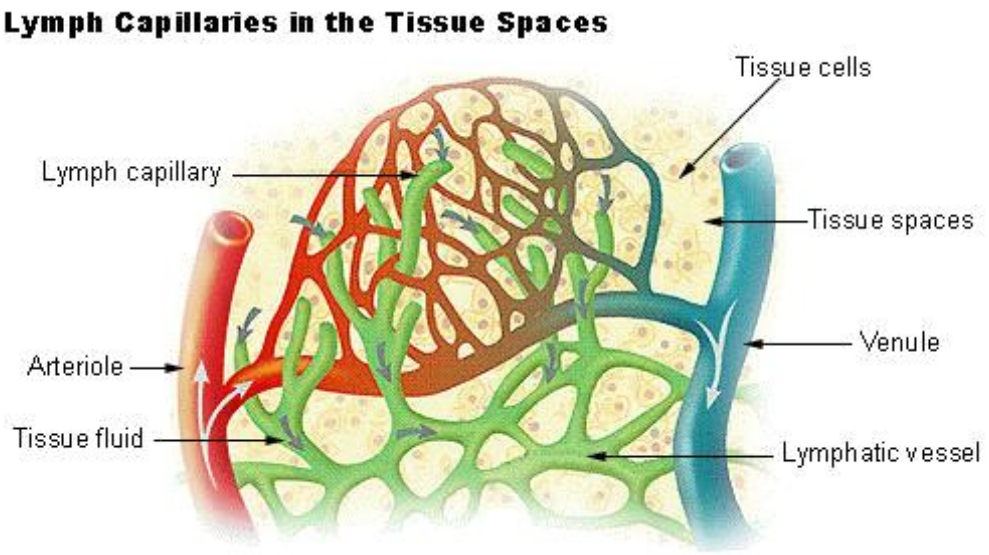
DIVISSION OF BLOOD VESSELS

- Capillary
- Thin blood vessels through which oxygen and other necessary nutrients pass to the cells



LYMPHATIC VESSELS

- Pulp – a yellowish fluid, that has similar composition to blood plasma
- Thin pulp capillaries – present in the tissues, fall into the pulp veins
- Pulp veins

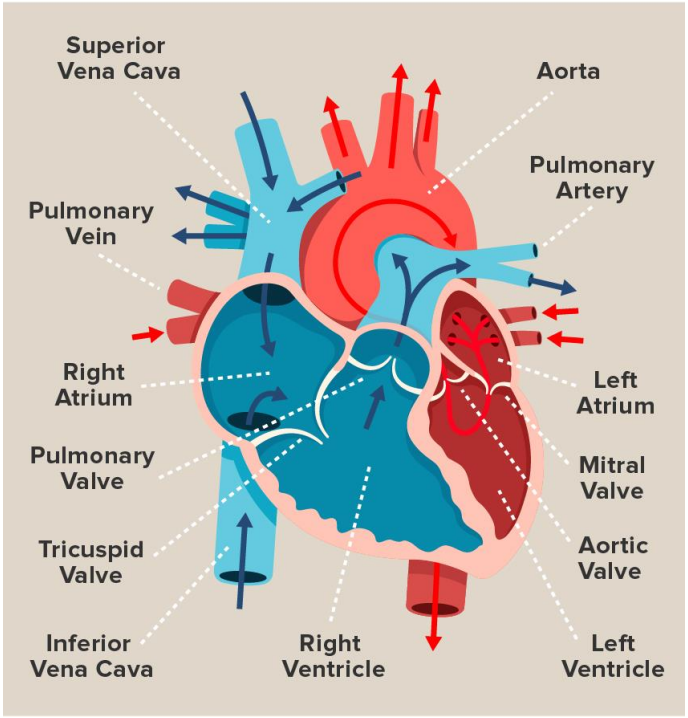


HEART

- Hollow muscle formed by muscular tissue – myocardium
- The inner lining consists of a thin membrane – endocardium
- The inner layer of the pericardium that closely envelops the heart – epicardium
- The heart is stored in a membrane bag – pericardium

HEART

- Right and left heart – in each part there is a vestibule and a ventricle, which are separated by flaps

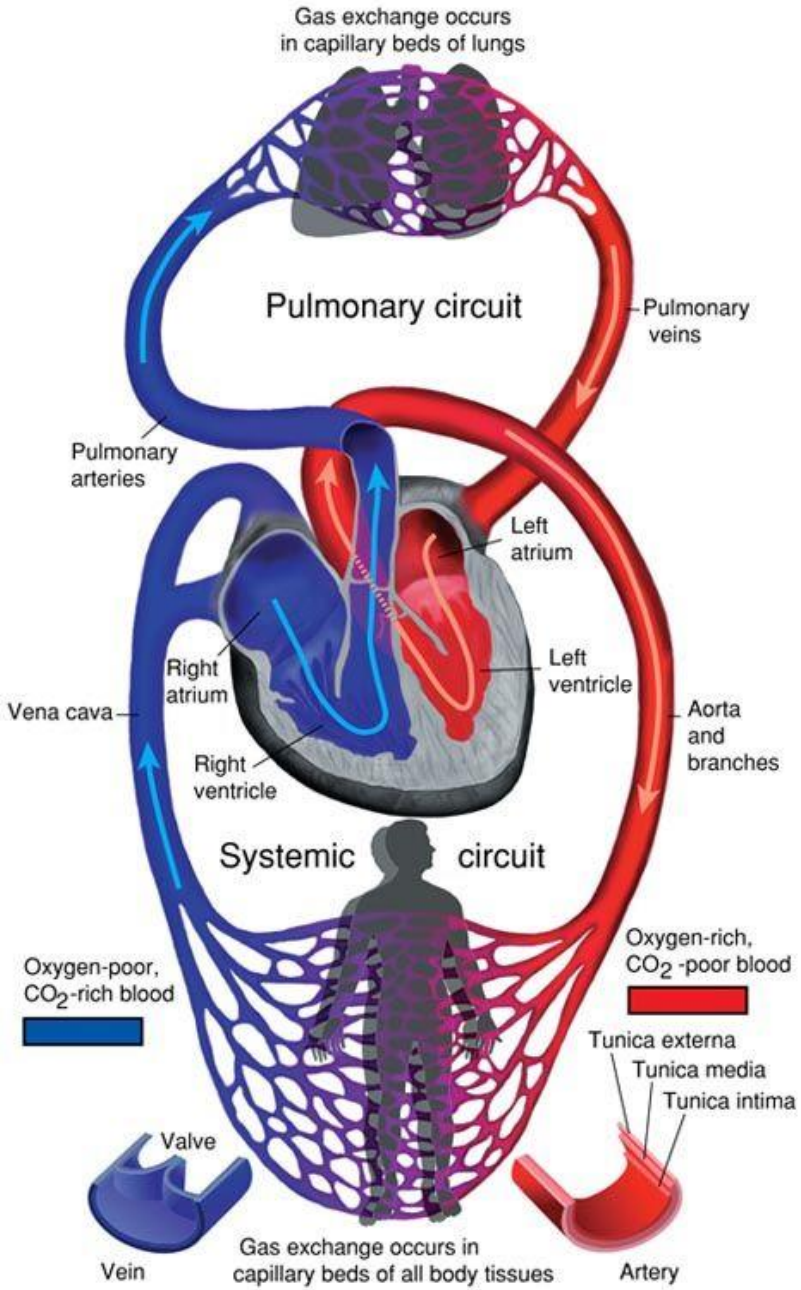


BLOOD CIRCULATION

- Provides blood supply to all parts of the body
- Heart + blood vessels

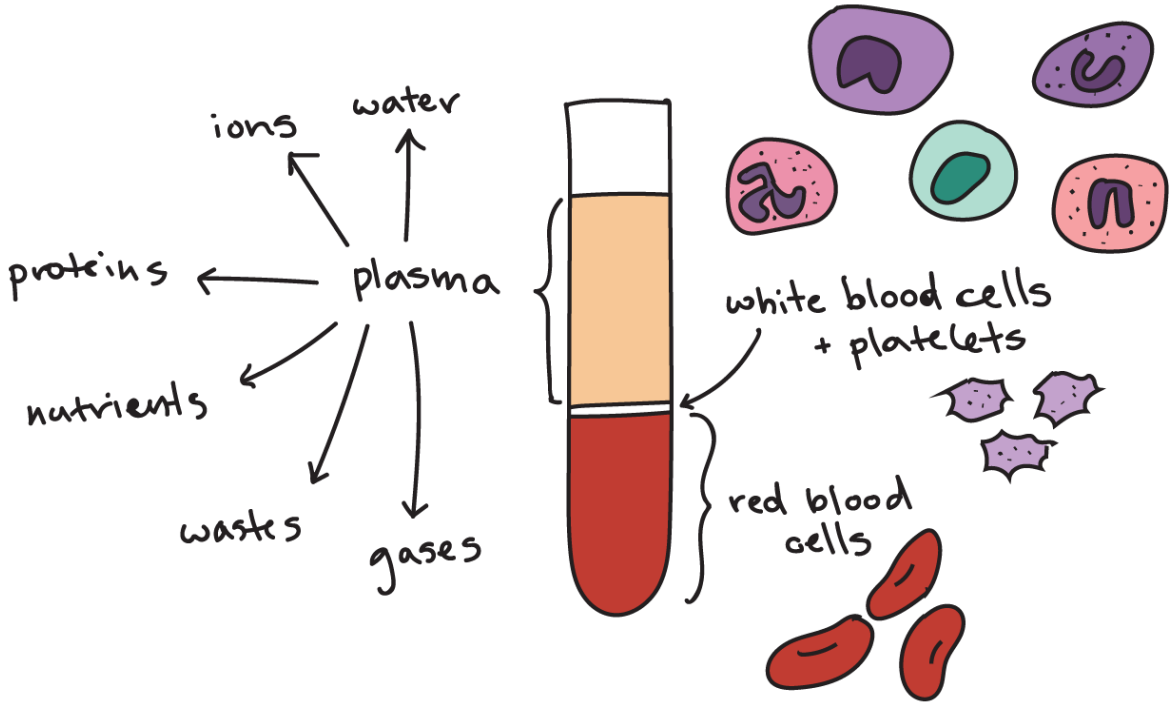
- Small (pulmonary) blood circulation
- Large (body) blood circulation

ALIVE


Gas exchange occurs in capillary beds of lungs
Pulmonary circuit
Pulmonary veins
Pulmonary arteries
Left atrium
Left ventricle
Right atrium
Vena cava
Aorta and branches
Right ventricle
Systemic circuit
Oxygen-poor, CO_2-rich blood
Oxygen-rich, CO_2-poor blood
Tunica externa
Tunica media
Tunica intima
Valve
Vein
Gas exchange occurs in capillary beds of all body tissues
Artery

BLOOD

- Composition – blood plasma and blood bodies



BLOOD

- Blood plasma – blood serum, fibrinogen, prothrombin
- Blood bodies – red and white blood cells, platelets
- Blood groups – A, B, AB, 0

BLOOD BODIES

- Red blood cells – erythrocytes
- White blood cells – lekocytes
- Small, colorless cell fragments in blood that form clots and stop or prevent bleeding – thrombocytes, also called platelets

PICTURES – USED SOURCES

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