

***Passports: Adventures in Learning
The Human Body Series: Circulatory and
Respiratory Systems
Curriculum Guide gr. 5-8***

Description of our Tour:

Our heart and lungs are also known as the Cardiovascular and Pulmonary systems. Our heart pumps blood and oxygen through our body to keep it running. Our lungs provide oxygen to the blood so it can make the deliveries. How do these two systems work both dependently and independently of each other? What happens if one system slows down or needs repair?

Information for Trip Leader:

Lesson Outcomes:

The student will be introduced to the following concepts:

- The function of the circulatory system
- The function of the respiratory system
- Activities and resources for teachers and students on the circulatory and respiratory systems

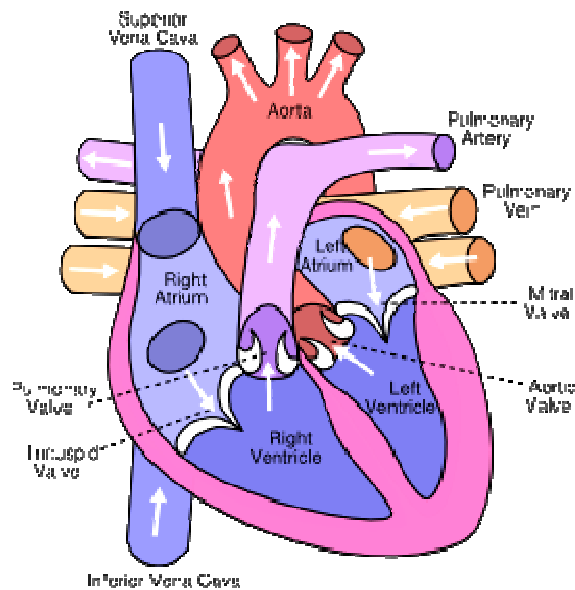
Vocabulary Words:

- **Heart:** The main organ of the circulatory system that pumps blood throughout the body.
- **Arteries:** Large blood vessels connected to the heart.
- **Blood Vessels:** Tubes in the body that transport blood.
- **Red Blood Cells:** Blood cells that transport nutrients and minerals through the body.
- **Larynx:** Upper part of the respiratory system leading to the trachea.
- **Trachea:** Air tube that leads from the larynx to the lungs.
- **Lungs:** The main organ of the respiratory system that transport gases in and out of the body.
- **Bronchi:** Two main branches of the trachea that lead to the lungs.

Activity # 1: The Heart

Students will look at the diagram below and read about the human heart to answer questions.

Activity: The Heart



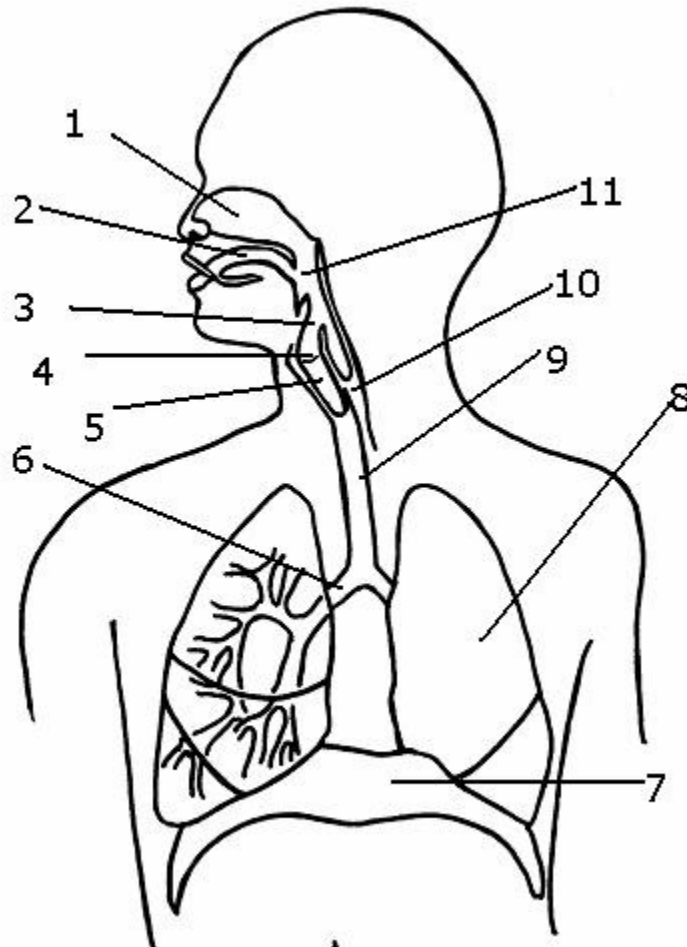
Your heart is the strongest muscle in your body. Your heart's job is to pump blood around your body. It pumps blood by contracting and relaxing muscles. Your heart has two sides. The left side pumps with oxygen from your lungs to the rest of your body. The right side pumps blood with no oxygen from your body to your lungs to get refilled with fresh oxygen. Your body's blood passes through your heart over 1,000 a day!

Questions

1. What is the function of the heart?
2. Which side of the heart pumps blood with oxygen?
3. How many ventricles does the heart have?

Activity # 2: The Respiratory System

Using their textbook or the Internet, students label the parts of the respiratory system.



Activity # 3: Tour of the Heart

Using tape make a large square (6' X 6') on the floor. Divide the square into four equal parts. Have each square represent the atria and ventricles of the heart. Label the squares. Tell students how blood passes through the heart (you can find a great description at <http://www.pbs.org/wgbh/nova/heart/heartmap.html>). Have students walk through the squares as if they are blood returning from the lungs going to the rest of the body.

Challenge Questions:

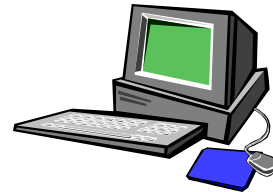
- 1. What is the function of the circulatory system?*
- 2. What is the function of the respiratory system?*
- 3. What are the main organs of the circulatory system?*
- 4. What are the main organs of the respiratory system?*

Responses:

1. Transports blood throughout the body.
2. Transports gases in and out of the body.
3. Heart, arteries, blood vessels and capillaries.
4. Nose, pharynx, larynx, trachea and lungs.

Writing Prompts:

- The heart is amazing because...
- My blood is important because...
- How do I feel after I run or do strenuous exercise?
- What make me feel short of breath?



Web Resources:

<http://www.kidport.com/Grade5/Science/Heart.htm>

Information and virtual activities about the circulatory system

<http://yucky.discovery.com/flash/body/pg000131.html>

Fun information and facts about the circulatory system for elementary students

<http://www.stemnet.nf.ca/CITE/muscular.htm>

Information and activities on the human body systems for elementary students

<http://www.medtropolis.com/VBody.asp>

MEDtropolis site allows students from the upper elementary grades to: listen to a narration about what the heart does, see a virtual heart beating and take a narrated tour of a beating heart.

Suggested Reading:

The Internal Adventures of Marcus Snarkis: Ray Nelson, Jr., Douglas Kelly, Ben Adams, Julie Hansen

The Incredible Human Body: Esther Weiner

The Human Body (Scienceworks for kids): Elissa Dosik Weinroth, Alexander Cruz, Jo Larsen, and Nancy Schoefl