

**Course:** Life Sciences 11

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**Course Description:**

Life Sciences 11 focuses on ecology and evolution, allowing students to investigate a diversity of different organisms. Through this inquiry, students will discover the interrelationships between members of the Archaea, Bacteria, and Eukarya domains.

Refer to the New Curriculum on the MOE site <https://curriculum.gov.bc.ca/>

**Summer Learning Beliefs:**

Summer Learning provides an engaging learning environment where all students can challenge themselves academically and fulfill their learning goals. To ensure this, students will:

- abide by the student Code of Conduct
- adhere to the Academic Honesty Policy
- adhere to the *Summer Learning* Student Engagement policy
- respect themselves and others
- attend every class and be punctual
- inquire, think, and participate to the best of their ability
- access technology in class when instructed to do so and for learning purposes only
- challenge themselves and have fun learning

All Summer Learning policies can be accessed at:  
<https://www.sd44.ca/school/summer/policies/Pages/default>.

**Course Syllabus:**

Conceptual Understandings	Curricular Competencies	Content	Performance Task or Assessment
Unit 1: Cells & DNA, Evolution, and Taxonomy	<ul style="list-style-type: none"><li>• Use knowledge of scientific concepts to draw conclusions that are consistent with evidence</li><li>• Analyze cause-and-effect relationships</li><li>• Assess risks and address ethical, cultural, and/or environmental issues</li></ul>	<ul style="list-style-type: none"><li>• cell structure and function</li><li>• sexual and asexual reproduction</li><li>• energy transformations in cells</li><li>• viruses</li><li>• First Peoples understandings of</li></ul>	First Project: Unit 1 Study Guide -Choice of mode.

- Commented [DA1]:** Great - thanks for selecting CCs that are meaningful for each unit.
- Commented [DA2]:** In this column, please put one or two assessment tasks here so as the students go through the units with an awareness of what will be expected of them. Avoid putting formative assessment plans here. (Just giving you a heads up on common comments to others ahead of you getting this done).
- Commented [DA3]:** Good morning Alex. Can you please go a little further in this column and put a 'big idea' or conceptual understanding here. The big ideas in the curriculum could be a good starting place. Other people have chosen to put a driving question that infers the big idea.

	<p>associated with their proposed methods</p> <ul style="list-style-type: none"> <li>Evaluate their methods and experimental conditions, including identifying sources of error or uncertainty, confounding variables, and possible alternative explanations and conclusions</li> </ul>	<p>interrelationships between organisms</p> <ul style="list-style-type: none"> <li>microevolution: <ul style="list-style-type: none"> <li>-adaptation to changing environments</li> <li>-changes in DNA</li> <li>-natural selection</li> </ul> </li> <li>macroevolution: <ul style="list-style-type: none"> <li>-speciation</li> <li>-processes of macroevolution</li> <li>-evidence for macroevolution</li> </ul> </li> <li>trends in complexity among various life forms</li> <li>evidence for phylogenetic relationships</li> <li>artificial selection and genetic modifications</li> </ul>	
Unit 2: Microbiology, Protista, Fungi	<ul style="list-style-type: none"> <li>Seek and analyze patterns, trends, and connections in data, including describing relationships between variables, performing calculations, and identifying inconsistencies</li> </ul>	<ul style="list-style-type: none"> <li><b>trends in complexity among various life forms</b></li> <li>taxonomic principles for classifying organisms</li> </ul>	Second Project: Choice of topic.
Unit 3: Plants	<ul style="list-style-type: none"> <li>Experience and interpret the local environment</li> <li>Apply First Peoples perspectives and knowledge, other ways of knowing, and local knowledge as sources of information</li> </ul>	<ul style="list-style-type: none"> <li>taxonomic principles for classifying organisms</li> <li>First Peoples knowledge on classification</li> <li><b>trends in complexity among various life forms</b></li> </ul>	Third Project: Choice of topic & mode.
Unit 4: Animals	<ul style="list-style-type: none"> <li>Consider the changes in knowledge over time as tools and</li> </ul>	<ul style="list-style-type: none"> <li>taxonomic principles for classifying organisms</li> </ul>	Fourth Project: Open Inquiry

	technologies have developed <ul style="list-style-type: none"> <li>• Connect scientific explorations to careers in science</li> <li>• Consider the role of scientists in innovation</li> </ul>	<ul style="list-style-type: none"> <li>• binomial nomenclature</li> <li>• First Peoples knowledge on classification</li> <li>• similarities and differences between domains and kingdoms</li> </ul>	
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**Grade Boundaries:**

An “A” student will/can....

Produce high-quality, frequently innovative work. Communicate scientific ideas to connect and synthesize concepts and skills learned over time. Consistently demonstrate sophisticated critical and creative thinking. Collect, present, and correctly transform experimental data. Interpret, analyze and critique scientific findings and experimental data. Frequently transfers knowledge and skills and use concepts to solve non-routine problems.

A “B” student will /can ...

Sometimes produces high-quality, innovative work. Communicate scientific ideas to compare and critique concepts and skills learned over time. Consistently demonstrate a degree of critical and creative thinking. Collect and present scientific data in an appropriate manner. Assess, interpret, and revise scientific findings and experimental data. Transfer knowledge and skills and use concepts to consistently solve routine problems correctly with few mistakes.

A “C” student will /can ...

Produce work of an acceptable quality. Communicate a basic understanding of scientific concepts and operate superficially within a scientific contextual framework. Display an emergent level of application when it comes to critical thinking skills. Collect scientific data in an appropriate manner. Be inflexible in the use of knowledge and skills, requiring support even in familiar classroom situations. Make attempts to use knowledge, skills and scientific concepts to solve routine problems, with occasional mistakes.

**Resources:**

*Main resources students will need to access*

Resources
Microsoft Teams & Office 365
<a href="https://flexbooks.ck12.org/cbook/ck-12-middle-school-life-science-2.0/">https://flexbooks.ck12.org/cbook/ck-12-middle-school-life-science-2.0/</a>
<a href="https://www.openschool.bc.ca/courses/biology/bi12/index.html">https://www.openschool.bc.ca/courses/biology/bi12/index.html</a> (Modules 1 & 2)
Other online resources.