

FLECs Course Outline

Course Name: **BIO11**

Provincial Course Number: 011153

Revision date: Jan_07

Course Description (PSP): Biology 11 introduces the student to the field of biology and the basic terms and concepts needed for some baseline standard scientific literacy. The course studies the basic unit of life – the cell – and its form and functioning; the opposing processes of cellular respiration and photosynthesis; taxonomy and the five kingdoms; and the human digestive, circulatory and immune systems.

Dates of Course: _____ Teacher: _____

Large Big Picture Outcome	Skills needed to answer the “big picture” question	Student will show knowledge by: (verb)	Timeline	Formal Evaluation (Value)
1. What is the smallest unit of life?	<p>Cell Theory, Structure and Function</p> <ul style="list-style-type: none"> • Label and describe the functioning of parts of a cell • Distinguish between prokaryotic and eukaryotic cells • Describe cell transport systems • Microscope skills 	<ul style="list-style-type: none"> a) Label the structures of the cell b) Describe the functioning of cell organelles c) Identify the differences between prokaryotic and eukaryotic cells d) Describe the various means of molecular transport across cell membranes e) Use a microscope to see cells f) Use a microscope to differentiate between plant and animal cells 	2 Weeks	Total value of outcome 1 is 16 of the 70 term points Cell Organelles and Function Quiz #1 (2.5) Cell Types and Transport Quiz #2 (2.5) Introduction to the Microscope Lab #1 (3) Animal vs Plant Cells Lab #2 (3) Cell Catalogue

Large Big Picture Outcome	Skills needed to answer the “big picture” question	Student will show knowledge by: (verb)	Timeline	Formal Evaluation (Value)
				Project #1 (5)
2. Why do we breathe in oxygen and breathe out carbon dioxide, while plants do the opposite?	<p>Cellular Respiration and Photosynthesis</p> <ul style="list-style-type: none"> Describe photosynthesis and cell respiration and the relationship that exists between the two 	<p>a) Define the process of photosynthesis and its importance to life/food chains</p> <p>b) Define the process of cellular respiration and its importance to energetics in an organism</p> <p>c) Write the chemical equations for both processes and describe the complementary relationship that exists between the two</p> <p>d) Describe the differences between anaerobic and aerobic respiration</p>	1 Week	<p>Total value of outcome 2 is 8.5 of the 70 term points</p> <p>Cell Respiration and Photosynthesis Quiz #3 (2.5)</p> <p>Online Cell Resp Lab #3 (3)</p> <p>Compare and Contrast P/S and C/R Assignment #1 (3)</p>

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3. Upon what similarities and differences do I place living things into groups?	<p>Taxonomy Five Kingdoms, including viruses</p> <ul style="list-style-type: none"> List the levels of classification Understand dichotomy Distinguish the characteristics of the five kingdoms and also viruses 	<p>a) List the levels of classification b) Create a dichotomous key c) Describe characteristics of each of the five kingdoms, including a representative organism d) Describe the life cycle of a virus</p>	2 Weeks	<p>Total value of outcome 3 is 18 of the 70 term points</p> <p>Dichotomous Key Assignment #2 (4) Classification/Virus/ Monerans Quiz #4 (2.5) Protists/Plants Quiz #5 (2.5) Fungus Lab #4 (3) Worm Dissection Lab #5 (3) Animal Kingdom Powerpoint Assignment #3 (3)</p>
4. What happens to the food I eat?	<p>Digestive System</p> <ul style="list-style-type: none"> Label structure of digestive system and describe the functioning of the individual components 	<p>a) Label the human digestive system b) Describe the digestive process</p>	1 Week	<p>Total value of outcome 4 is 9.5 of the 70 term points</p> <p>Label Digestive System Quiz #6 (2.5) Magic Muffin Mystery Graphic Organizer Assignment #4 (4) Frog Dissection Lab</p>

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				#6 (3)
5. When I hear my heart beat, what is it doing?	Circulatory System/Immune System <ul style="list-style-type: none"> • Label heart, trace blood flow • Describe cells of circulatory system and their function • Know the blood types • Describe immunity 	a) Label the human heart b) Trace the flow of blood through the heart and body c) Describe the cellular structure of blood d) Understand the pick-up and delivery functions of blood e) Know the 4 blood types and who can receive a transfusion from whom f) Describe different types of white blood cells g) Describe the immune response	2 Weeks	Total value of outcome 5 is 12 of the 70 term points Label the Heart Quiz #7 (2.5) Blood Flow Creative Writing Assignment #5 (4) Blood Typing Assignment #6 (3) Immunity Quiz #8 (2.5)
6. Why do different creatures live in different places?	Biomes <ul style="list-style-type: none"> • Describe different biomes on earth and the characteristics of each one 	a) Describe the physical differences of the biomes of earth, with an emphasis on the Canadian biomes	1 Week	Total value of outcome 6 is 6 of the 70 term points Biomes Powerpoint Project #2 (6)