

## **Mastery Series: Heart Structure and Basic Circulation**

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1. How many chambers does the heart have?
2. What is the difference between atria and ventricles with regard to:
  - size
  - where they pump blood
  - type of valve they pump blood through
3. What is the “flap” on the atria that hangs out a little?
4. What are papillary muscles important for?
5. What does tricuspid mean? Where is it found?
6. What does bicuspid mean? Where is it found?
7. What does mitral valve regurgitation mean is happening?
8. Why would a damaged or roughened/infected valve make the heart work harder?
9. Does the right or left ventricle pump first (hint: trick question)?
10. Does the right or left atria pump first? (hint: trick question)?
11. Do the atria or ventricles pump first? (not a trick question)
12. Is blood in the right side of the heart oxygenated or deoxygenated?
13. Is blood in the left side of the heart oxygenated or deoxygenated?
14. What does semilunar mean? Where are these types of valves found?
15. Where does blood in the right side of the heart come from?
16. Where does blood in the right side of the heart get pumped to?
17. Where does blood in the left side of the heart come from?
18. Where does blood in the left side of the heart pump to?
19. Starting with the aorta, list all the major blood vessels that come off of it in the thoracic cavity and where they deliver blood to.
20. Starting with the superior portion of the abdominal aorta, list all the major blood vessels that come off of it in the abdomen and where they deliver blood to.

## Heart Structure and Basic Circulation Mastery Series Answers

1. 4
2. atria smaller than ventricles; the atria pump blood down into the ventricles and ventricles pump blood up a large vessel (either the pulmonary trunk or the aorta); the atria pump blood through the atrioventricular valves and the ventricles pump their blood through the semilunar valves
3. auricle
4. holding atrioventricular valves closed during ventricular systole (pumping)
5. three flaps; between right atrium and right ventricle
6. two flaps; between left atrium and left ventricle
7. blood is flowing back up into the left atrium during ventricular systole.
8. It could allow blood to flow backwards, so each pump would be less efficient
9. they pump at the same time, but the left side is oxygenated blood heading to the aorta and the right side is deoxygenated blood heading to the lungs.
10. they pump at the same time
11. atria
12. deoxygenated
13. oxygenated
14. half-moon; between ventricles and large exiting vessels (pulmonary trunk or aorta)
15. drained blood from head, arms, torso and legs
16. lungs
17. lungs
18. head, arms, torso, legs
19. Starting with the aorta, list all the major blood vessels that come off of it in the thoracic cavity and where they deliver blood to.
  - Right and left coronary arteries—deliver blood to cardiac muscle
  - Brachiocephalic artery—right side of neck/head and right arm
  - Left common carotid artery—left side of neck/head
  - Left subclavian artery—left arm
20. Starting with the superior portion of the abdominal aorta, list all the major blood vessels that come off of it in the abdomen and where they deliver blood to.
  - Celiac trunk—delivers blood to stomach, liver and spleen
  - Superior mesenteric artery—most of the intestine
  - Renal arteries—kidneys
  - Gonadal arteries—testes or ovaries
  - Inferior mesenteric artery—last portion of colon