

Getting Around Pulmo Park: Pulmonary Circulation Activity Suggestion Activity 2B

Note:

This activity suggestion describes how specific content might be taught to middle school students. It does not contain fully developed lesson materials, which we hope to develop under future funding in this content area. Any feedback on how you are able to use this lesson suggestion would be greatly appreciated. Your comments can be sent to us at teachhealthk-12@uthscsa.edu.

Activity Focus:

The focus of this activity is to teach students about the pulmonary circulation in their bodies. Students will be learning how blood circulates to and from the lungs. They will follow the veins carrying oxygen-depleted blood from the body to the heart, which pumps it to the lungs. The lungs will enrich the blood with oxygen and return it to the heart to be pumped to the rest of the body.

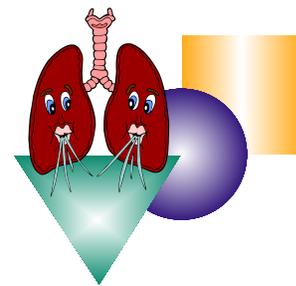
Activity Rationale:

Everyday, every minute we are expelling carbon dioxide and inhaling oxygen. The students will have the opportunity to learn how this process takes place. Using their prior knowledge of *1A Geography of Pulmo Park*, they will be able to bring in the actual architectural design of the heart/lung team.

To understand your lung function, you need to understand how the lungs normally work. The purposes of the lungs are to bring oxygen into the body and to remove carbon dioxide. Oxygen is a gas that provides us energy while carbon dioxide is a waste product or *"exhaust"* of the body.

Students will be able to use process skills such as vocabulary attainment, cooperative learning, and research. They will learn how the circulatory and respiratory systems work as a team to keep the life giving oxygen circulating throughout the body.

This activity will provide the students the opportunity to use their observation skills, interpret data, and use their new vocabulary as they work with the two systems of the body.



Activity Suggestion



Suggested Methodology:

Students will research “How does air get into the body?” With this information, they can make a working model of the lungs, emphasizing the exchange of oxygen in the blood and the elimination of carbon dioxide.

The model will start with the nose, mouth or both. The nose will have a filter, and ways of heating and adding humidity to the air that is taken in. Mouth breathing will also be used on the model. A trachea or windpipe will be made to transport the air. To make it realistic, the esophagus or food tube will be placed behind the trachea, both tubes being controlled by the epiglottis. The trachea will then be divided into two bronchi; the left bronchus leading to the left lung and the right bronchus leading to the right lung.

Extensions of this model could include having the breathing tubes continue to divide into smaller and smaller tubes called *bronchioles*. The *bronchioles* end in tiny air sacs called *alveoli*.

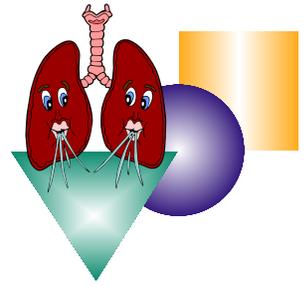
Activity Resources:

Davies, Andrew. The Respiratory System: Systems of the Body Series.
Churchill Livingstone: New York. 2004.

Nagel, Rob. (2002). Body By Design. Volume 2: The Respiratory System.
Connecticut: UXL-An Imprint of the Gale Group.

Body Systems: Pulmonary System:
www.fi.edu/learn/heart/systems/pulmonary.html

National Library of Medicine
<http://medlineplus.gov/>



Activity Suggestion, continued



ACTIVITY 2B
SUGGESTION

Pulmo-Park