

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.

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:

Curricular Competencies	<p>What the students will do:</p> <ul style="list-style-type: none"> • Question and predict what conditions are needed for life by different organisms • Plan and conduct dissections to compare body plans, structures, and functions of different organisms • Process and analyze data and information by constructing a graph of human traits • Evaluate the ethical and environmental implications of humans on evolution through artificial selection and genetic modifications • Applying knowledge of DNA research to investigate evolution • Communicate by preparing biological diagrams of plant and animal cells
Summative Assessments	<p>What the students will understand:</p> <ul style="list-style-type: none"> • Characteristics of Living Things: All living things have common characteristics • Process of Evolution: Living things evolve over time • Taxonomy: Organisms are grouped on the basis of identifiable similarities
Content	<p>What the students will know:</p> <ul style="list-style-type: none"> • Cell structure and specialization • Basic structure and life cycle of a virus • Agents of evolutionary change • Speciation • Taxonomy

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.

Celebration of Learning:

The 2018 Celebration of Learning is shaped around “Connections”.

Students will investigate how the world connects through at the quantum level, the cosmic level, and the human level. Through this inquiry, students will gain an understanding of the origins of life and evolution.

Our class will collaborate with a sister class to investigate the interconnected systems that sustain healthy ecosystems and how it impacts our local environment.

Resources:

Textbook : Biology – Miller & Levine
Binder, lined paper, graph paper, pens, pencils, eraser
Calculator, ruler
Teacher Website: http://lansingscience.weebly.com/