

Useful Background Information

Blood pressure is the force of blood exerted on the inside walls of blood vessels. Blood pressure is expressed as a ratio (e.g., 120/80). The first number is the systolic pressure, or the pressure when the heart pushes blood out into the arteries. This is when the heart contracts. The second number is the diastolic pressure, or the pressure when the heart is at rest. The first heart sound is loudest because it is associated with contraction and the forceful movement of blood through the heart valves. The second heart sound is associated with relaxation and the passive movement of blood into the heart. See this Web site for the proper blood pressure measuring technique: <http://www.steeles.com/catalog/takingBP.html>



The Veterinary Black Bag Program

Project Goals:

- Develop Veterinarian's Black Bags (VBBs) of instructional items and pamphlets for middle school teachers to support classroom visits by local veterinarians.
- Provide professional development for veterinarians and teachers on how to use items in the VBBs
- Promote inquiry-based thinking about health-related subjects while emphasizing the value of biomedical research and promoting careers in science.



PEER

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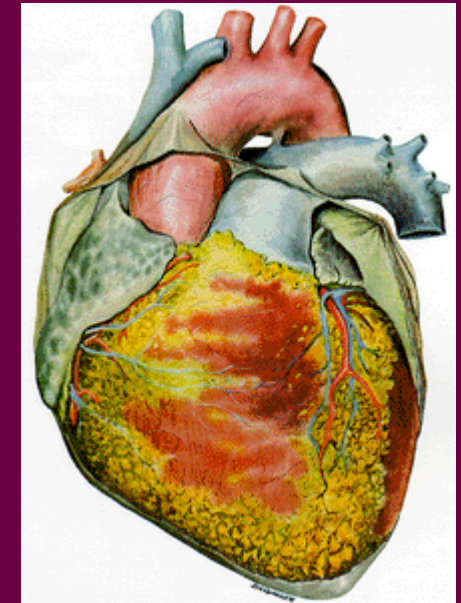
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<http://peer.tamu.edu/VBB/Summary.asp>

Human Heart Function

Follow Up Lesson

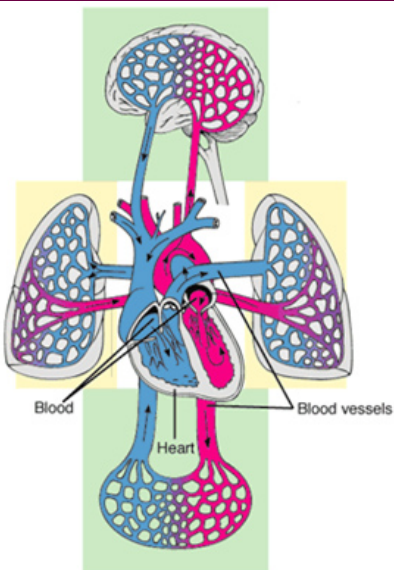


The instruction in this module includes:
Presentation on *Heart Disease*
Follow-up lessons on:
Human Heart Function
Heart Research
Heart Function Inquiry

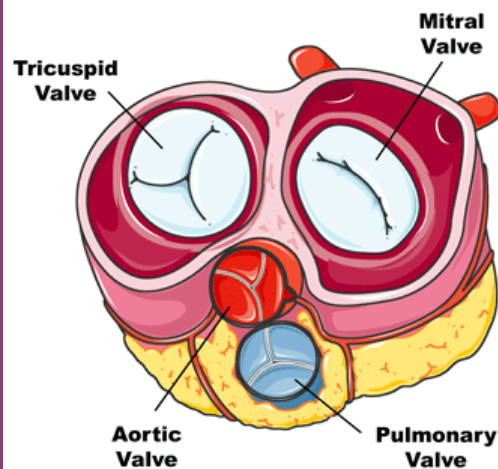
Summary of Lesson Content

Objectives

1. In humans, identify the sounds that correlate with systole and diastole
2. Demonstrate the effects of exercise on the rate of beating and the duration of contraction and rest phases of the heart beat
3. Measure blood pressure at rest and after exercise and interpret the results



This lesson is designed to compliment the usual instruction that a teacher gives on normal heart function and focuses on teaching students more about evaluating heart function. The students are able to experiment with listening to their own heart as well as the hearts of others in order to identify the important sounds. They also monitor and interpret blood pressure at rest and after exercise. The students should fill out the corresponding worksheet to guide them in this process.



Questions to Ask

1. Why do we have a heart and what are its two main functions?
2. What is the role of the heart in gas exchange? (see our Web tutorial at http://peer.tamu.edu/curriculum_modules/OrganSystems/Module_4/index.htm).

