Name: _____ **Lab: Chicken Heart Dissection** Date: _____

Safety Note: Salmonella bacteria can be very dangerous. Wash your hands, desk, and all your equipment thoroughly!

Purpose: In this lab, you will determine in what ways a chicken heart is similar to and different from a mammalian (human) heart.

Materials:

- Dissecting tray
- Dissecting tools
- Gloves
- Scalpel, scissors
- Chicken heart
- Pencil crayons
- Paper towel

Procedure and Observations:

1. Examine the chicken heart and compare it with the diagram of a mammalian heart (see last page). **Sketch and label what you see**. Provide as much detail as possible; label any chambers and arteries that you see.

Sketch of outside of heart

2. Locate the bottom of the heart and feel it. Compare it with the top end of the heart. Which feels firmer? Explain why. (Hint: the part of the heart that moves blood the furthest distance!)

_____

_____

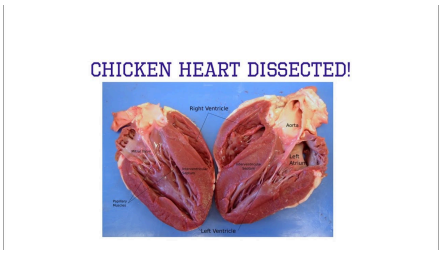
3. Locate the blood vessels of the heart. What is the function of these vessels?

_____

_____

_____

4. Place the chicken heart on a paper towel on a dissecting tray so that the pointed end faces the bottom part of the tray. Find the two large openings at the top of the heart. From these openings, use the tip of the scalpel, or scissors and gently cut around the **perimeter** of the heart. You should now have the heart cut into two halves (a cross section). Examine it very carefully. Hopefully, you are able to see that the heart walls are thicker around the bottom chambers.



Sketch and label in the box below. You should be able to find both atria and ventricles and infer where the AV valves would be.

Sketch of inside of heart

Discussion:

1. What are the 2 chambers called that are located at the top of the heart?

_____

2. Where do the ventricles pump blood to in the body?

_____

5. Fill in the blanks and circle the correct words in the paragraphs below. **Comparing a chicken's heart and a human's heart**

Like the human heart, the chicken heart has (#) ____ chambers a Right atrium and ventricle, which receives (**oxygenated / deoxygenated**) blood from the body and sends it to _____ and a left atrium and ventricle, which receives (**oxygenated / deoxygenated**) blood from the lungs and sends it to _____.

Birds have a much higher metabolic rate than humans. The average body temperature of a chicken is 41. 5 degrees C, compared to a human's average body temperature of 37 degrees C. The pulse rate of a chicken can reach as high as 400 beats/min.

All of these factors place a great demand on the chicken's heart, which has to work (**more / less**) than a human heart. The chicken's heart is adapted to handle the increased stress placed on it by its high metabolic rate. The size of the heart in relation to body mass is larger in birds (about 0.8%) than in mammals (about 0.6%).

