Science 7A

Crosslake Community High School
2025-2026

INSTRUCTOR

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Office Hours: Wednesday 1:00pm-3:00pm

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COURSE DESCRIPTION

This is half of a year long course in 7th grade life sciences.

PREREQUISITES

None

COURSE GOALS & OBJECTIVES

The Scientific Process

Scientific Inquiry

Distinguish between variables and controls in a scientific investigation.
Examine the process of scientific inquiry using the three types of scientific investigations, including the benefits and limitations of each.
Identify questions that can be answered through scientific investigation.

Research in Science

Distinguish between current scientific consensus and emerging scientific questions and investigations.
Explain the balance between open-mindedness and skepticism in scientific practice.

Science Practice: Inspect resources for valid information to use in research.

Tools and Technology

Analyze the relationship between science and technology.

Examine the functions, advantages, and limitations of models in science. Identify the use of technology in science.

Safety in Science

Examine safe practices to use during a scientific investigation.

Identify examples of safety problems in the lab and describe the correct protocol for reporting those problems.

Measurement

Identify basic units and prefixes used in the metric system. Measure length, mass, volume, and temperature.

Perform metric system conversions.

Analyzing Data

Analyze data to determine validity and reliability.

Apply the concepts of mean, median, and mode to a data set. Examine charts and graphs to predict trends in the data

Use data to draw inferences and formulate conclusions.

Evaluating Scientific Explanations

Analyze and evaluate scientific claims and explanations.

Examine how claims are critiqued.

Understanding Organisms

Bacteria, Protists, Fungi

Analyze the roles of helpful and harmful bacteria.

Compare and contrast eubacteria and archaebacteria.

Examine how bacteria reproduce.

Identify the characteristics of bacterial cells.

Compare and contrast the characteristics of the three groups of protists.

Examine the characteristics common to all protists.

Examine why it is difficult to classify protists.

Identify examples of the three groups of protists based on their characteristics.

Compare and contrast the various groups of fungi.

Examine the characteristics common to all fungi.

Identify the roles of fungi in nature.

Overview of Plants

Compare the characteristics of nonvascular and vascular plants.

Examine the characteristics common to all plants.

Identify the things a plant needs to survive on land.

Overview of Animals

Compare and contrast the characteristics of invertebrate and vertebrate animals.

Examine the characteristics that are common to most animals.

Identify the main functions that allow animals to meet their basic needs.

Organisms and the Environment

Living Things and the Environment

Differentiate between a habitat and a niche.

Examine biotic and abiotic factors in the environment.

Identify the levels of organization within an ecosystem.

Biomes

Aquatic Ecosystems

Characterize Earth's major aquatic ecosystems.
Identify adaptations that enable organisms to survive in aquatic ecosystems.

Cycles of Matter

Analyze the importance of the nitrogen cycle.
Examine how carbon cycles through an ecosystem.
Identify the processes involved in the water cycle.

Interactions among Living Things

Differentiate competition, predation, and cooperation.
Distinguish among the three types of symbiotic relationships.

Lab: Owl Pellets

Dissect an owl pellet and examine the contents.
Identify an owl's prey based on the contents of an owl pellet.

Energy Flow in Ecosystems

Analyze the transfer of energy through the trophic levels in an energy pyramid.
Examine the movement of energy through an ecosystem in food chains and food webs.
Explain the roles of producers, consumers, and decomposers in an ecosystem.
Identify producers, consumers, and decomposers in food chains and food webs.
Characterize Earth's major terrestrial biomes.
Identify adaptations that enable organisms to survive in distinct environments.

Populations

Identify factors that affect population size.
Identify limiting factors that affect a population in a given environment.

Biodiversity

Examine ways to protect biodiversity.
Identify how biodiversity contributes to the sustainability of an ecosystem.
Identify some factors that can threaten biodiversity.
Identify the factors that affect biodiversity.

Human Impact on the Environment

Assess the impact of human-induced environmental changes on organisms, populations, and species.
Identify examples of long-term human-induced environmental changes.
Identify examples of short-term human-induced environmental changes.

The Chemistry of Life

Atoms

Elements

Describe what an isotope is and explain how isotopes of the same element are different. Examine the properties of an element.
Explain how ions form.
Describe the parts of an atom.
Identify the masses, locations, and charges of protons, neutrons, and electrons.

Periodic Table

Describe the organization of the periodic table.
Determine an element's symbol, atomic number, and mass number from the periodic table.
Examine the history of the periodic table.

Building Blocks of Life

Differentiate between atoms, elements, molecules, and compounds.
Distinguish organic compounds from inorganic compounds.
Examine characteristics of carbohydrates, lipids, proteins, and nucleic acids.
Identify the six common elements found in living organisms.

Compounds

Describe the defining characteristics of a compound.

Determine the number of atoms of each element in a chemical formula.
Explain how chemical formulas represent compounds.
Use models to visualize the chemical structure of a compound.
Describing Chemical Reactions
Describe the law of conservation of mass.
Explain how mass is conserved in chemical equations.
Identify the parts of a chemical equation.
Balancing Chemical Equations
Demonstrate how to balance a chemical equation.
Explain what it means for a chemical equation to be balanced.
Relate balanced chemical equations to the law of conservation of mass.
Types of Chemical Reactions
Distinguish among the types of chemical reactions.
Predict the product of each type of chemical reaction.

REQUIRED MATERIALS

Students need internet access, ability to navigate Edgenuity, Google applications and Zoom.

TECHNICAL REQUIREMENTS

Basic computer literacy, access to internet and computer.

TEACHER CONTACT & COMMUNICATION

Regular communication is critical to your success in this class. It is important that as soon as you have a question you cannot answer, that you reach out to me or your Learning Coach. Or, if I contact you, that you respond quickly so you can get the most out of this course..

Feedback

I will grade assignments regularly, usually within 2 school days, and provide feedback to you on these assignments. Read through the feedback and ask clarifying questions, since I write these comments to help you improve your learning in this course.

Office hours

I will be available to answer questions and help work through assignments during the common hours posted at the top of this syllabus. This is a great time to contact me since I will usually be able to get back to you very quickly.

Additional support

If you need additional academic support beyond regular feedback and communication with me, please let me or your Learning Coach know so that we can connect you with appropriate help.

COURSE POLICIES

Attendance/Participation Policy

Attendance and participation are based on daily logins to the course and regular completion of assignments. To stay on track, you should follow the due dates for activities and assignments listed in the syllabus or learning management system. For more specific information about attendance, including excused/unexcused absences, see the Crosslake Community High School Parent/Student Course Handbook

Missing or Late Work

All work is due at the end of the semester. However, if a student waits until the last week or two to complete the coursework, it is unlikely that he or she will earn a passing grade. To help you plan and manage time, I have created a course schedule included in the syllabus. Missing work at the end of the semester will be counted as 0 points.

Questions

Please ask questions as soon as you have them; if you aren't clear on a concept, it is likely that others have the same question. The sooner you ask a question, the sooner I can help you!

Academic integrity

Learning involves your engagement with life. Even a small effort on your part is better than copying someone else. Plagiarism and copying will result in an automatic zero for the assignment, test, or quiz.

This is a safe place to be yourself and express yourself. There are no stupid questions. Everyone has dignity and is respected. Everyone participates to the best of their ability.

Most importantly, communication with me, your teacher, is essential. If you have any questions, need more time, or have any other issues, please get in touch with me as soon as possible.

[Add additional policies as needed for your course]

COURSE ACTIVITIES

Activity type	# in course	Points each	Total points	% of final grade
Assignments				25%
Quizzes				25%

Tests				20%
Labs/projects				15%
Class participation				15%
TOTAL				**100%**

COURSE OUTLINE & SCHEDULE

(This is a guideline based on students starting at the beginning of the semester. Students starting later in the term will have a different schedule. Look at your course management system for the current due dates.)

Week	Start Day	Unit	Assignments Due
1		The Scientific Process	
2		“	
3		“	
4		Understanding Organisms	
5		“	
6		“	
7		Organisms and the Environment	
8		“	
9		“	
10		“	
11		The Chemistry of Life	
12		“	
13		“	
14		“	

15		“	

Supplemental Student Communication

Progress Reporting

CCHS staff will submit progress reports to the local school contact person upon completion of the student's academic term. The student and family may access regular progress reports in the online learning platform through the student gradebook anytime.

Final Grades and Submissions

Semester and final grades are submitted to the school counselor within 10 days of the end of the semester. Successfully completed CCHS courses are worth .5 semester credits; credit conversions and graduation requirements do differ between school districts. Contact your school counselor for your local district's graduation requirements and credit conversion.