The Human Body-Our Lungs

BY DEBRA WHITE (/USERS/10355)

SCIENCE **7** GRADE **3.0** DURATION

Main Details

SOLUTION FLUENCY

INFORMATION FLUENCY

CREATIVITY FLUENCY

MEDIA FLUENCY

COLLABORATION FLUENCY

GLOBAL DIGITAL CITIZEN

The Big Picture

These remarkable, vital organs called lungs have purpose and protection.

The Essential Question

What are our lungs for? How do they operate? How are they protected?

Overview

The students will research lung function and protection; they will draw a labeled picture and give an oral presentation on their research. Their presentation can be hi-tech, lo-tech, or no-tech.

Curricular Objectives

ELA.7.WS.6.

Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources.

ELA.7.WS.7.

Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.

ELA.7.LIS.1.A.

Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.

ELA.7.LIS.1.C.

Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed.

ELA.7.LIS.2.

Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.

ELA.7.RST.8.

Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.

ELA.7.WHS.7.

Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

ELA.7.WHS.9.

Draw evidence from informational texts to support analysis reflection, and research.

CC SL 3.1 1.

Engage electively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.

iste.s.5

Digital Citizenship - Students understand human, cultural, and societal issues related to technology and practice legal and ethical behaviour. a. Advocate and practice safe, legal, and responsible use of information and technology. b. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity. c. Demonstrate personal responsibility for lifelong learning. d. Exhibit leadership for digital citizenship.

iste.s.4

Critical Thinking, Problem Solving, and Decision Making - Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources. a. Identify and define authentic problems and significant questions for investigation. b. Plan and manage activities to develop a solution or complete a project. c. Collect and analyze data to identify solutions and/or make informed decision. d. Use multiple processes and diverse perspectives to explore alternative solutions.

Setting the Scene

The lungs are considered to be one of our most vital organs. Research and share about the functions they have and the way that our body is made to protect them.

High Tech

Research human lungs online.
Create a video about our lungs and post it to YouTube.

Low Tech

Research lungs at the library.
Create a Prezi or PowerPoint to use in class.

No Tech

Research books and encyclopedias.
Draw and label a picture of human lungs.
Prepare an oral report on your research

The Scenario

We all have lungs; how many questions can you generate to learn about them?
Now choose which questions you will research and present on.
Select your research method.
Select your presentation method.
Practice presenting and be ready to present in class on the due date.

Purposely Withheld Information

Can you discover the relationship between our heart and lungs?
How do our lungs function in different situations?
What do our lungs do when we are ill?
Can we train or increase our lung capacity?
What harms or limits the capacity of our lungs?

The Learning Process

Exploring Learner Assumptions

What and where are our lungs? How do they work? How is the body designed to protect our lungs? How can we research about them? (hi-tech, lo-tech, no-tech) How do we cite our research? How can we present this information?

0.0 Hours

Define

Students will learn about our lungs/parts of the lung, their capacity, their protection, and that they are vital organs. They will learn this through class discussion, a posted YouTube on Edmodo, and personal research. They will practice their presentation techniques while sharing their research with the class.

Prerequisites for Progression

Students already know how to research and to APA cite it. Students will go to Edmodo an view the video. Students have already learned class presentation skills and expectations.

0.5 Hours

Discover

Students will create a list of questions about the lungs as a class. Students will select which questions will be included in their research and presentation. Personal research and presentation can be hi-tech, lo-tech, or no-tech.

Prerequisites for Progression

Student will plan questions and tech-level as they have access.

0.25 Hours

Dream

Imagine you are an athlete and need to learn how to increase your lung capacity.
Imagine you are a doctor and you must treat an illness of the lungs.
Imagine you have been hired to create a public service announcement about having healthy lungs.

Prerequisites for Progression

The group has arrived at these potential scenarios while generating questions as a class.

2.0 Hours

Design

Students will now conduct personal research and create their chosen presentation.

Prerequisites for Progression

Research and selection of technology will precede creating the presentation.

0.25 Hours

Deliver - Produce

Students will arrive to class ready to present or show a video presentation.

Prerequisites for Progression

Students have written a speech, come up with their visual(s), and have either recorded a video, created presentation slides, or are practiced to give the speech with a drawing or poster-board.

0.0 Hours

Deliver - Publish

Class presentations can be filmed and shared on our class website.

Prerequisites for Progression

Parents have given permission to video and post.

Debrief

Ask the students if they liked their project, whether they would like to increase or decrease the tech level they used next time, and whether they encountered any snags in the research and/or presentation process.

Rubrics

Learning Process Formative Rubric

Define

Students already know how to research and to APA cite it. Students will go to Edmodo an view the video. Students have already learned class presentation skills and expectations.

ABOVE	AT	BELOW
○	○	○

Discover

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Overall Rubric

4

Student used a variety of at least 3 sources; student accurately cited their sources in APA; students chose credible sources; sourced information was utilized clearly and quoted in continuity with the presentation.

Student showed an accurate labeled visual of the lungs, explained their function, and discussed structural and functional protections of them in our physiology and anatomy. Student practiced good diction, correct volume, good eye contact, and remembered to invite audience questions at least once during the presentation.

3

Student used more than one source; sources are cited with enough information to identify them; information in the presentation clearly came from reliable sources.

Student had a clearly recognizable picture of human lungs and presented on at least one function and one natural protection of them in our physiology and anatomy. Student presented with minimal problems in verbal clarity and eye contact; and was able to be prompted to answer questions from the audience.

2

Student found a scientific source; student had at least the title of source; student spoke about the information but source wasn't clearly utilized.

Students presented with an unlabeled visual aid and had at least three facts about lungs. No questions from the audience were answered.

1

The student failed to show evidence of research but could present on the topic,

Student stated what lungs were for and that they were vital to human life while showing a picture of them to the class. Unable to answer questions from the audience.

Components Rubric

	4	3	2	1
Research	Student used a variety of at least 3 sources; student accurately cited their sources in APA; students chose credible sources; sourced information was utilized clearly and quoted in continuity with the presentation.	Student used more than one source; sources are cited with enough information to identify them; information in the presentation clearly came from reliable sources.	Student found a scientific source; student had at least the title of source; student spoke about the information but source wasn't clearly utilized.	The student failed to show evidence of research but could present on the topic,
Presentation	Student showed an accurate labeled visual of the lungs, explained their function, and discussed structural and functional protections of them in our physiology and anatomy. Student practiced good diction, correct volume, good eye contact, and remembered to invite audience questions at least once during the presentation.	Student had a clearly recognizable picture of human lungs and presented on at least one function and one natural protection of them in our physiology and anatomy. Student presented with minimal problems in verbal clarity and eye contact; and was able to be prompted to answer questions from the audience.	Students presented with an unlabeled visual aid and had at least three facts about lungs. No questions from the audience were answered.	Student stated what lungs were for and that they were vital to human life while showing a picture of them to the class. Unable to answer questions from the audience.

Curricular Objectives Rubric

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ABOVE AT BELOW

Resources

How does Lung Volume Change?
http://app.fluency21.com/r/8pi (http://app.fluency21.com/r/8pi)

Meet the Lungs
http://app.fluency21.com/r/8ph (http://app.fluency21.com/r/8ph)

Questions & Ideas

Cultivating Global Digital Citizenship

Can the public service announcement idea become a class project to display in the community? Can the project be written and checked through Turnitin for plagiarism? Can the students learn about the 1st lady project to protect the lungs of African women from cooking fires? Can the student evaluate one another with constructive criticism?

Other Questions

Feedback