**Respiratory System -** the organs used for breathing

**Function**: to oxygenate all parts of the body and expel carbon dioxide

**Structure**

- protected by ribcage

- Thoracic cavity (in the chest)

 

<http://health.howstuffworks.com/lung1.htm>

First - you inhale through your nasal cavity

your diaphragm and intercostals (those are the muscles between your ribs) contract and expand the chest cavity

the pressure in the chest cavity is lowered below the outside air pressure because of this expansion

Air then flows in through the airways (from high pressure to low pressure) and inflates the lungs

Next -you exhale through your nasal cavity

the diaphragm and intercostals relax and the chest cavity gets smaller

now the pressure outside is lower than inside your lungs

 Air from the lungs (high pressure) then flows out of the airways to the outside air (low pressure)

**Circulatory System** - an organ system that passes blood to and from cells in the body

**Function**: to help fight diseases, stabilize body temperature and pH and to maintain homeostasis. “blood distribution network”

**Structure:**

The Heart -

*Chambers and Valves and Veins*

 The heart is divided into four chambers:

right atrium (RA)

right ventricle (RV)

left atrium (LA)

left ventricle (LV)

Four Valves:

Tricuspid valve - at the exit of the right atrium.

Pulmonary valve - at the exit of the right ventricle.

Mitral valve - at the exit of the left atrium.

Aortic valve - at the exit of the left ventricle.

Veins:

superior vena cava (SVC) - upper half of body

inferior vena cava (IVC) - lower half of body

Pulmonary - lungs

One big Artery:

Pulmonary artery



Blood Flow -

to the superior and inferior vena cava,

then to the right atrium

through the tricuspid valve

to the right ventricle

through the pulmonic valve

to the pulmonary artery

to the lungs

The blood picks up oxygen in the lungs, and then flows from the lungs:

to the pulmonary veins

to the left atrium

through the mitral valve

to the left ventricle

through the aortic valve

to the aorta

to the body

*Why is this happening?*

All parts of the body need oxygen to function, and our blood brings oxygen from the lungs to all the other parts of our body - thus it circulates blood and oxygen.

So - 2 loops are made

1. Loop 1 - right side of the heart pumps blood to the lungs first to pick up oxygen

2. Loop 2 - blood then returns to the left side of the heart where it is returned to the body full of oxygen