**Biology 12 Unit Plan**

**Instructor:** Joshua Amiel

**Subject / Grade**: Biology 12 (Respiration Unit)

**Science 12 PLO’s:**

C3: Describe the inter-relationships of the structures of the heart.

C4: Analyse the relationship between heart rate and blood pressure.

C5: Analyse the functional interrelationships of the vessels of the circulatory system.

C6: Describe the components of blood.

C7: Describe the inter-relationships of the structures of the lymphatic system.

**Summative Assessment**

Visual vocabulary cards (10%); Google Forms (10%); Section quizzes (10% x 1); Lab (25%); Collaborative activities (20%: 5% x 4); Unit Exam (25%).

**Resources:**

BC Biology 12 Textbook; Visual Vocabulary Cards; Laboratory Materials.

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| **Date** | **Lesson Topic** | **Subject PLO’s** | **Student Activities** | **Teacher Activities** |
| Mar. 6/ Mar. 23 | Ch. 11 Respiratory system (pages 346-350). | C8: Analyse the functional inter-relationships of the structures of the respiratory system. | * Inquiry session on gas exchange and respiration. * Add *nasal cavity, pharynx, larynx, trachea, bronchi, bronchioles,* and *alveoli* to visual vocabulary cards. * The respiratory tract jigsaw activity with oral presentation (location, function, and disorder; **5%**). * Google Forms check for understanding/homework (provide in class time). | * Review cellular respiration. * Introduction to gas exchange. * Review oral presentation rubric. * Review Google Forms and identify areas of confusion. |
| Mar. 24/ Mar. 25 | Ch. 11 Respiratory system (pages 346-350).  Ch. 14 The process of breathing (pages 351-353). | C8: Analyse the functional inter-relationships of the structures of the respiratory system.  C9: Analyse the process of breathing. | * Add *internal respiration, external respiration, diaphragm, ribs, pleural membranes, mucus,* and *thoracic cavity* to visual vocabulary cards. * Collect data for “Breathing Lab”. * Google Forms check for understanding/homework (provide in class time). | * Clarify any areas of confusion from the Google Form. * Presentation: The case of Cystic Fibrosis. * Introduce “Breathing Lab”. * Review Google Forms and identify areas of confusion. |
| Mar. 26/ Mar. 27 | Ch. 11 Respiratory system (pages 351-353). | C9: Analyse the process of breathing. | * Add *respiratory centre in the medulla oblongata, lungs, intercostal muscles,* and *stretch receptors* to visual vocabulary cards. * Analyse the data from the “Breathing Lab” and complete lab write-up. * Google Forms check for understanding/homework (provide in class time). | * Clarify any areas of confusion from the Google Form. * Presentation: The t-test. * Review Google Forms and identify areas of confusion. |
| Mar. 30/ Mar. 31 | Ch. 11 Respiratory system (pages 351-353). | C9: Analyse the process of breathing. | * In-class time to finish “Breathing Lab” **(35%)**. * Roundtable review activity. | * Clarify any areas of confusion from the Google Form. * Grade lab reports. * Set-up roundtable review activity. |
| Apr. 1/ Apr. 2 | Ch. 11 Respiratory system (pages 351-353). | C9: Analyse the process of breathing. | * Cellular respiration, the respiratory tract, and the process of breathing quiz **(10%)**. * Add *carbon dioxide, oxygen, hydrogen ions, inhalation, carotid bodies exhalation,* and *aortic bodies* to visual vocabulary cards. * “Breathing and the Nervous System” worksheet **(5%)**. | * Clarify any areas of confusion from the Google Form. * Final opportunity to ask questions before the quiz. * Presentation: Nervous regulation of breathing. * Review Google Forms and identify areas of confusion. |
| Apr. 7/ Apr. 8 | Ch. 11 Respiratory system (pages 245, 354-355). | C10: Analyse internal and external respiration. | * Add *oxyhemoglobin, carbaminohemoglobin, reduced hemoglobin, bicarbonate ions,* and *carbonic anhydrase* to visual vocabulary cards. * Complete worksheet for peer evaluation **(5%)**. * Google Forms check for understanding/homework (provide in class time). | * Clarify any areas of confusion from the Google Form. * Describe internal and external respiration. * Grade worksheet. * Review Google Forms and identify areas of confusion. |
| Apr. 9/ Apr. 10 | Ch. 11 Respiratory system (pages 245, 354-355). | C10: Analyse internal and external respiration. | * Construct the chemical equations for internal and external respiration. * Co-op Co-op activity to learn the roles of various hemoglobins, bicarbonate ions and carbonic anyhdrase **(5%)**. * Hand in vocabulary cards. * Google Forms check for understanding/homework (provide in class time). | * Clarify any areas of confusion from the Google Form. * Introduce Co-op Co-op activity. * Review Google Forms and identify areas of confusion. |
| Apr. 13/ Apr. 14 | Tournament Review | Tournament Review | Tournament Review | Tournament Review |
| Apr. 15/ Apr. 16 | Unit Exam | Unit Exam | Unit Exam | Unit Exam |