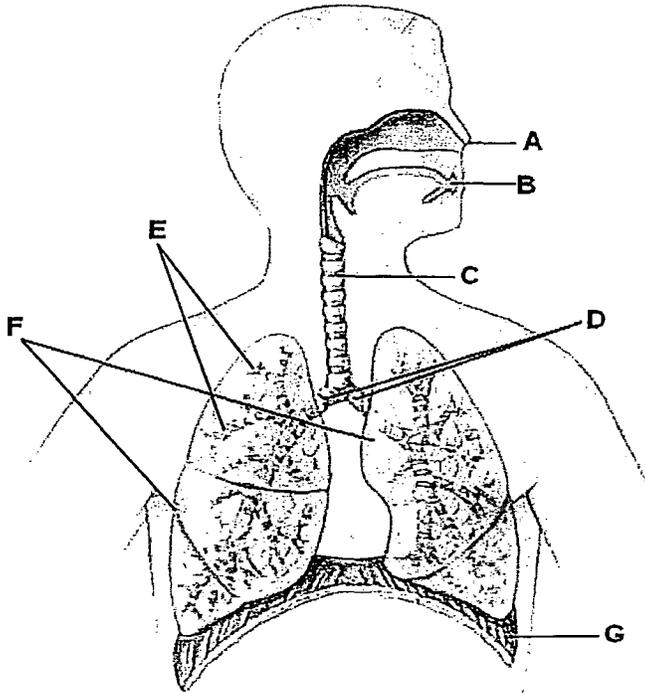


Respiratory System



Label the parts of the respiratory system

A \_\_\_\_\_

B \_\_\_\_\_

C \_\_\_\_\_

D \_\_\_\_\_

E \_\_\_\_\_

F \_\_\_\_\_

G \_\_\_\_\_

Give the main function of each part

A \_\_\_\_\_

B \_\_\_\_\_

C \_\_\_\_\_

D \_\_\_\_\_

E \_\_\_\_\_

F \_\_\_\_\_

G \_\_\_\_\_

1. What is the respiratory system responsible for?

---

2. Describe the path of air from the mouth to the alveoli. (include the parts above)

---

3. Draw a) one alveoli and one capillary wrapped around it.

b) arrows to show which way the oxygen is moving and which way the carbon dioxide is moving. Assume that the blood has just returned from the body cells.

4. Explain the process of inhaling and exhaling. Include the words volume, expands, and diaphragm

---

---

---

---

5. Match the description in Column A with the word in Column B. Write the letter of the word in the space beside its description. Words in Column B may be used once, more than once, or not at all.

Column A

- \_\_\_ 1. Small air sacs at the tips of bronchiole tubes which exchange CO<sub>2</sub> and O<sub>2</sub>
- \_\_\_ 2. The tube(s) that carries air from your nose/mouth to your lungs
- \_\_\_ 3. Spongy, pink-colored organs of the respiratory system
- \_\_\_ 4. Main organ of the circulatory system.
- \_\_\_ 5. Vessel that carries blood that has a great deal of oxygen away from the heart to the body
- \_\_\_ 6. The tube that carries oxygen and carbon dioxide from the end of your trachea to your lungs
- \_\_\_ 7. Vessel that carries blood to the lungs from the heart
- \_\_\_ 8. Vessel that carries blood back to the heart from the lungs.
- \_\_\_ 9. Small blood vessel that surrounds your alveoli and helps exchange CO<sub>2</sub> and O<sub>2</sub>
- \_\_\_ 10. A location where diffusion of gases occurs
- \_\_\_ 11. The windpipe divides into a right and left one of these
- \_\_\_ 12. Muscle that is responsible for increasing the amount of space in the chest cavity

Column B

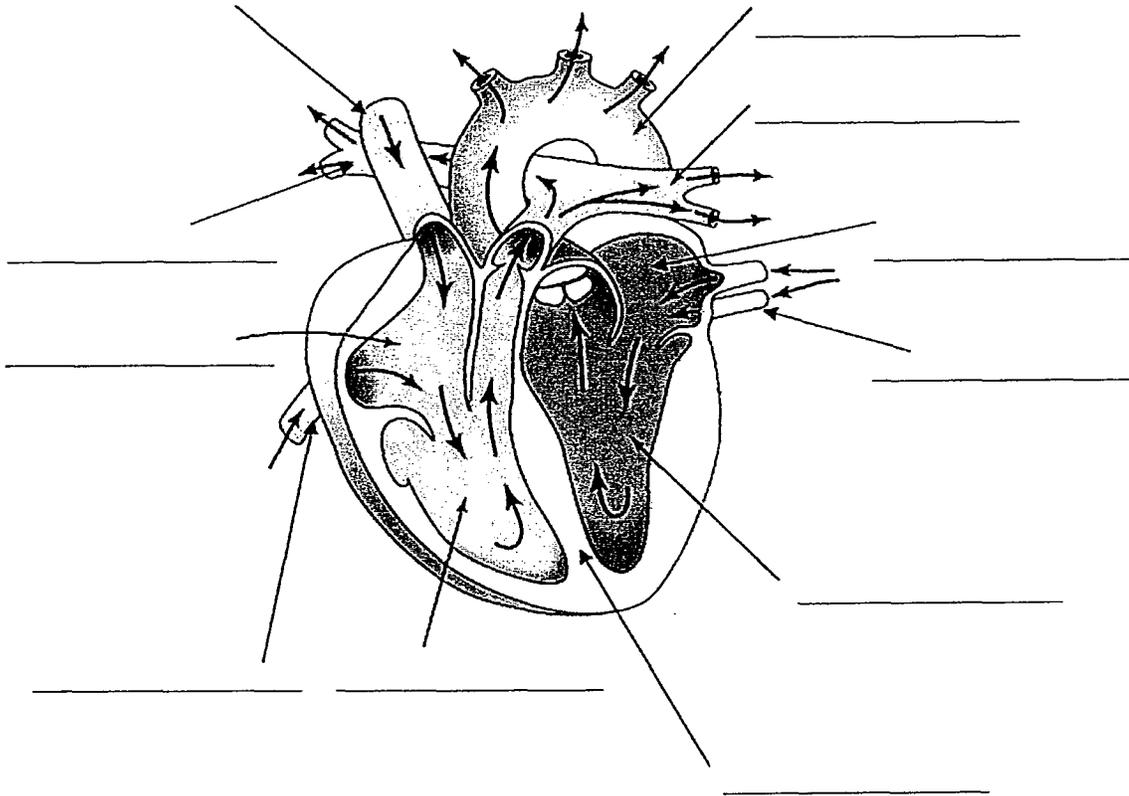
- A. diaphragm
- B. bronchi
- C. lungs
- D. artery
- E. alveoli
- F. capillary
- G. heart
- H. vein
- I. bronchus
- I. trachea

## Circulatory System

1) Give the main function of the circulatory system.

---

---



Label the parts of the circulatory system.

2) The heart is considered to be a double pump. Why? \_\_\_\_\_

---

3) What divides the heart into two sections? \_\_\_\_\_ Why is this important?

---

4) How many chambers does the heart have? \_\_\_\_ State the names of each chamber.

---

---

5) a) Which side of the heart receives deoxygenated blood? \_\_\_\_\_

Oxygenated blood? \_\_\_\_\_

b) Which side of the heart pumps blood to the body? \_\_\_\_\_

Which side of the heart pumps to the lungs? \_\_\_\_\_

c) What main blood vessel transports deoxygenated blood from the heart to the lungs?

\_\_\_\_\_

d) What main blood vessel transports oxygenated blood from the lungs back to the heart?

\_\_\_\_\_

e) What main blood vessels transports deoxygenated blood to the heart from the upper and lower body?

\_\_\_\_\_

### 3 Types of Blood Vessels

6 a) State the 3 main differences between arteries and veins.

\_\_\_\_\_

\_\_\_\_\_

b) What is the main role (function) of the capillaries? \_\_\_\_\_

\_\_\_\_\_

c) Why are the walls of the capillaries so thin?

\_\_\_\_\_

\_\_\_\_\_

d) What is the function of valves?

\_\_\_\_\_

e) Which type of blood vessel has valves? Why?

#### 4 Parts of Blood

a) Name the four components of blood and state their functions.

_____	_____
_____	_____
_____	_____
_____	_____

a) Which component above makes up the largest percentage of your blood? \_\_\_\_\_

#### Path of Blood in the Body

8. Write number on the lines beside each statement to correctly show the path of the blood through the body, starting from deoxygenated blood enters the heart from the superior and inferior vena cavae.

- 1   Deoxygenated blood enters the heart from the superior and inferior vena cavae.
- Oxygenated blood in the left ventricle is pumped out of the heart and into the aorta.
- Deoxygenated blood goes from the right atrium goes into the right ventricle.
- Oxygenated blood leaves the arteries and enters the body capillaries.
- The blood exchanges the oxygen for carbon dioxide with body cells.
- Blood enters the lung capillaries where it exchanges carbon dioxide with oxygen in the alveoli.
- Deoxygenated blood in the right ventricle is pumped out of the heart and into the pulmonary artery.
- Oxygenated blood travels through arteries to all parts of the body.
- Deoxygenated blood travels through veins back to the heart.
- Oxygenated blood travels through the pulmonary vein.
- Oxygenated blood moves into the left ventricle.
- Oxygenated blood enters the left atrium.

#### Blood Pressure & Heart Health

9. a) Define blood pressure.

\_\_\_\_\_

b) State the 5 factors that affect blood pressure. \_\_\_\_\_

\_\_\_\_\_

c) Which instruments are used to measure blood pressure? \_\_\_\_\_

What are ways in which people can reduce their chances of having high blood pressure? \_\_\_\_\_

d) State the difference between systolic and diastolic pressure. \_\_\_\_\_

\_\_\_\_\_

## Immune System

1) What is the immune system responsible for? \_\_\_\_\_

---

---

2) List 6 parts of your primary defence system. \_\_\_\_\_

---

3) DESCRIBE 2 parts of your secondary defence system

---

---

---

---

4) Explain how a vaccine works.

---

---

---

Other Important Items to Review that may not be on this review

\*

\*

**Students Responsible for Providing High Quality Answers (Efficiently)**

Student

Section

Numbers

Student

Section

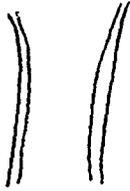
Numbers

Example

## Part C: Application/Problem Solving

1) Observe the structure of these three vessels, Write the correct letter of the vessel on the blank for each question.(4)

Vessel A



Vessel B



Vessel C



- a) Which one has a structure needed to do the function (job) of an artery? \_\_\_\_\_
- b) What exactly is it about the structure of that vessel that made you choose your answer in a)? \_\_\_\_\_
- \_\_\_\_\_
- c) Why does vessel C have valves? \_\_\_\_\_
- \_\_\_\_\_
- d) Which vessel is structured to exchange carbon dioxide and oxygen by diffusion? \_\_\_\_\_

2) Use 2 clearly described, specific examples describing how the respiratory system and the circulatory system work together to get the needed items to body cells and remove the wastes from your cells. Be specific. Use vocabulary from this unit.

---

---

---

---

---

---

---

---

---

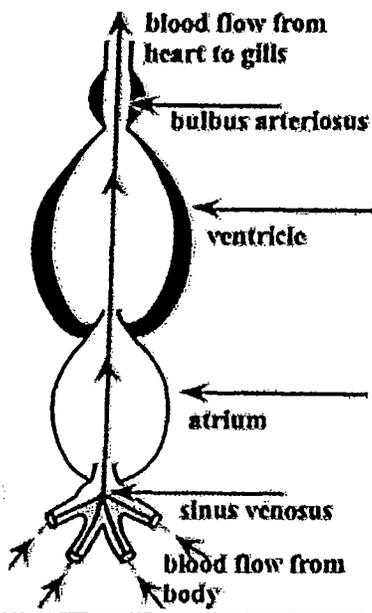
---

## Respiratory & Circulatory System of Fish

Retrieved from:

ages/search?q=images+fish+heart&qvpt=images+fish+heart&FORM=IGRE#view=detail&id=619C1C8B342F2861DC7A7AAE23B85755B6D934C4&selectedIndex=4

January 17, 2014



The circulation of fishes is different from that of the reptiles, birds, and mammals because oxygenated blood is not returned to the heart before going to other parts of the body. The heart, a folded continuous muscular tube with three or four saclike enlargements, undergoes rhythmic contractions and receives venous blood. It passes the blood to a thick muscular pump, the ventricle. From the ventricle the blood goes to a structure at the base of an aorta just below the gills. The blood passes to the capillaries in the gills. There, waste gases are given off to the environment, and oxygen is absorbed. The oxygenated blood enters the gills and then flows into the aorta. From there blood is distributed to the tissues and organs of the body. One-way valves prevent backflow.

1) Do you think that the fish atrium contains oxygenated blood or deoxygenated blood?

\_\_\_\_\_ (1) Why? (1) \_\_\_\_\_

2) Why are the muscular walls of the ventricle designed to be so much thicker than the walls of the atrium? (1) \_\_\_\_\_

3) Fish exchange their gases through gills. Where do humans exchange their gases?

(2) \_\_\_\_\_

4) Do you think gases move by DIFFUSION in BOTH humans and fish? Why or why not? (2)

# *The Story of Lauren's Leg, the Robot, Fatima's Binder, and Lulu's Good/Bad Luck!*

Use p90 + 91 to help you with the following blanks

**Describe the path of blood through the circulatory system, starting and ending at the right atrium.**

Use these words (may be used more than once)

right, lungs, pulmonary artery, pulmonary vein, carbon dioxide, oxygen, back to , away from, aorta, other words as well!

***The blood has just travelled from Lauren's muscle cells in her leg as she runs away from Mr Thorlakson's robot in the hallway!***

Blood flows from the right atrium through a one-way valve into the \_\_\_\_\_ventricle. The \_\_\_\_\_ventricle contracts, forcing blood \_\_\_\_\_the heart into a large artery called the \_\_\_\_\_. This artery divides in half (forks) , taking blood to the main organs of the respiratory system called the \_\_\_\_\_ where the arteries branch into smaller and smaller arteries. These lead to capillaries that are next to tiny air sacs called \_\_\_\_\_ in the lungs.

***Lauren's red blood cells say "Merci beaucoup for the oxygen, lungs! My cells really need it because I am running away from Mr Thorlakson's robot! She gasps for air as she rounds the corner to Laboratory B"***

Here, \_\_\_\_\_passes through the capillary walls into the lungs, and \_\_\_\_\_flows from the lungs into the capillanes.

The capillaries lead to veins. Veins take the blood \_\_\_\_\_the heart. The blood flows first into the \_\_\_\_\_atrium and then through a one-way valve into the \_\_\_\_\_ventricle.

When the left ventricle contracts, it forces the blood into the \_\_\_\_\_, the body's largest artery.

***Your blood will soon get that needed oxygen to your leg muscle! The robot is nearing! Just then, Fatima & Lulu walk unknowingly around the corner and Lauren slams into them, knocking Lulu's crutches to the ground, and releasing the clips from Fatima's binder. Lulu is rushed to hospital where she sees her mom, Dr. Saleh, and witnesses a real journey through a wax-filled ear!***

From this **aorta**, branching arteries get smaller and lead into capillaries in the muscle of Lauren's leg, for example. Here blood gives up \_\_\_\_\_to cells and takes on \_\_\_\_\_and other wastes. The blood then returns via veins to the \_\_\_\_\_atrium of the heart, completing the cycle.

(Hint: where did you start in this journey? You should be back there now)

## Mr Louie's and Mr. Rai's Rap → Ode to The Right Side of the Heart

The right side of the heart.

You play a very big part (so big)  
You are the right side of my heart (so big)  
I send my deoxygenated blood (low oxygen)

In from the body it comes in like a flood  
Into the **vena cava**  
Right side of the heart, I really do love ya  
You pump me up – to the lungs, my friend (pump it up)

I get some oxygen,  
I come right back again  
Ready to be sent to the body again  
To exercise again  
Bring oxygen to cells again

## Big Bad Baba Solanke's and Felix Stet-e-feld's Ode to The Left Side of the Heart

When I have oxygen  
I'm ready  
To go to the body cells

You are always there

on the left side of my heart

You pump me through the **aorta**

To all the waiting body cells

I pick up their carbon dioxide

I drop off their oxygen

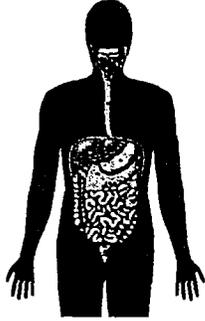
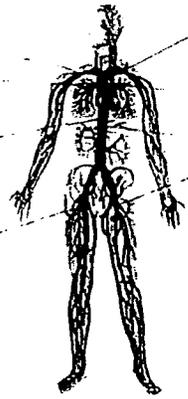
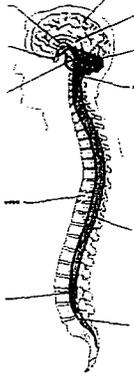
I run right back to you, my heart,

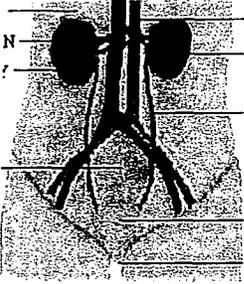
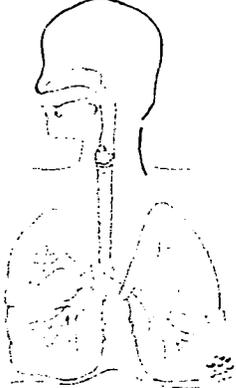
'Cause you are always there

You are always there, on the left side of my heart!

Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

## THE HUMAN BODY SYSTEMS

System	Function	Diagram	Major Organs	Interactions- Working with Other Systems
Digestive	<ol style="list-style-type: none"> <li>1. take in food (ingestion)</li> <li>2. digest food into smaller molecules and absorb nutrients</li> <li>3. remove undigestable food from body (feces)</li> </ol>		<p style="text-align: center;">Mouth, esophagus, stomach, Sm. Intestine, Lg. intestine, rectum, anus</p> <p>Salivary glands, pancreas, liver, gall bladder</p>	<ol style="list-style-type: none"> <li>1. w/circulatory - absorb &amp; deliver the digested nutrients to the cells</li> <li>2. w/muscular - control the contractions of many of the digestive organs to pass food along</li> <li>3.w/nervous - hypothalamus maintains homeostasis by triggering appetite (stomach growling), digest.</li> </ol>
Circulatory	<p>Transport materials to and from cells</p>		<p style="text-align: center;">Heart Veins Arteries Capillaries Red blood cells</p>	<ol style="list-style-type: none"> <li>1. w/respiratory - deliver O<sub>2</sub> from lungs to cells and drop off CO<sub>2</sub> from cells to lungs</li> <li>2. w/digestive - absorb and deliver digested nutrients to cell</li> <li>3. w/excretory - kidneys filter cellular waste out of blood for removal</li> <li>4. w/lymphatic - both transport things to and from cells</li> <li>5. w/immune - transports WBCs throughout body to fight disease</li> <li>6. w/nervous - brain controls heartbeat</li> <li>7. w/endocrine - trans. hormones</li> </ol>
Nervous	<ol style="list-style-type: none"> <li>1. gathers and interprets information</li> <li>2. responds to information</li> <li>3. helps maintain homeostasis</li> </ol>		<p style="text-align: center;">Brain Spinal cord</p> <p style="text-align: center;">Nerves Nerve cells = neurons</p> <p>hypothalamus</p>	<p>Controls all other systems</p> <p>Hypothalamus - maintains homeostasis by working with all systems</p>

System	Function	Diagram	Major Organs	Interactions- Working with Other Systems
Excretory	<ol style="list-style-type: none"> <li>removes waste products from cellular metabolism (urea, water, CO<sub>2</sub>)</li> <li>filters blood</li> </ol>		<p>Kidneys Ureters Bladder Urethra</p> <p>Lungs Skin - sweat glands Liver (produces urea)</p>	<ol style="list-style-type: none"> <li>w/circulatory - filters waste out of blood</li> <li>w/lungs - removes excretory waste</li> <li>w/integumentary - removes excretory waste</li> </ol>
Respiratory	Takes in oxygen and removes carbon dioxide and water		<p>Nose Trachea Bronchi Bronchioles Alveoli lungs</p>	<ol style="list-style-type: none"> <li>w/circulatory - takes in O<sub>2</sub> for delivery to cells and removes CO<sub>2</sub> brought from cells</li> <li>w/excretory - removes excretory waste</li> <li>w/nervous - controls breathing</li> <li>w/muscular - diaphragm controls breathing</li> </ol>
Skeletal	<ol style="list-style-type: none"> <li>protects organs</li> <li>provides shape, support</li> <li>stores materials (fats, minerals)</li> <li>produces blood cells</li> <li>allows movement</li> </ol>		<p>Bones Cartilage ligaments</p>	<ol style="list-style-type: none"> <li>w/muscular - allow movement</li> <li>w/circulatory - produce blood cells</li> <li>w/immune - produce white blood cells</li> <li>w/circulatory and respiratory - protects it's organs</li> </ol>