



CHINESE IMMERSION ACCELERATED LIFE SCIENCE

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What will we learn?

- This is an introductory biological science course that introduces basic science concepts through inquiry labs, models, and hands-on activities. The **topics covered include**: cells, ecology, human body, genetics and evolution, properties of matter, chemical changes, meteorology, and environmental concepts. Students will **develop skills of scientific and laboratory investigations**. This class meets the life science requirements for middle school, MYP requirements and prepares students for Accelerated Earth Science.

<i>Duration</i>	<i>Unit of Study</i>	<i>MN State Standards</i>
8 weeks	Nature of Science and Engineering with Chemistry	<p>7.1.3.4.2 Determine and use appropriate safety procedures, tools, measurements, graphs and mathematical analyses to describe and investigate natural and designed systems in a life science context.</p> <p>7.1.1.2.3 Generate a scientific conclusion from an investigation, clearly distinguishing between results (evidence) and conclusions (explanation).</p> <p>7.1.1.2.2 Plan and conduct a controlled experiment to test a hypothesis about a relationship between two variables, ensuring that one variable is systematically manipulated, the other is measured and recorded, and any other variables are kept the same (controlled). For example: The effect of various factors on the production of carbon dioxide by plants.</p> <p>7.1.1.1.2 Understand that when similar investigations give different results, the challenge is to judge whether the differences are significant, and if further studies are required. For example: Use mean and range to analyze the reliability of experimental results</p> <p>7.2.1.1.1 Recognize that all substances are composed of one or more of approximately one hundred elements and that the periodic table organizes the elements into groups with similar properties.</p> <p>7.2.1.1.2 Describe the differences between elements and compounds in terms of atoms and molecules.</p> <p>7.2.1.1.3 Recognize that a chemical equation describes a reaction where pure substances change to produce one or more pure substances whose properties are different from the original substance(s).</p>
6 weeks	Cells	7.4.1.2.1 Recognize that cells carry out life functions, and that these functions are carried out in a similar way in all organisms, including, animals, plants, fungi, bacteria and protists.
4 weeks	Genetics	7.4.3.1.1 Recognize that cells contain genes and that each gene carries a single unit of information that either alone, or with other genes, determines the inherited traits of an organism.
5 weeks	Disease and Human Body	<p>7.4.1.1.2 Describe how the organs in the respiratory, circulatory, digestive, nervous, skin and urinary systems interact to serve the needs of vertebrate organisms.</p> <p>7.4.4.2.1 Explain how viruses, bacteria, fungi and parasites may infect the human body and interfere with normal body functions.</p>
6 weeks	Ecology	<p>7.4.2.1.1 Identify a variety of populations and communities in an ecosystem and describe the relationships among the populations and communities in a stable ecosystem.</p> <p>7.4.2.2.1 Recognize that producers use the energy from sunlight to make sugars from carbon dioxide and water through a process called photosynthesis. This food can be used immediately, stored for later use, or used by other organisms.</p> <p>7.4.2.2.2 Describe the roles and relationships among producers, consumers and decomposers in changing energy from one form to another in a food web within an ecosystem.</p>
4 weeks	Evolution	<p>7.4.3.2.3 Recognize that variation exists in every population and describe how a variation can help or hinder an organism's ability to survive.</p> <p>7.4.4.1.2 Describe ways that human activities can change the populations and communities in an ecosystem.</p>
4 weeks	Climate and Weather	<p>8.3.2.2.2 Analyze changes in wind direction, temperature, humidity and air pressure and relate them to fronts and pressure systems.</p> <p>8.3.2.3.2 Describe how the water cycle distributes materials and purifies water.</p> <p>8.3.2.2.1 Describe how the composition and structure of the Earth's atmosphere affects energy absorption, climate, and the distribution of particulates and gases.</p>

How will I be graded?

In order to promote mastery of the MN Science Standards and MYP criteria students will be receiving scores on daily work and summative assessments. **Summative assessments make up 100% of each student's final grade!!** Daily work (formative assessments) are critical and provide students practice and feedback for the summative assessment. Formative work will be scored with a **1**(exceeds expectations), **0.5**(meets expectations) or **0**(below expectations)



The school year at Highland Park is divided into four quarters with a mid-term progress report and a final grade report for each quarter. Student achievement on summative assessments will be based on the following IB MYP criteria:

(Criterion A) Knowledge and Understanding of Science – Students develop scientific knowledge (facts, ideas, concepts, processes, laws, principles, models and theories) that is applied to solve problems and express scientifically supported judgments.

(Criterion B) Inquiring and Designing – Students design, analyze and perform scientific investigations.

(Criterion C) Processing and Evaluating – Students collect, process and interpret qualitative and/or quantitative data, and explain conclusions that have been appropriately reached.

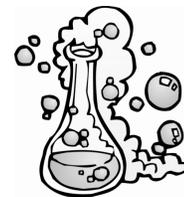
(Criterion D) Reflecting on the impacts of science – Students gain global understanding of science by evaluating the implications of scientific developments and their applications to a specific problem or issue

MYP level	Letter Grade Translation
8	A
7	
6	B
5	
4	C
3	
2	D
1	N
0	

What do I need?

- A science notebook (for notes, activities, and experiments in class)
- A folder (for other papers and some homework)
- Plenty of pencils and pens (you will need a writing instrument every day)
- Charged iPad (once handed out)
- *Heads Up*: for Science Showcase you will need a tri-fold display board and all materials for your project

- *Science Explorer: Life Science, Pearson/Prentice Hall, 2009*
- *Concepts and Challenges Life, Earth & Physical Science, Pearson /AGS 2009*



What happens if I'm late or miss class?

Tardies will be recorded and reported to the administration. An excessive number of unexplained/unexcused tardies will result in meetings with administration and families. In the event of an **absence**, it is the student's responsibility to make up the work missed. The student can talk with myself before or after class, get the information from a classmate or from Schoology.

For more information, please visit our class page on the **Schoology app!**