Student Sheet   Name_____

Title: Structure and Function

Introduction: The form or structure of the organs in living things is an amazing match to the job or function that needs to be done. In this activity you will look carefully at the parts of two important organs, a heart and a flower, to see how nature has evolved organs beautifully designed to do their jobs.

Procedures:

1. Use the drawings below, your textbooks and other models your teacher provides to clearly describe the parts of the heart and flower. Fill in the table for each part.
2. Fill in the second part of the data table to show how the form of that part helps it perform its job. An example has been done for the coronary arteries.
3. Continue on with the flower, using your book, the diagrams provided and perhaps even a real flower.
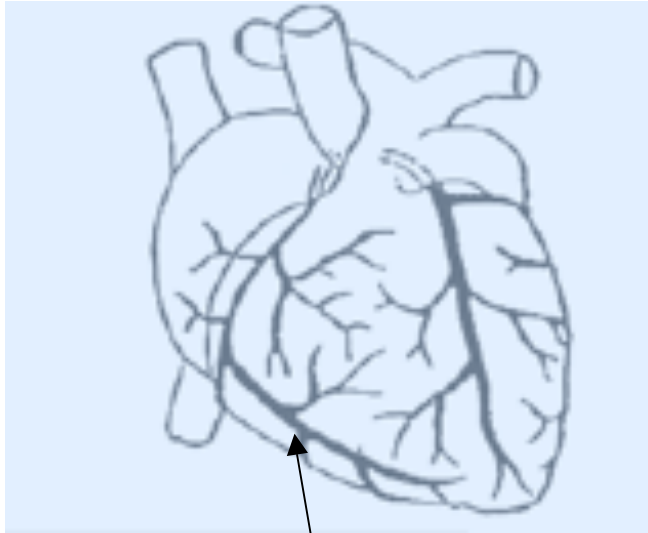4. Return to this page to answer the analysis questions.

Analysis:

1. Why does the left ventricle have thicker, more muscular walls than the right ventricle?

2. Which valves, the tricuspid and mitral or the pulmonary and aortic, would need to stronger?
Why?

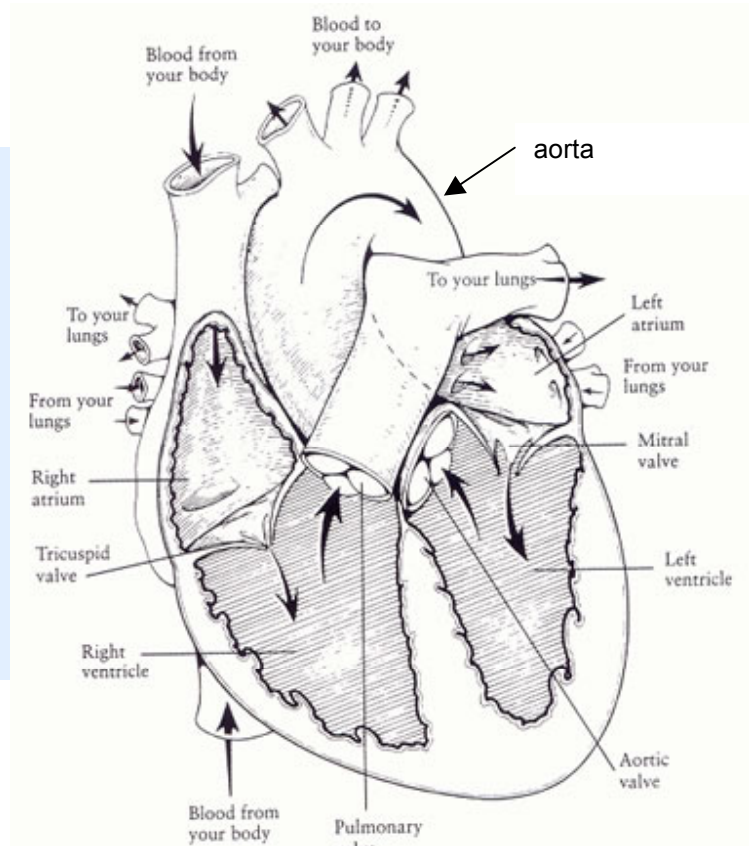How does their structure support your answer?

3. Why do you think coronary arteries are found on the outside of the heart and not the inside?

4. Why are flower petals brightly colored and attractive?

5. How is the structure of a self-pollinating flower different from a flower that cross-pollinates (relies on pollen from another flower for fertilization)?
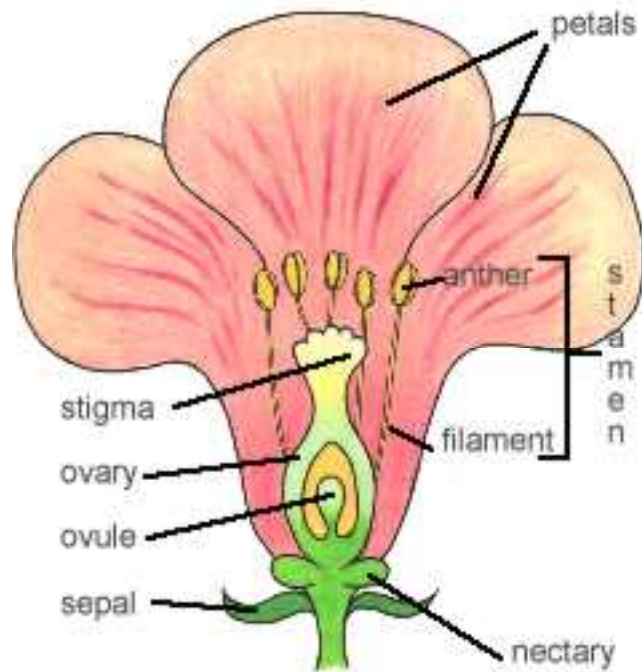
Conclusion:

The Heart

Coronary arteries

aorta

Blood to your body

Blood from your body

To your lungs

Left atrium

From your lungs

To your lungs

From your lungs

Mitral valve

Right atrium

Tricuspid valve

Left ventricle

Right ventricle

Aortic valve

Blood from your body

Pulmonary valve

Part	Description of it's Structure	How that affects its function:
Coronary arteries	Small branching tubes on the outside of the heart. They have thin walls with flexible sides.	They can flex with the heart as it beats and are small enough to deliver blood to each cell of the heart muscle.
Atrium		
Ventricle		
Tricuspid and Mitral valves		
Aortic and pulmonary Valves		
Aorta and Pulmonary Vein		

The flower

Part	Description of it's Structure	How that affects its function:
Petals		
Stamen		
Filament		
Stigma		
Ovary		
Ovule		
Sepal		
Nectary		