Subject/Topic/Unit Life Science: Respiratory and Circulatory Systems

## LESSON PLAN

Date 4-12-10

Grade 6

II. Specific Objectives  * Enrichment Objectives  ** Remedial Objectives	# III. Procedure A. Introduction/Motivation B. Study/Learning Activities C. Culmination D. Follow-up (Include directional statements for evaluation and any enrichment or individual activities)	IV. Materials/Resources	V. Evaluation related to objectives
Objective: Without resources, the student will create a Venn diagram comparing and contrasting the circulatory and respiratory systems with at least three unique characteristics for each and two things they have in common.	<ul> <li>A. Introduction/Motivation</li> <li>1. Remind students that yesterday we discussed the different parts of a seed and their functions.</li> <li>2. Hand students a KWL chart and remind them to fill out the K and W parts of the chart with what they know about the cardiovascular and respiratory systems and what they want to know.  <ul> <li>Ask each student to name one thing they know and one thing they want to know about the respiratory and circulatory systems.</li> <li>3. Tell students that by the end of the lesson they will be able to fill out a Venn diagram with three facts unique to each system and two things they have in common.</li> <li>4. Explain that learning about these systems is important because it helps us realize how complex things like breathing and blood flow can be.</li> </ul> </li> <li>B. Study/Learning  <ul> <li>Give students a graphic organizer and tell them to take notes on the respiratory system video: www.argosymedical.com/Respiratory/samples/animations/Respiration/index.html.</li> <li>Remind students to pay special attention to body parts involved in the respiratory system including the nasal cavity, pharynx, larynx, trachea, bronchi, lung, bronchiole, and alveoli.</li> <li>Call on students at random and ask them to describe a body part of your choosing.</li> <li>Call on other students to place it in its correct place in the order air enters and leaves the body.</li> <li>Write the order in which air moves on transparencies.</li> </ul> </li> </ul>	Respiratory Organizer: Attachment	

I. Main Ideas/Conceptual Understandings/Goals: Students will understand connections and uniqueness of the respiratory and circulatory systems.

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		<ul> <li>Ask students to name the two gases exchanged in the lungs during respiration: oxygen and carbon dioxide.</li> <li>Show students a video on the circulatory system: http://www.youtube.com/watch?v=YqtDypf9pb4&amp;feature=rel ated.</li> <li>Give students a graphic organizer and tell them to use it to take notes on the video.</li> <li>Ask students to name the gas (oxygen) that is transported by red blood cells to provide energy to the body. <ul> <li>Point out that red blood cells are what transport oxygen as it travels in the blood.</li> </ul> </li> <li>Ask students to name the gas (carbon dioxide) that is transported out of the body as waste.</li> <li>Ask students to name the main organ in the circulatory system (heart). <ul> <li>Remind students that the heart pumps blood throughout the body.</li> <li>Remind students that it is the heart that sends oxygen poor blood to the lungs.</li> <li>Remind students of the size, location, and division of the heart.</li> <li>Remind the student that relaxation allows blood into the heart and contraction sends blood out of the heart.</li> </ul> </li> <li>Remind students that there are four types of cells in blood: red cells, white cells, plasma, and platelets.</li> <li>Remind students that there are three types of vessels that transport blood in the body: arteries, capillaries, and veins.</li> <li>Remind students that arteries carry oxygen rich blood to the body and veins carry oxygen poor blood to the heart.</li> </ul>	Circulatory Organizer: attachment	

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		3. Discuss the impact fats, oils, and sweets can have on the respiratory system. Health Integration  • Remind students that this group includes foods like salad dressing, butter, soda, cake, and candy.  • Explain that eating too much of this kind of food can lead to weight gain.  ○ Tell students that added weight can make it harder for us to breath.  ○ Explain that if we struggle to breath it puts stress on the heart because the heart is not getting the oxygen it needs.  • Explain that cholesterol found in these foods can build up in the wall of our arteries and prevent oxygen from being transported throughout the body.  • Explain that cholesterol build up can lead to consequences like heart attacks and strokes.  4. (Guided Practice) Divide student into two groups and have them create travel brochures for the circulatory and respiratory systems. Language Arts Integration.  • Tell group A to work on a travel brochure that talks about the travels of air through body parts involved in the respiratory system including the nasal cavity, pharynx, larynx, trachea, bronchi, lung, bronchiole, and alveoli.  ○ Remind students that travels of air should be placed in their correct order.  ○ Tell students to include one interesting fact for each stop on the tour.  ○ Tell students to explain what type of air travels into the body and what type of air travels out of the body.	Food Pyramid: Attachment  Colored paper, pencils, markers, crayons, photos, glue	

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		<ul> <li>Tell group B to work on a travel brochure for the passage of blood in the circulatory system.         <ul> <li>Remind students to include information on the heart including size, location, and division.</li> <li>Remind students to include information on types of blood vessels and types of blood cells.</li> <li>Tell students to include travels of oxygen and carbon dioxide at different stages of traveling blood.</li> </ul> </li> <li>(Independent Practice) Tell students to write a paragraph describing how oxygen travels from the respiratory system to the circulatory system and how carbon dioxide travels from the circulatory system to the respiratory system.</li> <li>Remind students that their paragraphs should include information on where the exchange takes place, the type of blood vessel that transports each, and the side of the heart each type of gas moves into.</li> <li>Go over students' answers.</li> </ul> <li>C. Culmination.         <ul> <li>Tell students that you are going to play a review game using information about the circulatory and respiratory systems.</li> <li>Divide students into teams and hand them red and blue cards.</li> <li>Tell students to hold up the red card if the fact refers to the respiratory system.</li> <li>Tell students to hold up a blue card if the fact refers to the circulatory system.</li> <li>If a student holds up an incorrect card have them explain their choice.</li> <li>Tell students that the teams that answers the most questions correctly wins.</li> </ul> </li>	Red and blue cards	

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		<ul> <li>2. Tell students that they should now work individually to fill out the L part of their KWL charts.</li> <li>Ask students to share one thing they learned about the systems.</li> <li>D. Follow Up</li> <li>1. Hand each student a Venn diagram and explain that they</li> </ul>	KWL Chart: Attachment  Venn diagram: Attachment	
		<ol> <li>Hand each student a Venn diagram and explain that they should label one as circulatory and one side as respiratory.</li> <li>Tell students to include information unique to the system in the parts of the diagram that do not overlap.</li> <li>Tell students to place shared characteristics inside the part of the diagram where the circles overlap.</li> <li>Tell students that each system should have at least three unique characteristics.</li> <li>Tell students that there should be at least two characteristics the systems share.</li> <li>Take up the diagram and grade it according to the checklist.</li> <li>Tell students that for homework they need to ask their parents what organisms provide us with our oxygen and take in our carbon dioxide.</li> </ol>	Systems Checklist: Attachment	Grade each diagram according to the checklist making sure there are at least three unique characteristics for each system and two share characteristics.