

SBI 3U: ANIMAL ANATOMY - REVIEW QUESTIONS:

1. Choose the main functions of the circulatory system? (Note: you may have more than 1 answer)
 - a. to transport nutrients
 - b. to allow gas exchange
 - c. to remove wastes
 - d. to filter blood

2. Deoxygenated blood returns from the legs to the heart via the:
 - a. inferior vena cava
 - b. superior vena cava
 - c. pulmonary vein
 - d. coronary artery

3. A heart attack will result from the lack of nutrients and oxygen to the heart muscle itself due to blockage of the:
 - a. pulmonary arteries
 - b. coronary arteries
 - c. pulmonary veins
 - d. coronary veins

4. The blood vessel that has the highest blood pressure:
 - a. pulmonary artery
 - b. brachial artery
 - c. radial artery
 - d. aorta

5. The process by which gases move from the alveoli into the capillaries:
 - a. active transport
 - b. osmosis
 - c. diffusion
 - d. filtration

6. Respiratory rate is affected by:
 - a. levels of oxygen in the blood
 - b. levels of nitrogen in the blood
 - c. levels of carbon dioxide in the blood
 - d. none of the above are correct

7. When you breath in the air is _____ to your lungs
 - a. Sucked in
 - b. Forced in
 - c. Pulled in
 - d. Forced out

8. **Fifty-five percent** of human blood is comprised of ...
 - a. white blood cells
 - b. leukocytes
 - c. red blood cells
 - d. Platelets

9. **Normal** blood pressure is ...
- 180/110
 - 120/80
 - 80/120
 - 100/120
10. Red blood cells carry
- CO₂
 - O₂
 - Glucose
 - Foot massage lotion
11. Capillaries are efficient at gas exchange because:
- they have thin walls
 - blood flows slowly through them
 - only one red blood cell flows through them at a time
 - all the above statements are correct
 - two of the above statements are correct
12. Systole refers to:
- heart relaxation
 - blood pressure exerted by the right ventricle
 - heart contraction
 - blood pressure exerted by the left ventricle
13. The amount of blood pumped by the left ventricle per contraction is called:
- stroke volume
 - cardiac output
 - heart rate
 - vital capacity
14. **Tidal volume** is:
- the total volume of gas that can be moved in or out of the lungs
 - the amount of gas that remains in the respiratory system after full exhalation
 - the additional volume of air that can be forced out of the lungs
 - the volume of air inhaled and exhaled in a normal breathing movement
15. When Bob sees Susan his blood pressure goes above normal. What value would this be?
- 120/80
 - 100/60
 - 140/95
 - 0/0
16. How does the rib cage move during inhalation?
- up and out as the diaphragm moves down
 - down and in as the diaphragm moves down
 - down and in as the diaphragm moves upward
 - up and out as the diaphragm moves upwards

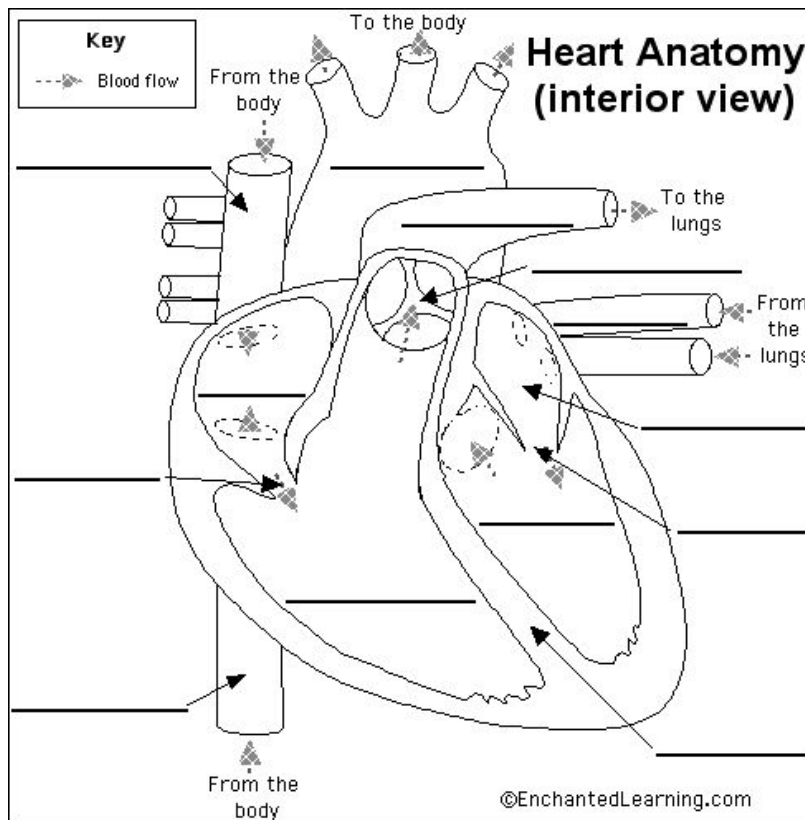
17. What is the maximum volume of air that can be moved into and out of the lungs in a single breath?

- a. inspiratory reserve volume
- b. tidal volume
- c. vital capacity
- d. residual volume

18. In which structure does gas exchange happen?

- a. bronchioles
- b. alveoli
- c. bronchi
- d. diaphragm

1. Arteries have _____ muscular walls to withstand high _____ coming from the heart pumping.
2. Veins have _____ walls and one-way _____ to help blood _____ to the heart.
3. Capillaries have the _____ diameter of all the blood vessels but the _____ surface area due to their extensive branching. They are the site of _____.
4. The electrical activity starts at the _____ node and spreads to the _____ atrium, through Bachman's bundle to the _____ atrium stimulating the _____ to contract. Electricity then travels to the _____ node where it is delayed _____ s. This delay is critical otherwise the _____ and _____ would contract at the same time and blood would not flow properly. The distal portion of the _____ node is known as the Bundle of _____. It splits into _____ branches. The bundle branches activate the _____ fibers in the _____ and _____ ventricle to contract.
5. Heart rate is expressed as _____ and can be taken from your _____ artery in your wrist or your _____ artery in your neck.
6. Label the following parts of the heart and trace the pathway of blood



- Trace the pathway of a breath of air from its point of entry to its diffusion in the lungs. Refer to structures that the breath passes by or through. [4]
- List and explain the function of all the components of human blood. [4]
- How do arteries differ from veins? List 4 differentiating characteristics. [4]
- What are names the structures of the heart that pump blood where do they send the blood. [2]
- Nicotine inhaled with cigarette smoke causes blood vessels to narrow. What problems would this cause in the human body? [2]
- Explain what vital capacity, and tidal volume are. [2]
- What is the difference between systole and diastole?
- Where is blood pressure the highest? Where is it the lowest? Why?
- Complete the following table:

Enzyme or secretion	Secreted/ Produced By	Present and Active In	Nutrient acted upon (if applicable)
	Stomach	Stomach Only active at low pH	Protein
Bile	Liver		
	Salivary Glands	Mouth/Saliva	Starch
HCl			
Carbohydrase		Small Intestine	
Lipase			
Protease			

- Explain the pathway of food from your mouth to anus.
- what is the difference between chemical and mechanical digestion?
- The _____ prevents food from travelling down the trachea.
- The muscular contractions that move food down the epiglottis are called _____.
- The 3 parts of the small intestine are the: _____, _____, _____.
- Explain why the villi is so important to the absorption of nutrients.
- The role of the large intestine/colon is to absorb _____.
- The accessory organs of the digestive system are the: _____, _____ and _____.
- The liver produces _____, the gallbladder _____ and _____ bile, the pancreas releases _____ to _____ the acidic stomach acid. The pancreas also secretes 3 digestive enzymes: _____, _____, and _____. Most importantly, the pancreas secretes _____ to regulate blood sugar.