

Lesson: Why So Many?

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

Rationale/Goal:

- Question: What organisms perform cellular respiration?
- Question: Why do our lungs have so many alveoli?

Overview:

This is another reading in a series of adventures that Peppi and Bollo go on in their journey through the human body. In this journey, Peppi and Bollo demonstrate why there are so many alveoli in the lungs by relating it to the villi that were discussed during the section on human digestion. They will also follow the path of oxygen and carbon dioxide through the blood stream.

Learning Objectives [cognitive, academic, language, socio-cultural]	Assessment Criteria
Students will describe the path of blood through the human body.	After visiting the alveoli , red blood cells carry oxygen to the heart and then through the body, and then go back to the heart before revisiting the lungs and alveoli .
Students can define cellular respiration, including the products and ingredients.	Cellular respiration occurs in all living things , and is carried out in the cells . Carbon dioxide and heat are waste products of cellular respiration. Cellular respiration provides us with energy .
Students will have a basic understanding of photosynthesis.	Plants carry out photosynthesis , which provides the oxygen we need for cellular respiration

Standard/EALR:

6-8 SYSC	The output of one system can become the input of another system.	Give an example of how output of matter or energy from a system can become input for another system (e.g., household waste goes to a landfill).*a
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6-8 LS1C	<p><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>.</p>	<p>Relate the structure of a specialized cell (e.g., nerve and muscle cells) to the <i>function</i> that the cell performs.</p> <p><i>Explain the 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 sacs</i> in the lungs maximize surface area for <i>transfer of gases</i>).</p> <p><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.</p>
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Preparation Time:

30 minutes for copies

Materials:

- Copies of cellular respiration prompt
- Copies of Peppi and Bollo for students to take home if needed
- Copies of Why So Many handout

Instructional Sequence:

1. Begin with cellular respiration pre-assessment prompt
 - a. Pass out the half-sheets

- Have students provide reasoning for their decisions
 - Have students check with organisms they think perform cellular respiration
 - b.
 - c. Go through 5 or 6 on the overhead using class votes.
 - d. Come back to this later in the unit and have students re-vote.
2. Hand out cellular respiration The Big Idea worksheet
3. Read Peppi and Bollo “Why so Many?”
 - a. Give the students independent time to read
 - b. Have match definitions and answer questions on handout
4. Have students do “Cellular Respiration: The BIG Ideas!” a practice quiz
 - a. Do all you can, then go back and check answers in journal/complete ones you didn’t know
 - b. Focus on what you didn’t know to study

Assessment:

- Grade Student worksheet

Welcome to Science Class! Tuesday 11/23

Not So Random Question: What organisms use the process of cellular respiration?



1) Please sit in your Regular Flavored Seats with your journals and a properly shaped pencil out.

2) Finish Entry # 28: Double Trouble

**3) Stamp Entry #25: Trachea Transpant
Stamp Entry #28: Double Trouble**

4) Work on Entry # 29: Why so many?