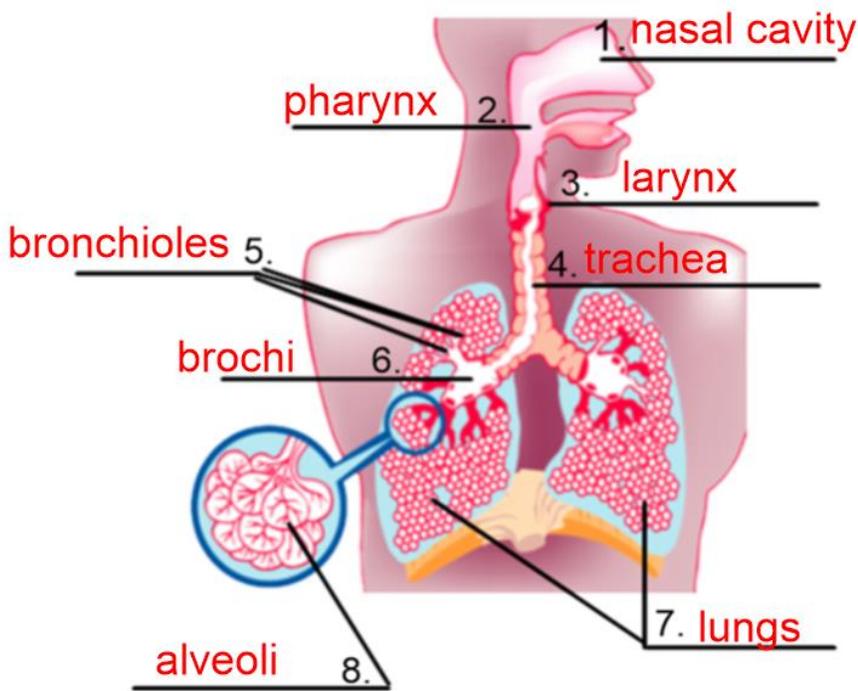
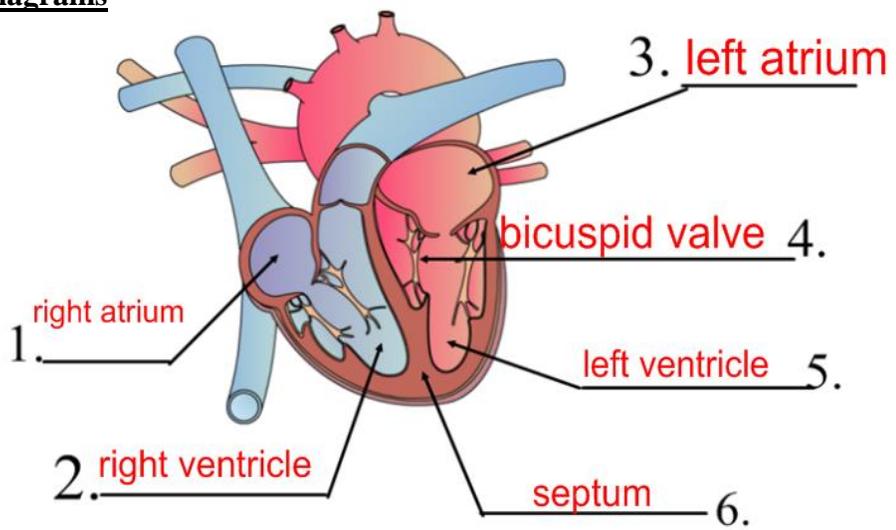


Human Physiology 110: Exam Review Unit 3: Circulation & Respiration

Part A: Label the following Diagrams



Part B: Ordering

Part 1: Numbered	Part 2: O/NO
<u>3</u> Right Ventricle	<u>NO</u>
<u>9</u> Left Ventricle	<u>O</u>
<u>10</u> Aorta	<u>O</u>
<u>4</u> Pulmonary Artery	<u>NO</u>
<u>2</u> Tricuspid Valve	<u>NO</u>
<u>11</u> Various Arteries	<u>O</u>
<u>1</u> Right Atrium	<u>NO</u>
<u>7</u> Left Atrium	<u>O</u>
<u>8</u> Bicuspid Valve	<u>O</u>
<u>13</u> Various Veins	<u>NO</u>
<u>6</u> Pulmonary Veins	<u>O</u>
<u>12</u> Body	<u>NO</u>
<u>5</u> Lungs	<u>O</u>

Part C: Matching: Match each of the following with their description:

- | | | |
|----------------------|--------------|---|
| 1. Platelets | <u> i </u> | a. allows for vocal sounds |
| 2. White blood cells | <u> f </u> | b. the main muscle involved in breathing |
| 3. Artherosclerosis | <u> g </u> | c. a disease that occurs when you have too few RBC |
| 4. Leukemia | <u> h </u> | d. a disease caused by bacteria and viruses |
| 5. Plasma | <u> l </u> | e. where gas exchange in the lungs takes place |
| 6. Red blood cells | <u> k </u> | f. protects against disease |
| 7. Anemia | <u> c </u> | g. disease caused by cholesterol blocking your arteries |
| 8. Heart attack | <u> j </u> | h. cancer of the blood |
| 9. Alveoli | <u> e </u> | i. part of blood that promotes clotting |
| 10. Diaphragm | <u> b </u> | j. occurs when part of your heart does not receive oxygen |
| 11. Larynx | <u> a </u> | k. carries oxygen to your cells and carbon dioxide away. |
| 12. Pneumonia | <u> d </u> | l. the liquid part of blood |

Part D: State whether each statement is describing a vein (V), artery (A) or capillary (C).

- | | |
|--|----------|
| Blood travels through it at high pressure | A |
| Carries oxygenated blood away from the heart | A |
| Thick muscular elastic walls | A |
| Blood travels through at low pressure | V |
| Connects arteries and veins | C |
| Red blood cells can only fit through one at a time | C |

Part E: Fill in the blanks

1. This blood type is the universal donor O
2. If you have blood type B your blood contains the antibody anti A
3. Your circulatory system is a(an) closed system because blood cannot enter or be removed from it.
4. The ventricles pump blood out of the heart into the lungs and the rest of the body.
5. If blood was not flowing properly to your lungs it would be a problem with your pulmonary circulatory system.
6. The left side of your heart pumps blood to your body.
7. Cancer of the white blood cells is called leukemia
8. During the first part of respiration oxygen in the air is drawn into the body and carbon dioxide is released from the body.
9. If you suffer from asthma the air passages in your lungs periodically become too narrow.
10. During an inhalation the volume of the chest increases .
11. Air that has passed through the nasal cavity enters the pharynx .

Part F: Short answer questions

1. List the three main functions of blood. What is the average volume of circulating blood in the body?

The three main functions of blood are:

- a) transports oxygen and nutrients throughout the body (through the arteries)
- b) carries carbon dioxide and other wastes away from the cells (through veins)
- c) blood helps fight against disease and infections, repairs tissues , transports hormones and controls pH.

The average volume of blood circulating in the body is 5 liters.

2. Name the four blood types in the ABO system. What antigens and antibodies if any are found in people with each type?

The four blood types in the ABO system are A, B, O and AB.

People with blood type A have B antibodies and A antigens

People with blood type B have A antibodies and B antigens

People with blood type AB have no antibodies and A and B antigens

People with blood type O have A and B antibodies and no antigens

3. What are some symptoms of atherosclerosis, and how are these produced?

The symptoms of atherosclerosis are high blood pressure, chest pain, shortness of breath and fatigue. These symptoms are produced because as the blood vessels narrow there is less room for the blood to pass through and the pressure increases on the walls of the blood vessel this causes the high blood pressure. The chest pain is caused by this increase in pressure, but also can be due to a blockage of a blood vessel near the heart. The shortness of breath and fatigue are caused because the blood is not flowing as quickly around the body and the oxygen doesn't get to the cells as fast as it should or normally would.

4. What causes the “lub dub” sound heard at the chest wall?

The lub dub sound at the chest wall is caused by the heart valves closing.

5. Some babies are born with a hole between the right and left ventricles? Why does this happen and why is this a problem?

Some babies are born with a hole between the right and left ventricles because this hole is present while the fetus is in utero to pass the oxygenated blood from the right atrium to the left atrium because the lungs are not being used, once the baby is born the hole closes off and the lungs are used to oxygenate the blood. This hole however can remain open after birth and cause problems because the blood doesn't flow properly to the lungs to receive oxygen.

6. What would be more life threatening a cut in an artery or a cut in a vein? Why? Explain.

A cut in an artery is more life threatening than a cut in a vein. Arteries carry oxygenated blood away from the heart at high pressure, if there is a cut in this area of the body it is going to be spurting rather than oozing and you will lose more blood at a faster rate than blood from a vein. Also a cut in this area means that the oxygen rich blood is not getting to that area of the body that the cut is around and those cells in that area will die without oxygen. Veins carry oxygen poor blood back to the heart and it is under lower pressure, so it doesn't cause as great of a risk if the vein is cut.

7. What would happen if blood entered a vein with the same pressure as it entered an artery? Explain.

If blood entered a vein with the same pressure as it entered an artery it would burst. Veins are much smaller and the walls are much less flexible and strong compared to an artery. Veins carry deoxygenated blood back to the heart and the pressure coming back to the heart is much less than the pressure leaving the heart.