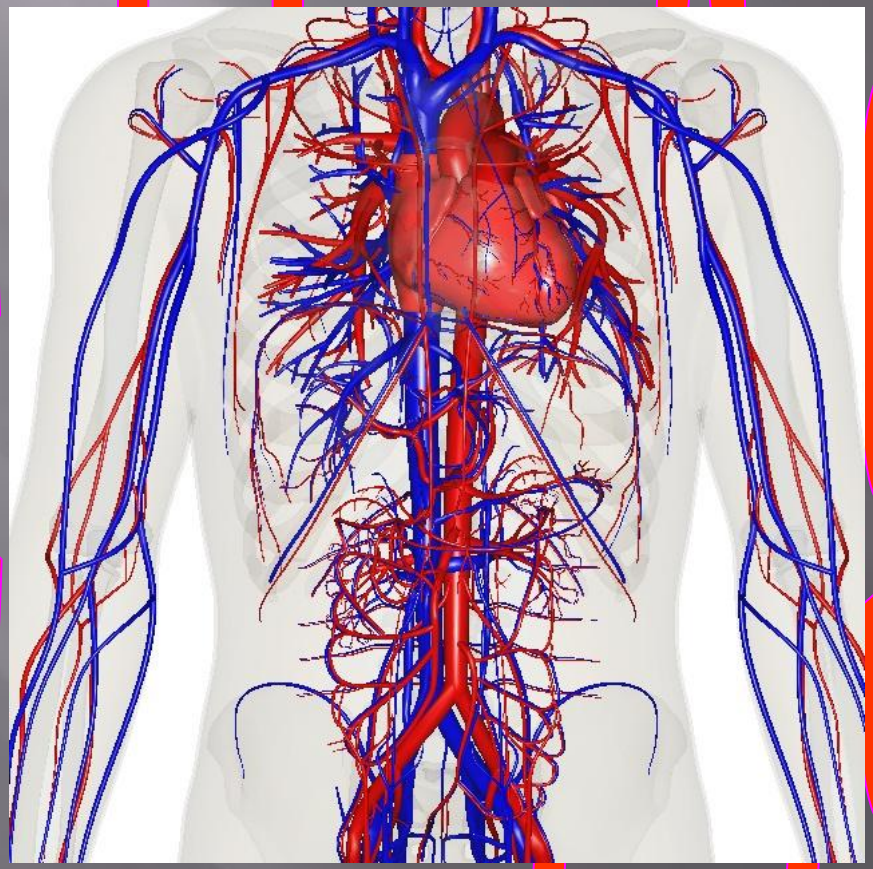
Circulatory system

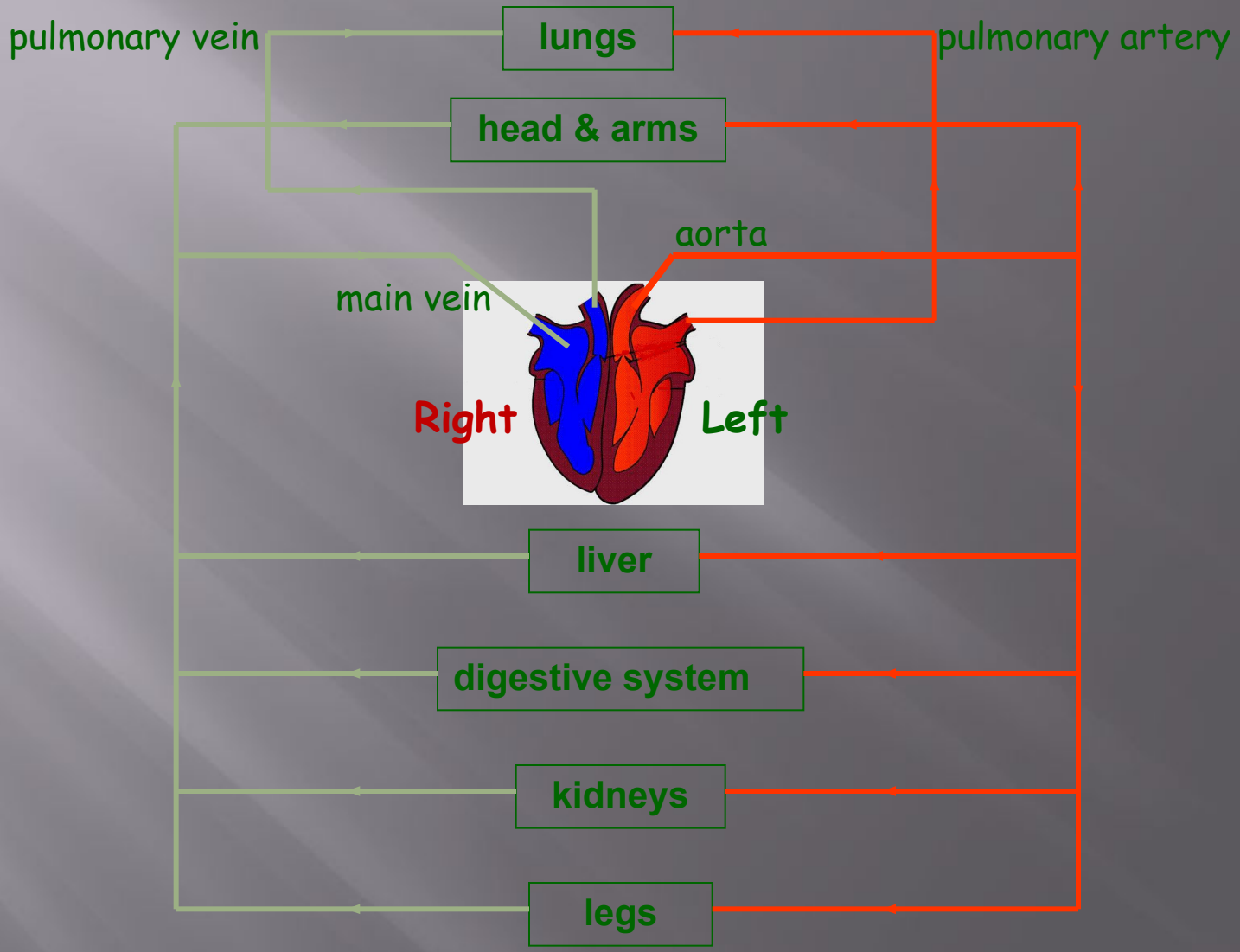


By Shevchenko Taras
m.II-25

What is the circulatory system?

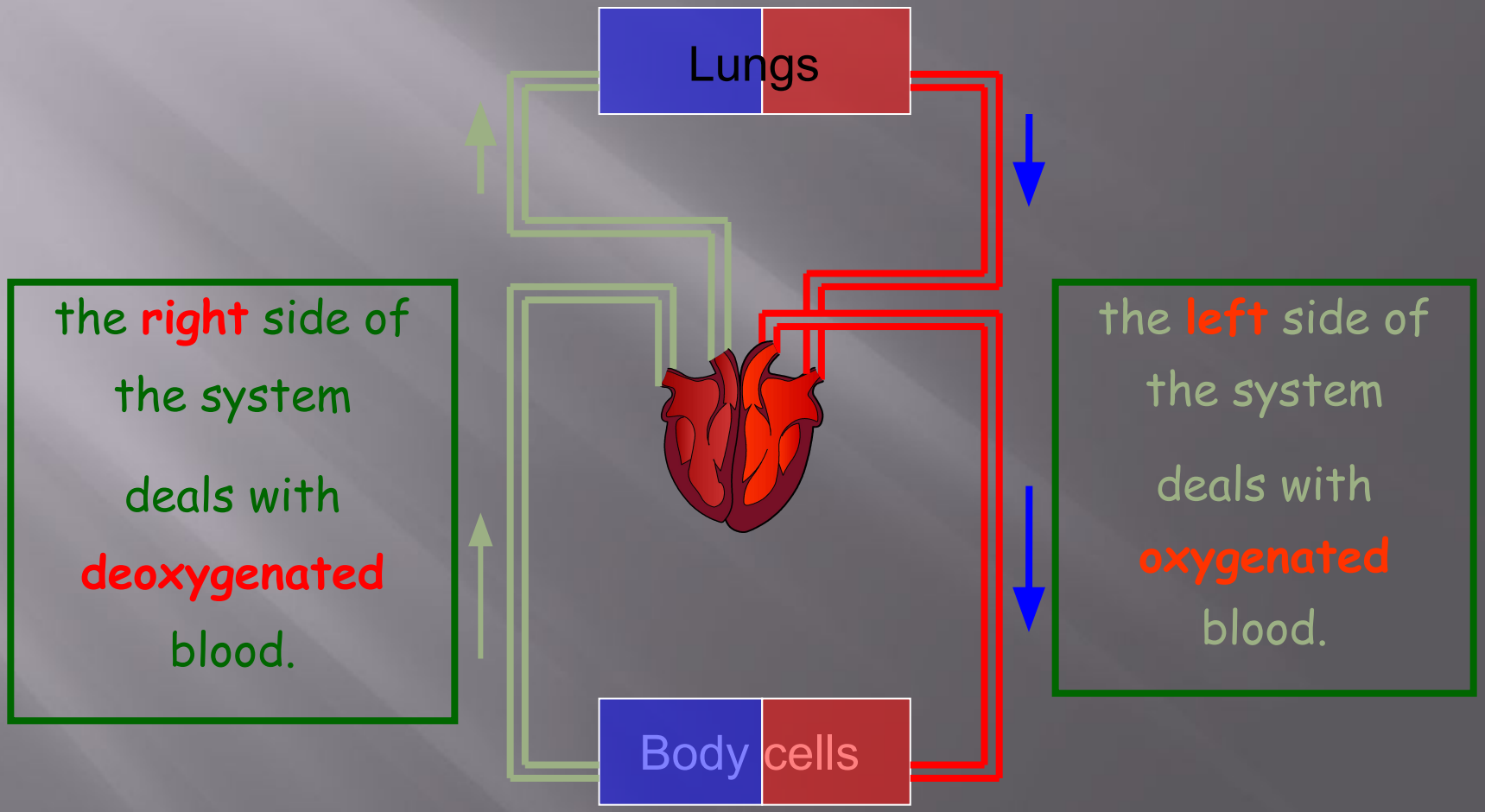
- The circulatory system carries blood and dissolved substances to and from different places in the body.
- The Heart has the job of pumping these things around the body.
- The Heart pumps blood and substances around the body in tubes called blood vessels.
- The Heart and blood vessels together make up the **Circulatory System**.

How does this system work?



Circulatory System

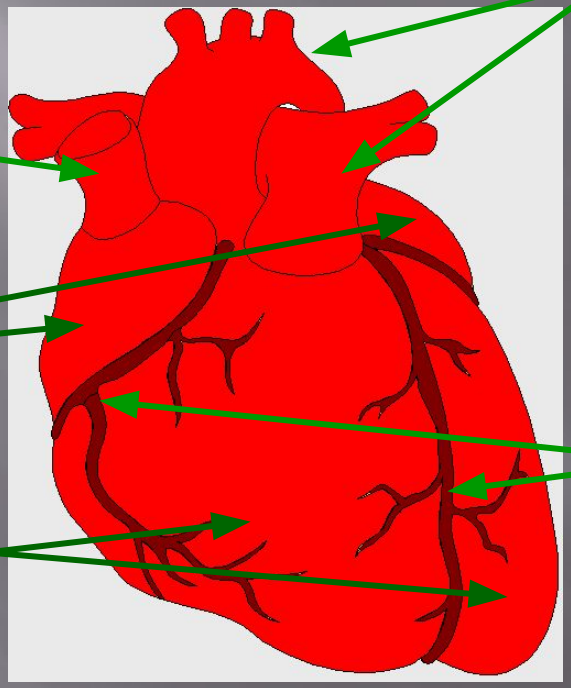
Our circulatory system is a double circulatory system.
This means it has two parts.



The Heart

This is a vein. It brings blood from the body, except the lungs.

These are arteries. They carry blood away from the heart.



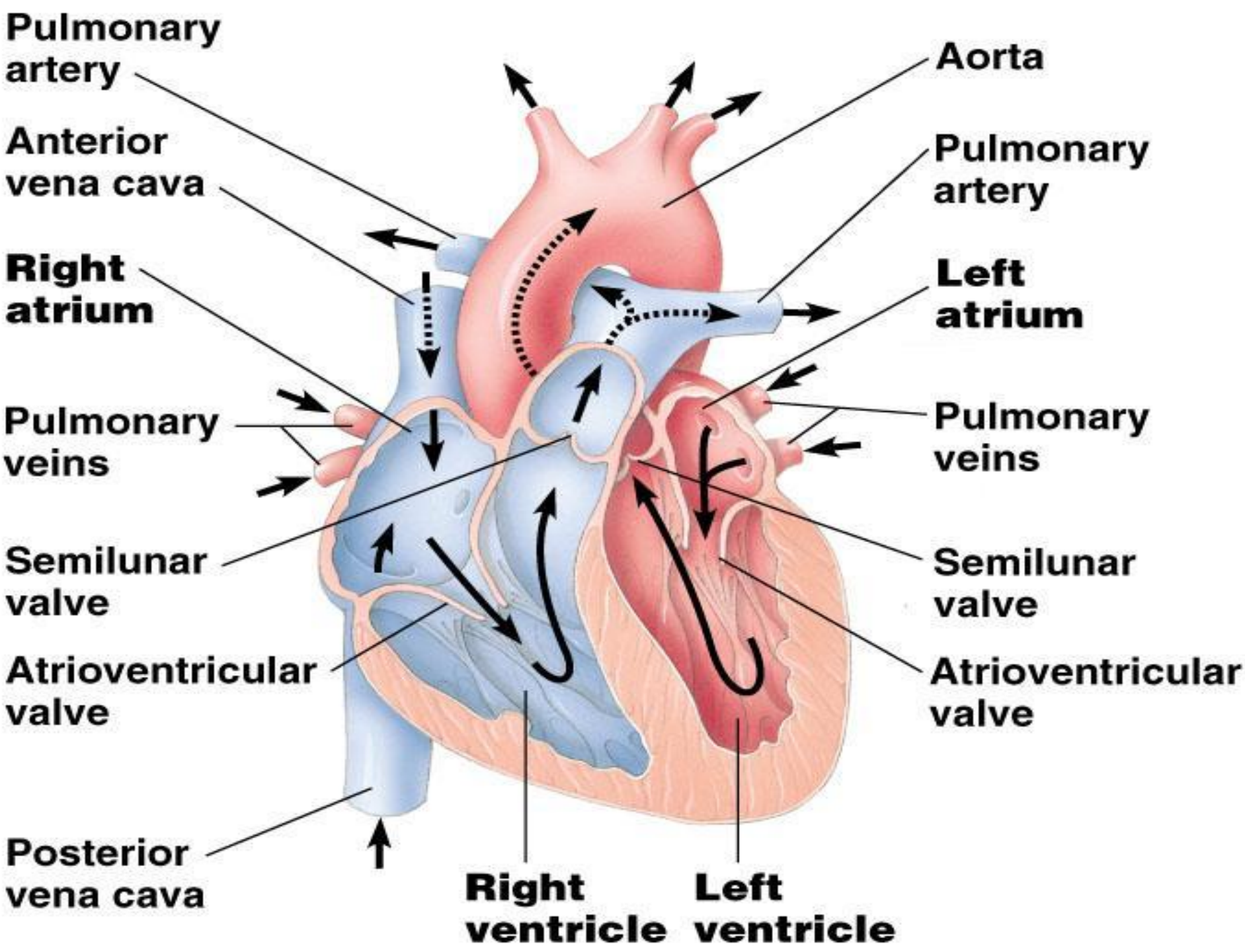
2 atria

2 ventricles

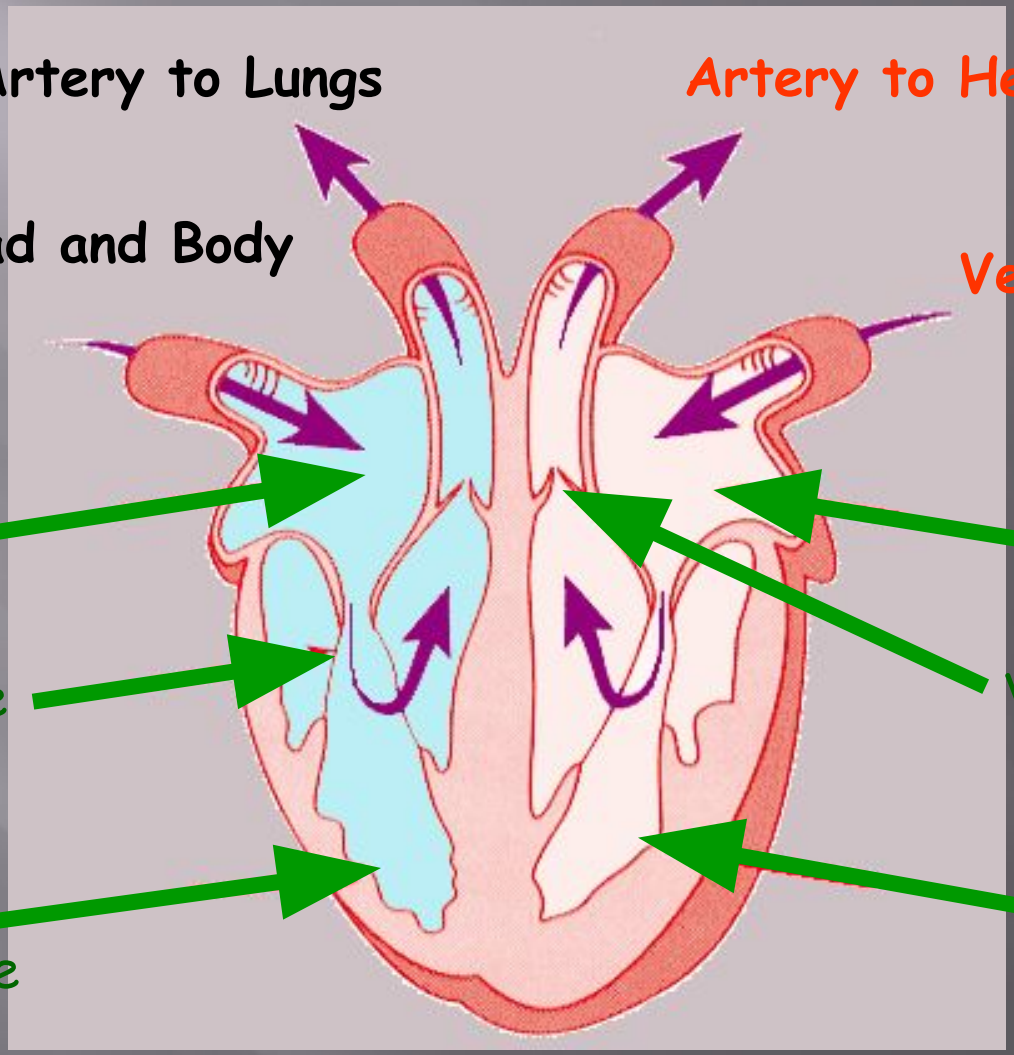
Coronary arteries, the hearts own blood supply

The heart has four chambers

now lets look inside the heart


Pulmonary artery
Anterior vena cava
Right atrium
Pulmonary veins
Semilunar valve
Atrioventricular valve
Posterior vena cava
Right ventricle
Left ventricle
Aorta
Pulmonary artery
Left atrium
Pulmonary veins
Semilunar valve
Atrioventricular valve

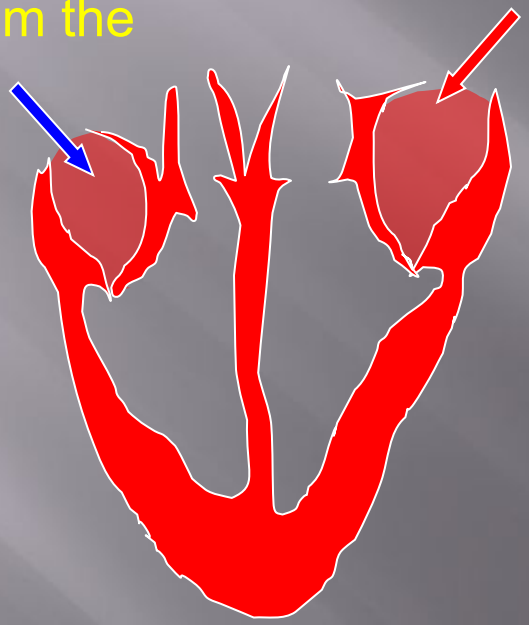
The Heart


Artery to Lungs
Artery to Head and Body
Vein from Head and Body
Vein from Lungs
Right Atrium
Left Atrium
valve
valve
Right Ventricle
Left Ventricle

How does the Heart work?

STEP ONE

blood from the body



blood from the lungs

The heart beat begins when the heart muscles **relax** and blood flows into the atria.

How does the Heart work?

STEP TWO

The atria then **contract** and the valves **open** to allow blood into the ventricles.

How does the Heart work?

STEP THREE

The valves **close** to stop blood flowing backwards.

The ventricles **contract** forcing the blood to leave the heart.

At the same time, the atria are **relaxing** and once again filling with blood.

The cycle then repeats itself.

blood from the heart gets around the body through blood vessels

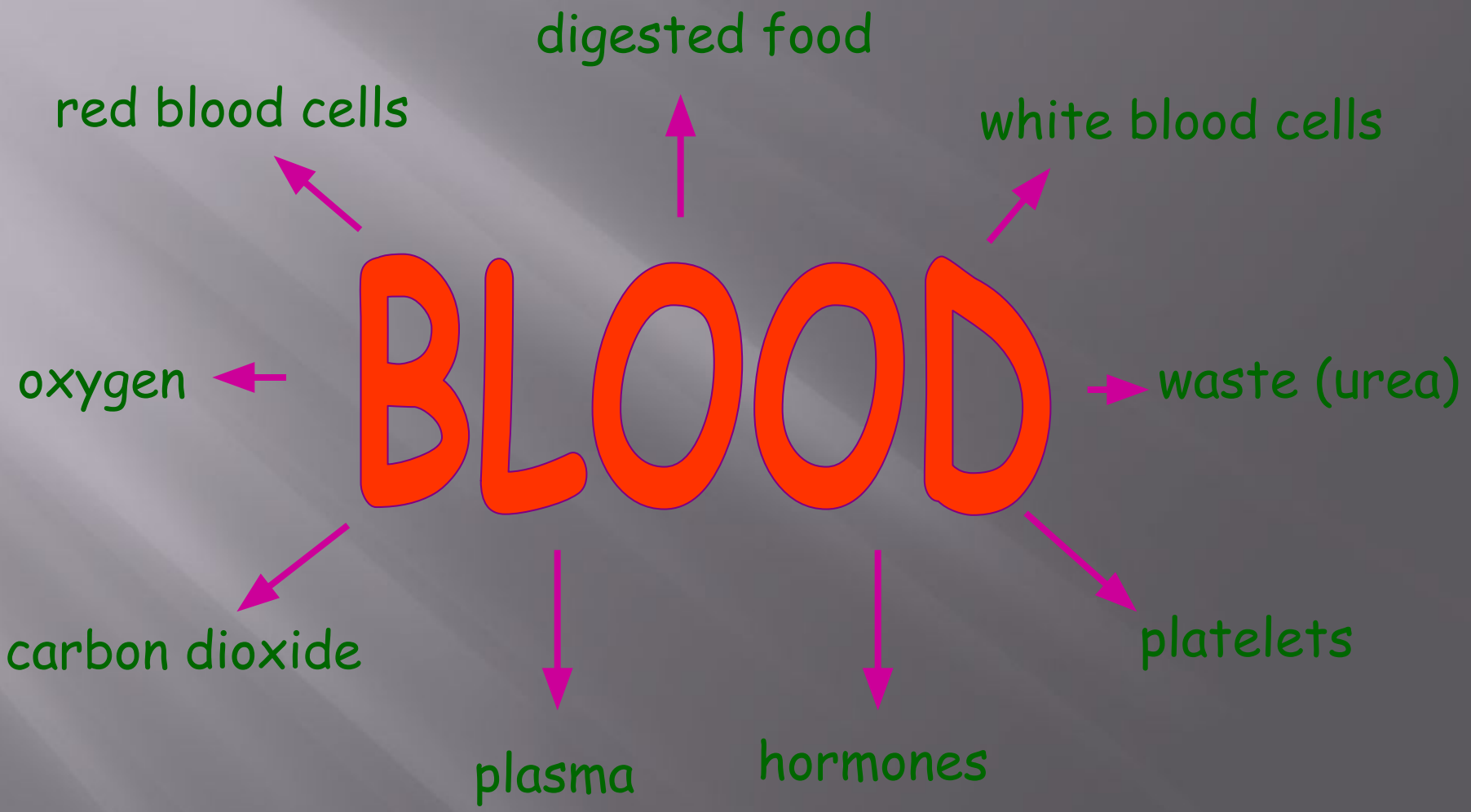
There are 3 types of blood vessels

a. ARTERY

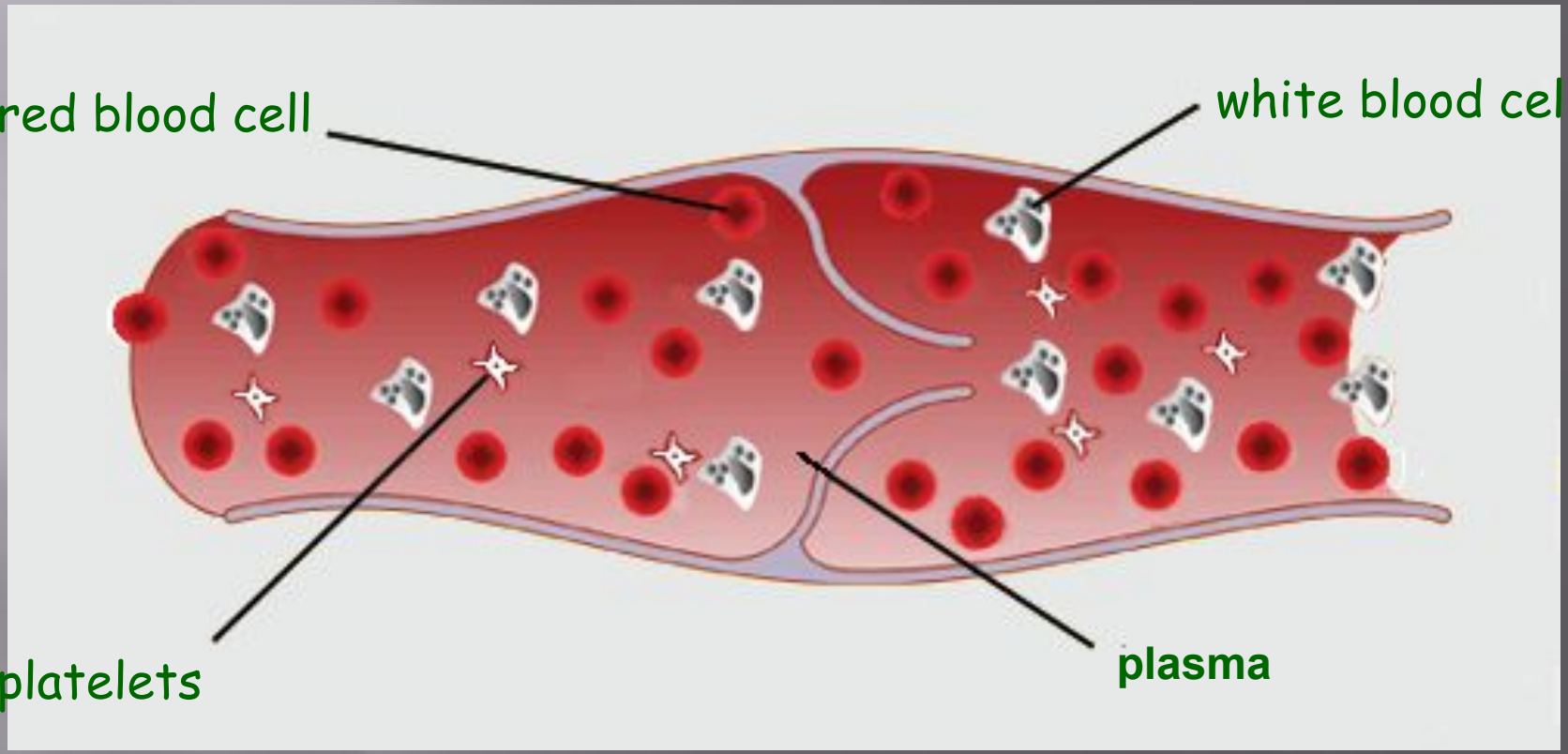
b. VEIN

c. CAPILLARY

what's in


digested food
red blood cells
white blood cells
BLOOD
oxygen
waste (urea)
carbon dioxide
platelets
plasma
hormones

The Blood



Red Blood Cells

a biconcave disc that is round and flat **without a nucleus**

contain **haemoglobin**, a molecule specially designed to hold oxygen and carry it to cells that need it.

can **change shape** to an amazing extent, without breaking.

White Blood Cells

there are many different types and all contain a **big nucleus**.

the two main ones are the **lymphocytes** and the **macrophages**.

macrophages 'eat' and **digest** micro-organisms .

some **lymphocytes** fight disease by making **antibodies**.
other **lymphocytes** make **antitoxins** to break down poisons.

Platelets

Platelets are bits of cell broken off larger cells.

Platelets produce tiny **fibrinogen fibres** to form a net. This net traps other blood cells to form a **blood** clot.

Thank you for attention !