04737 Fuller Road, East Jordan, MI 49727
(231) 536-3369 |www.miravenhill.org
info@miravenhill.org

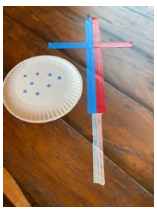
Raven Hill Discovery Center is a 501(c)(3) tax-exempt corporation.

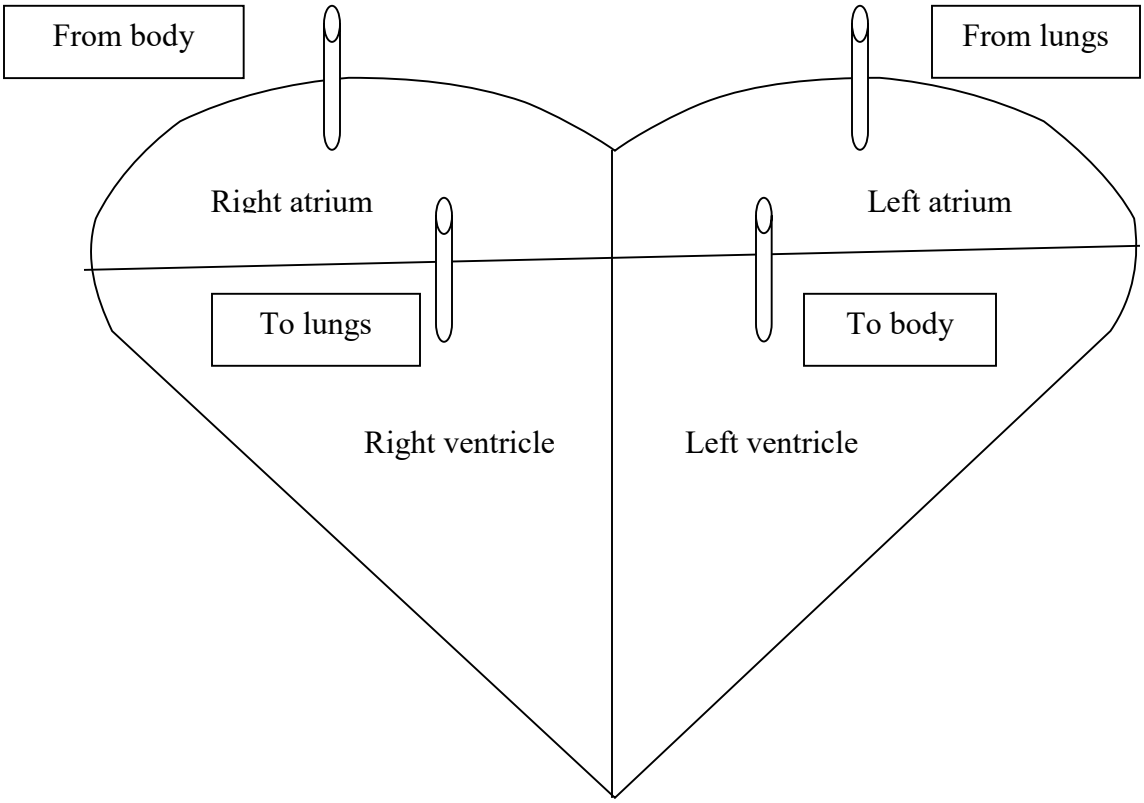
Mission: Raven Hill provides a place that enhances hands-on and lifelong learning for all ages by connecting science, history & the arts.

Circulation

Use a paper plate for a blood cell. Color it red on one side and blue on the other. You can color the whole thing or make several small circles for blood cells and color them red or blue. Use tape—you can use colored tape or color masking tape—to divide the dining room or kitchen table into 4 parts to be your heart—label all 4 chambers with a post-it note—right auricle, left auricle, right ventricle and left ventricle. The auricles or atriums are the top part of heart where blood comes in and the ventricles are the pumps at the bottom of the heart that forces blood out of the heart to the lungs or the body. Use two chairs to be your two lungs and label them. Put one chair on each side of heart. Label another chair or something in the room to be the kidney (door to bathroom?), another something to be the brain (bookcase?) and another to be the stomach (refrigerator?). As you look at your heart's four chambers in the table, the right auricle is on left side because you are looking at it from front (just as you would be facing another person) and the left auricle is on the right side of the heart as you look at it. It is the same with the ventricles and lungs. Holding a blood cell with the carbon dioxide or dark blue side showing, walk through the circulatory pathway of blood, touching your blood cell down at each site. Start by touching the right auricle, then the right ventricle. From the right ventricle, you move (are pumped) to one of the lungs. At the lung, the carbon dioxide that you are breathing out is released and oxygen you are breathing in is picked up, so turn your plate to the oxygen side or the side with the bright red showing. From the lung, walk your blood cell to left auricle and from the left auricle to left ventricle. From the left ventricle, get pumped and travel with your blood cell to whatever organ you choose—kidney, brain or stomach. Give the oxygen in your blood cell to the organ to do its work and turn your blood cell (plate) to the carbon dioxide side (dark blue), so you can take the carbon dioxide away from the organ. Your blood gives oxygen to the organ and takes away the carbon dioxide your body has created. Return with your blood cell to the right auricle of the heart. Repeat until you can walk the pathway easily and have a smooth blood flow! For the younger crowd, you can number the eight (8) steps in order from the right auricle through the entire pathway. Practice walking through the circulatory system and then use a timer and record the time it takes to complete the cycle correctly, saying each step as you go. Now, have someone else walk through it and get timed. See if you beat the other person. Practice and get faster. Visit a different organ each time. Remember, you must visit each step in cycle and say where you are AND you must have correct side of your plate or blood cell visible—blue, if carrying carbon dioxide and red, if carrying oxygen. Your blood also has plasma, white blood cells and platelets in it, but the red blood cells make up about 40% of the blood and have the job of carrying the oxygen and carbon dioxide. A red blood cell looks like a donut with a depression in the center, but no hole or it is a biconcave disk with a flattened center. Have fun!







From body
From lungs
Right atrium
Left atrium
To lungs
To body
Right ventricle
Left ventricle