



The Heart Diagram

- Right Atrium
- Left Atrium
- Right Ventricle
- Left Ventricle

- Pulmonary Artery
- Pulmonary Vein
- Superior Vena Cava
- Inferior Vena Cava

- Valves- Tricuspid
- Pulmonary
- Mitral
- Aortic

The Circulatory/Cardiovascular System

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Title: The Heart as a Pump

Purpose:

Procedure: Count your pulse rate before and after several activities using a stethoscope.

Hypothesis:

Do each activity for ONE MINUTE as directed by the teacher, alternating doing the activities between you and your partner. This will allow your heart some time to get to a resting rate before you begin your next exercise. To find your pulse, place two fingers on your wrist, closest to your thumb, or use the stethoscope. Measure your heart rate for a total of 15 seconds as directed by the teacher and then multiply by 4 to get beats per minute.

Pulse Rate	Rate	Change from rest (subtract resting rate)
Rest		----- -----
After Standing		
After Jogging		
After Holding Breath		
After Raising Arms in the Air		

Analysis & Conclusion:

- Was your hypothesis supported by the data you collected? How?
- How did your pulse rate change with each activity?
- Why might your pulse rate change?
- Based on this mini-lab, what can you infer about the heart as a pumping organ?
- Compare and contrast your pulse rate and that of an individual of the opposite sex. Are they similar or different? Why might there be differences?

1. Includes _____, _____, and _____

2. FUNCTIONS:

- Carries _____ & _____ to cells & waste and carbon dioxide _____ from cells
- Contains cells that fight _____

3. Types of Circulation

- _____ - circulation - supplies blood to heart + pumped to lungs to pick up O₂/drop off CO₂ and then back to heart
- _____ - circulation - blood from heart

3. _____ - circulation - oxygen-rich blood pumped to cells and returns oxygen-poor blood back to heart

4. _____ - oxygen-_____ blood _____ FROM _____ heart to body

2. _____ - oxygen-_____ blood from body BACK TO _____ heart

3. _____ - microscopic blood vessels connect arteries to veins (only ONE CELL THICK!!)

- Nutrients and oxygen diffuse into body cells
- Waste and carbon dioxide diffuse out of body cells

5. Parts of Blood

- _____ - "_____ "_____ part of blood
1. Carries nutrients, minerals, oxygen to cells. Waste carried away
- Red blood cells - carry oxygen to cells using _____ bacteria and virus
- _____ - _____ WBC's
1. If sick, body makes more WBC's
- _____ - cell fragments that help form a scab by clotting blood

6. Cardiovascular disease

- _____ - fat builds up on artery walls and clogs arteries. In coronary arteries, this causes heart attacks.
- _____ - high blood pressure; can be caused by atherosclerosis

7. _____ - controls blood flow through all parts of the body and has _____ chambers

- _____ - upper two chambers
- _____ - lower two chambers
- Blood flows from atrium to ventricle