

Mini-Project #5

The Cardiovascular System and Respiratory System

Title: - The Cardiovascular and Respiratory Systems

Content Area/Topic: -AP Biology; Anatomy & Physiology Honors

Grade Level(s): - 10 - 12

General Objective(s): -

1. Label, name and give the location of the major arteries and veins in the systemic circulation.
2. Describe the general functions of the systemic circuit.
3. Trace the pathway of blood through the pulmonary circuit and state the importance of this special circulation.
4. Label, identify and give the location(s) of the organs forming the respiratory pathway in descending order until the alveoli are reached.
5. Explain the mechanics of the heart beat and breathing.
6. Describe the relationship between the cardiovascular system and the respiratory system.

Description: - This activity requires students to create a labeled 3D model of the cardiovascular system, the respiratory system, the heart and the lung. Students are to indicate how they work. Students, to show how the pathway of blood from the heart and back **AND** the pathway of air into and out of the lungs.

Instruction: -Students are to thoroughly study and investigate the cardiovascular and respiratory systems. Students are to then create a 3D labeled diagram of the cardiovascular system, the respiratory system and a **detailed 3D model** of the **heart AND lung**. Students are also to label the major organs/parts of both systems.

Assessment: -Models will be assessed with a teacher-developed rubric based on quality of research, collaboration and quality of their structures. Students will also be assessed on their knowledge of the body systems, blood flow around the body, the pathway of air and how oxygen and carbon dioxide are exchanged within the lungs.