

Lesson: Trachea Transplant

Teacher:	Kaylan Duthie
Unit Theme/Course:	Human Respiration – 7 th Grade Life Science
Date:	November 17 th
Timing:	1 Day

Rationale/Goal:

- Students will read a current events article to learn about science and technology in society having to do with the respiratory system

Overview:

This can potentially be used at any point throughout the unit, though typically after some vocabulary and introduction has been done. Students will read a newspaper article about a trachea transplant, and learn about what science and technology can do for the health field.

Learning Objectives [cognitive, academic, language, socio-cultural]	Assessment Criteria
Students will learn about the process of using stem cells to help with an organ transplant	Explains that donor windpipe was prepared by removing all the tissue leaving just cartilage. Tissue from the patient is used to prevent rejection .

Standard/EALR:

6-8 SYSA	Any <i>system</i> may be thought of as containing <i>subsystems</i> and as being a <i>subsystem</i> of a larger <i>system</i> .	Given a <i>system</i> , identify <i>subsystems</i> and a larger encompassing <i>system</i> (e.g., the heart is a <i>system</i> made up of tissues and cells, and is part of the larger circulatory <i>system</i>).
6-8 LS1C	<i>Multicellular organisms</i> have specialized cells that perform different <i>functions</i> . These cells join together to <i>form</i> tissues that give organs their structure and enable the organs to perform specialized <i>functions</i> within organ <i>systems</i> .	Relate the structure of a specialized cell (e.g., nerve and muscle cells) to the <i>function</i> that the cell performs. <i>Explain</i> the <i>relationship</i> between tissues that make up individual organs and the <i>functions</i> the organ performs (e.g., valves in the heart control blood flow, <i>air</i> sacs in the lungs maximize surface area for <i>transfer</i> of <i>gases</i>). <i>Describe</i> the components and <i>functions</i> of the digestive, circulatory, and respiratory <i>systems</i> in humans and how these systems interact.

Preparation Time:

30 minutes to make copies

Materials:

- Copies of the transplant article (class set plus a few extras to take home if needed)
- Worksheets for all of the students

Instructional Sequence:

1. Hand out the article to the students
 - a. Do one of the following depending on the class:
 - i. Read the first paragraph to the students and then have them read silently
 - ii. Read first paragraph to the students, then have students read out loud, switching students for each paragraph
 - b. Or: Have them work on the article after completing their quiz.
2. Once the students have read the article, hand out the worksheet with questions

*Have students answer questions on the worksheet
Stamp later for completion and accuracy*

- a.
 - b. If they finish early, they may work on the crossword on the back → respiratory vocab
3. If time, have a discussion

*Who can give me a quick overview of the article? Summarize it for us.
Why did she need a transplant? What is TB? (bacterial infection that attacks the lungs. May be fatal if not treated. Spread through the air.)
Does anyone know what stem cells are? (special cells that can develop into any kind of cell. Act as repair system. Can help any organ)
Why was it important for the doctor's to use Claudia's cells to replace the other cells on the trachea?*

a.

Assessment

- Grade Handout

Welcome to Science Class! Wednesday 11/17

Random Question: What are the 8 planets in our solar system?



1) Please sit in your Regular Flavored Seats with nothing out but a pencil.

2) Respiratory Quiz

3) When completed, turn test over and wait for the Trachea Transplant Article.

