

Gr. 5 – Understanding Life Systems

Human Organ Systems

Super Listener Earphones

Specific Expectations:

2.1 Follow established safety procedures for physical activities.

2.2 Use scientific inquiry/experimentation skills to investigate changes in body systems as a result of physical activity.

2.3 Use appropriate science and technology vocabulary, including *circulation, respiration, digestion, organs, and nutrients*, in oral and written communication.

3.1 Identify major systems in the human body and describe their roles and interrelationships.

3.2 Describe the basic structure and function of major organs in the respiratory, circulatory, and digestive systems.

Big Idea (for lesson):

Students investigate sound through everyday objects, and build a makeshift stethoscope to listen to heart rates before and after physical activity.

Accommodations:

- Increase time
- Visual Aids
- Manipulatives
- Chunking
- Step-by-Step
- Scaffolding
- Copy of Notes
- Student Grouping

Differentiated Instruction:

- Content: Use demo to show the content as you offer verbal descriptions.
- Process: Have students work in pairs and support each other if physical impediments exist.
- Product: Students may submit their final product in pairs, and communicate their findings either verbally, visually, or through written means.
- Other: _____

Bloom's Taxonomy:

- Knowledge
- Comprehension
- Application
- Analysis
- Synthesis
- Evaluation

Multiple Intelligence:

- Verbal/Linguistic
- Logical/Mathematical
- Visual/Spatial
- Bodily/Kinesthetic
- Naturalist
- Musical/Rhythmic
- Interpersonal
- Intrapersonal

Delivering The Lesson:

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Portion & Timing	Grouping:			Introduction:	Materials
Minds On: 10 mins	W <input checked="" type="checkbox"/>	S <input type="checkbox"/>	I <input type="checkbox"/>	<p>Teacher begins by asking students how doctors can tell if certain organs (ie. the heart or the lungs) are working correctly? <i>(Answer: eventually prompt them towards the idea of “listening” for abnormal sounds in the body.)</i></p> <p>-How are sounds produced? <i>(If no one answers something along the lines of “vibrations”, proceed straight to the demo anyways.)</i></p> <p>Teacher does a Predict, Observe, Explain demo with students showing how sound is made. Ask students to predict what will happen when you shake the thunder tube around?</p> <p>-Shake the Thunder Tube around, producing a loud sound.</p> <p>Ask students the following questions:</p> <p>-Why did that happen? <i>(Answer: The coil vibrated, sending sound up and out of the tube.)</i></p> <p>-Based on your observations, what needs to happen for sound to be produced? <i>(Answer: there must be some sort of disturbance or vibration.)</i></p>	<p>-Thunder tube</p> <p>Can be built (http://www.instructables.com/id/Thunder-Maker/) or bought (http://www.stevespanglerscience.com/thunder-tube.html)</p>
Action: 20 mins	W <input type="checkbox"/>	S <input checked="" type="checkbox"/>	I <input checked="" type="checkbox"/>	<p>Have students build their own “stethoscopes” according to the instructions on the handout. Then have them complete the physical activity portion where they time their heart rate.</p> <p>Teacher can circulate and ask questions of the different groups:</p> <p>-Which activity did you feel brought up your heart rate the most? Did this show in your calculations?</p> <p>-Are there any other sports or activities you do that increase your heart rate?</p> <p>-Do you think your heart rate rises or falls when you’re asleep?</p>	<p>-Super Listener Earphones Handout (Materials listed)</p> <p>-Timer</p>
Consolidate: 10 mins	W <input checked="" type="checkbox"/>	S <input type="checkbox"/>	I <input type="checkbox"/>	As a class, find out what the average resting hear rate of everyone is. Compare that to a	

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			<p>national statistic for the Gr. 5 age-level.</p> <p>-Ask the class if they think that age affects resting heart rate? You can then do an activity where they check the heart rates of different consenting teachers and older/younger students to compare.</p> <p>-What do you think your target heart rate is during your favourite sport/activity? Test yourself that evening on a different activity.</p>	
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