

**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
- CO<sub>2</sub>
  - O<sub>2</sub>
  - 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

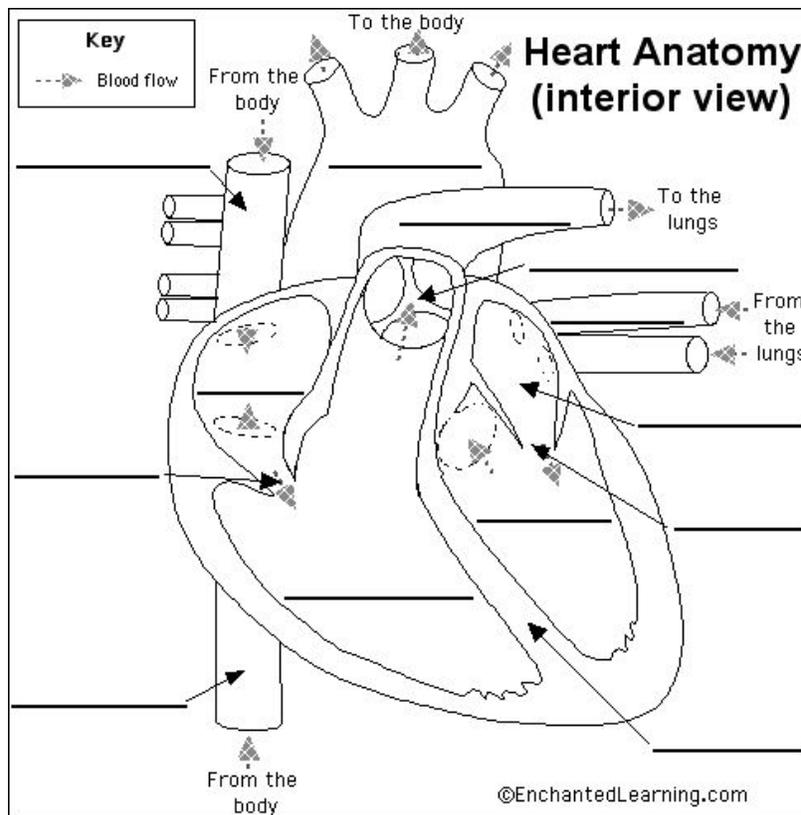
17. What is the maximum volume of air that can be moved into and out of the lungs in a single breath?

- 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.