

The Human Respiratory System

5E Lesson

The 5E model is a scientifically proven method to improve student engagement and learning in your classroom

- ✓ Engagement
- ✓ Exploration
- ✓ Explanation
- ✓ Elaborate
- ✓ Evaluate



Complete Teacher Instructions

Human Respiratory System 5E Lesson

Grades 8-11	Human Respiratory System	One
Lesson Objective: Students will learn about: - Respiratory structures - The importance of gas exchange - Respiratory diseases - How the respiratory and circulatory systems interact to keep you alive		
Possible Student Misconceptions: - The lungs are like two individual balloons - The lungs and circulatory system aren't linked		
Materials: 1 device (smartphone, Chromebook, laptop, tablet, or computer) - A means of projecting a PowerPoint presentation - Internet access		
Teacher Notes: - All videos can be accessed directly from the PowerPoint. To retrieve them, click on the video icon while in slideshow mode and it will automatically open for you. If they don't open, right-click the image and click Edit Hyperlink or something similar. - I've created a video walkthrough if needed. It can be accessed here - https://youtu.be/oCIkIP9SaDQ - I don't believe in long lessons. If you feel your students are bored, stop the PowerPoint and give them a 5-minute break. If you want, I can recommend my video collection here - http://www.teachwithafergy.com are tons of brain-break videos to choose from all grouped by topic.		

The Human Respiratory System – 5E Lesson

Engagement Phase Your students will watch the video 'Why Can't We Breathe Underwater?' While they're watching the video, have them complete the questions found in the file – <u>Engagement – Breathing</u> . The video can be found here - http://www.teachwithafergy.com/why-cant-we-breathe-underwater/	Du Te lea unc
Teacher Notes: - Once the students have had a chance to answer the questions, create a discussion around how they think we may one day be able to breathe underwater - If the video doesn't work for one reason or another, go to www.youtube.com and type in "How to breathe underwater BrainStuff" - The video is about three and a half minutes long - You may need to show the video more than once	□ □ □ □ □
Exploration Phase Exploration – Lab Station Activity In groups of 2-3, have your students complete <u>Exploration – Lab Station Activity</u>. Once they're done, they will submit their passport to you.	Du Te lea unc
Teacher Notes: The complete instructions for my Lab Station activity can be found in the <u>START HERE – Instructions</u> file.	□ □ □ □ □
Explanation Phase PowerPoint Lessons - The lesson is found in the folder – <u>Explanation – Lesson</u> - This lesson is designed to be completed over two days - There are multiple embedded videos and plenty of opportunity to engage, interact and check for your students' understanding throughout the lesson	Du Te cor ma pre
- The lessons cover the following topics: - Respiratory structures - The importance of gas exchange - Respiratory diseases - How the respiratory and circulatory systems interact to keep you alive	

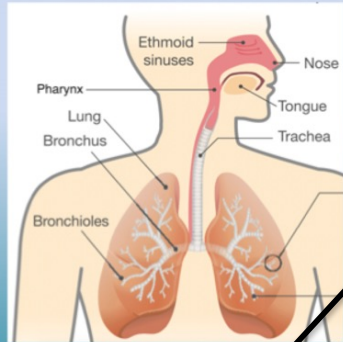
Teacher Notes: - All videos can be accessed directly from the PowerPoint. To retrieve them, click on the video icon while in slideshow mode and it will automatically open for you. If they don't open, right-click the image and select Edit Hyperlink or something similar. - I've created a video walkthrough if needed. It can be accessed here - https://youtu.be/oCIkIP9SaDQ - I have also enclosed a .PDF version of both the teacher and student versions	Goals - Students develop understanding of the content - Observations and experiences are discussed and critiqued - Students develop vocabulary - Students are able to connect the content presented to previous experiences
Elaborate Phase Elaborate – Reading Your students will complete – <u>Elaborate – Smog Reading</u> . This reading will require your students to move beyond what was covered directly in the lesson and allow them to further develop their understanding.	Duration: 1 hour Teacher Role – Facilitate learning and keep students focused
Teacher Notes: - Students will work individually or in small groups - This reading contains 9 comprehension questions and 1 extension question. It is fully editable so I encourage you to remove any question(s) in order to meet the needs of your students as well as your time frame	Goal Students use their newly obtained knowledge to propose solutions and extend their learning to new situations
Evaluate Phase Quiz Have your students complete – <u>Evaluate – Respiration – Quiz</u> . All quiz questions will come from the lesson, reading, and lab station activity.	Duration: 30 min Teacher Role – Distribute and collect evaluation
Teacher Notes: - It's sometimes best to have the students peer evaluate - Placing students in small groups and having them exchange papers to mark will accomplish two things - Provide immediate feedback on the quiz they just completed - Significantly reduce your marking time - Peer evaluation is not needed, only suggested when appropriate	Goal Students are given the opportunity to demonstrate their understanding and evaluate their own progress

Each phase is clearly described

A Complete Lesson

The Respiratory System

- Air Enters through the nose and mouth
- **Passes through the pharynx (throat)**
- Down the trachea
- Splits evenly into the 2 bronchi
- Splits into bronchioles
- **Enters the Alveoli**



← Make sure your students are on track

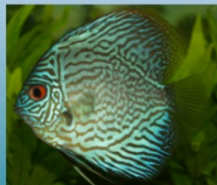
Student copies with blanks
Videos embedded right into
your slideshow

Other Animals

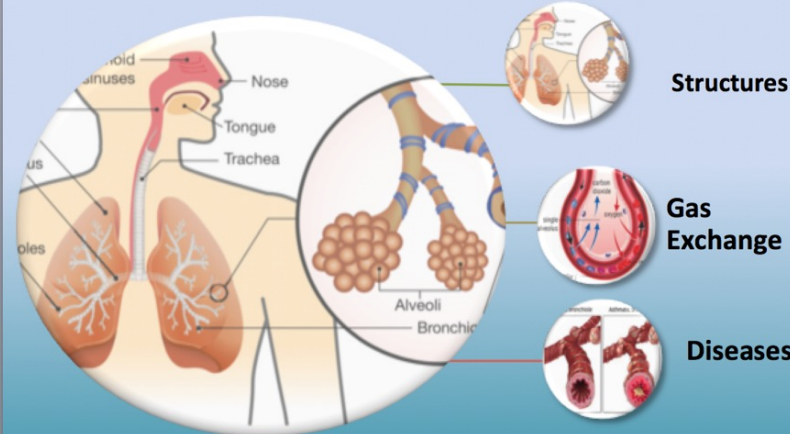
- Many animals have similar respiratory systems whose goal is to make O_2 available and rid the body of CO_2
- _____
- _____
- That is why some fish need to be continually swimming to survive



Fish Gas Exchange



Respiratory System



Interactive and Engaging Activities

Smog

Its Causes and Dangers

Scientific Reading Comprehension
Article and Extension Activity



Improve your students **Literacy** and **Analysis Skills**, use as an **Emergency Substitute Plan** or create **Applicability** in your classroom

The Human Respiratory System - Lab Station Activity



7 Lab Station Activities to get your kids out of their seats and engaged in their learning

Get away from tired practices and unengaged students



Provide a Scientifically-Proven means of instruction



Incorporate Technology and Increase Collaboration

