

# Circulatory and Respiratory Systems

Getting oxygen around the body

## Functions of the Circulatory System

Transporting around the body...

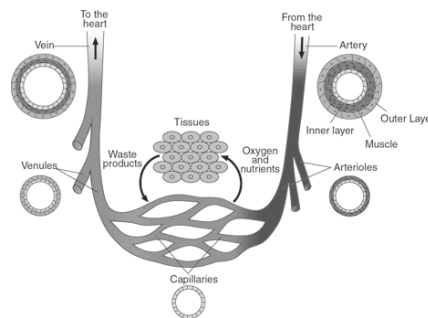
1. Oxygen
2. Carbon dioxide
3. Nutrients
4. Metabolic waste
5. Water
6. Hormones
7. Blood cells

# Blood

- Plasma
  - the liquid (straw colored)
  - Carries around everything in blood
- Platelets
  - A cell fragment
  - “thrombocytes”
  - help clot blood
- White blood cells
  - help fight infection
  - “leukocytes” or WBC
  - Many different kinds
- Red blood cells
  - Carry oxygen and CO<sub>2</sub>
  - “erythrocytes” or RBC
  - Determines color of blood!
  - Oxygenated RBC are bright red
  - Deoxygenated RBC are a dull/dark red (NOT BLUE!)

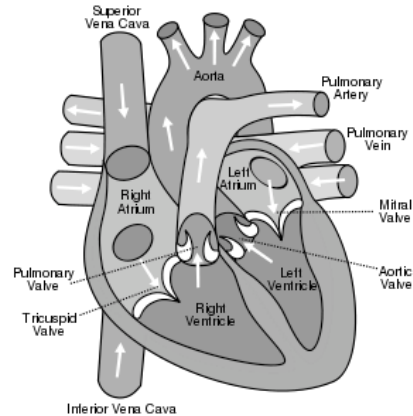
# The blood vessels

- Arteries
  - Carry blood away from the heart
  - Usually oxygenated
- Arterioles
  - Tiny arteries
- Capillaries
  - Between arterioles and venules
  - The smallest
  - Gas exchange
  - Nutrients delivered
  - Waste taken up
- Venules
  - Tiny veins
- Veins
  - Carry blood towards the heart
  - Usually deoxygenated
  - One-way valves



## The Heart

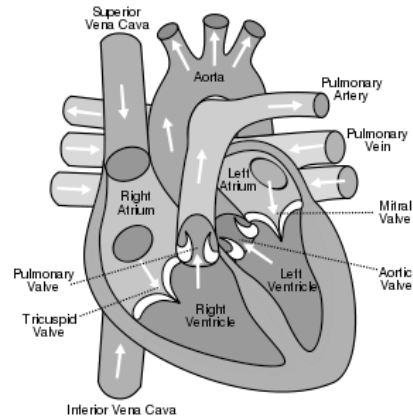
- Four Chambers
- Right & left Atria
  - Receive blood
  - Used to be called “auricles” because they look like ears.
- Right and left Ventricles
  - pump blood out of the heart
- Left side pumps blood to whole body – look how thick the walls are



- The body
- Vena cava
- Right Atrium
- “R.A.T.” valve (mnemonic device)
  - Right Atrio-ventricular valve
  - Tricuspid valve
- Right Ventricle
- Pulmonary (semi-lunar) valve
- Pulmonary artery
- Lungs
- Pulmonary vein
- Left Atrium
- “L.A.M.B.” valve (mnemonic device)
  - Left Atrio-ventricular valve
  - Mitral valve
  - Bicuspid valve
- Left Ventricle
- Aortic (semi-lunar) valve
- Aorta
- The body

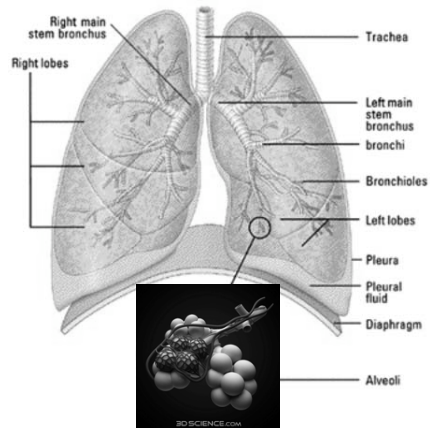
## Follow the blood

Deoxygenated/Oxygenated



## Respiratory System

- Pathway
  - Nose
  - Pharynx
  - Larynx
  - Trachea
  - Bronchi
  - Bronchioles
- Alveoli
  - Where gas exchange takes place
- Diaphragm
  - Muscle that increases & decreases pressure in the thoracic cavity



## Next Week

- MONDAY:
  - Compare to other animals
  - Bring at least one disposable water bottle, to make a respiratory system model!
- TUESDAY: Lab - hearts???
- WEDNESDAY: review
- THURSDAY: Quiz
- FRIDAY: Start Reproduction!