**Daily Lesson Plan**  **SBI-3U:** Grade 11 University Biology

**Unit:** Respiratory System **Lesson:** Breathing Deeply (Lab:

Measuring Lung Volumes

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| **Curriculum Expectations** | **Learning Goals in Student Friendly Language** |
| **E. Animals: Structure and Function**  E2.1 – Use appropriate terminology related to animal anatomy  E2.3 – use medical equipment to monitor the functional responses of the respiratory and circulatory systems to external stimuli  E3.1 – explain the anatomy of the respiratory system and the process of ventilation and gas exchange from the environment to the cell | Students will…   * Use their knowledge of the respiratory system and its components to determine their own lung capacity and the factors that affect this volume. * Apply their knowledge to understanding current issues relating to oxygen transport |

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| **Materials Needed**  Anticipation Guide Worksheet  Video demonstration with Projector and Laptop  Lab Materials   * Lung volume bag * Measuring tape/Metre stick * Lab Handout   Word Web Graphic Organizer | **Time needed**  75 minutes |

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| **Activity** | **Explanation** | **Approximate Time** |
| **Minds On:**  Anticipation Guide  Holding Your Breath Activity | Students complete an anticipation guide relating to lung and breathing function.  Ask class to take their deepest breath and hold it. See who can hold their breath the longest. When they can no longer hold their breath have them raise their hand quietly.  Discuss ideas why some students could hold their breath longer. | 3 minutes  10 minutes |
| **Action:**  Video Lab Demonstration  Lung Volume Lab | Show class the video demo on how to measure lung capacity. This video also provides definitions relevant to the lab they will perform.  Students will perform a lab to measure the difference between expected and actual lung volumes. | 10 minutes  30 minutes |
| **Consolidation:**  Word Web Graphic Organizer  Discussion Question Worksheet | As a class, students complete the Word Web graphic organizer to connect parts of the respiratory system to factors affecting volumes. Work in pairs and then discuss as a class  Students have remaining time to answer questions on the lab handout for assessment.  Students can work together in their lab groups.  Discussion will follow once answers are graded. | 22 minutes |

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| **Assessment/Evaluation**  Formative Assessment   * graded lab performance and discussion worksheet   + 5 marks communication   + 10 marks application | **Next Steps -- Connections**  Next Lesson   * Discussion based on lab questions * Disorders of the respiratory system |