Science 4 Syllabus

Course Overview

In the first semester of 4th grade science you will review the scientific method and apply this knowledge to assist in the design of an experiment. You will learn about forms of energy, how energy moves, and further investigate sound and heat energy. Finally, you will investigate waves. You will learn about the electromagnetic spectrum, colors, shadows and how light interacts with matter and allows us to see.

Course Prerequisites

None

Course Length

1 Year

Required Text

None

Inquiry

This course has been designed to engage your mind and really get you thinking about science concepts. The key to inquiry and lab-based learning is to enjoy the process. We all learn more

through doing and thinking than we do through memorization and taking tests. As you work your way through the lessons take time to create, have fun, and enjoy. A scientist is a thinker and that is the key in this course. Use this time in science to be a scientist.

Personalized Learning

This course was written with certain learning objectives in mind. All assignments and learning experiences can be personalized to fit you, the learner. Reach out to your course instructor for help with this.

Course Learning Outcomes

Big Ideas

- Students will be able to describe questions scientists ask and explain how scientists find answers to their questions.
- Students will be able to explain how to use tools to do science and how to do science safely.
- Students will be able to find reasonable answers to scientific questions and cite evidence in support.
- Students will be able to explain how scientists draw conclusions.
- Students will be able to recognize that science involves creativity in designing experiments.

- Students will be able to define energy, know forms it can take, and understand what energy can do.
- Students will be able to describe sound energy and how it is produced.
- Students will be able to describe how wind and water energy make objects move.
- Students will be able to recognize that heat flows from hot objects to cold ones, and give examples of good and bad conductors of heat.
- Students will be able to describe waves.
- Students will be able to develop a model of waves.
- Students will be able to understand wave types (sound and light).

Learning Targets:



Each lesson will contain a page with your learning targets. These targets are what you will be learning as you move

through the lesson and are phrased as “I can…” statements. Be sure to keep these statements in mind as you work through the lesson.

Assignments:

Quizzes - Quizzes may cover information from an entire module, or just a lesson. They may contain a combination of multiple choice, fill in the blank, true/false and/or short answer questions.

Labs - Labs are a critical part of Inquiry-Based Learning and allow you, the learner, to explore a topic of study in a more in-depth, hands-on manner. Most of the labs in this course will require you to gather some simple, household materials to complete, along with the items provided in your lab kit. You will also find some virtual labs in the course, which may require you to visit a separate website to complete. Detailed instructions will be provided along the way.

Projects - Each module contains at least one art extension activity, which allows you to explore the extensive crossover between science and art (these are designated with a paintbrush symbol). Other items in this category include worksheets and interactive vocabulary exercises.

Note: you will see a short quiz at the bottom of many of the lesson pages called "Quick Check." This is designed to be a way for you to quickly check your understanding of that page's content before moving on. These are not graded.

Lab Kits & Supplies

Students will engage in virtual and physical labs throughout the course. Students will need the following materials and logins to complete the labs.

Lab Kit

You will need to order your lab kit by completing the lab kit request form (link below). The kit will be shipped directly to your home and should take about 4-5 days to arrive. If you have any questions please contact your instructor.

https://www.cmasas.org/lab-kit-request-form

Lab Kit Inventory List (.pdf)

Virtual Labs

Some virtual labs are completed through Explore Learning (Gizmos). You will need to request login information from your instructor. To login please do the following:

- Click the link provided in the lab instructions.
- Choose Gizmos as the product.
- Enter your instructor's username. They will give you that username.
- Choose your course, and choose your name from the student list.

- Enter your password. Your instructor will give you that password.
- You should then see a list of all the virutual labs available for your course. Each lab will list the name of the Gizmo you will need to complete for that lab assignment.

Grading Policy

High scores will be taken for each assignment and quiz. Students are expected to complete each assignment at Mastery level (80%) or higher.

Grades will be calculated as follows:

Scores in each category will be added together and divided by total possible points for that category and then multiplied by the weight of the category.

Category Weights

- Module Quizzes - 20%
- Labs - 50%
- Projects - 30%

Grade Scale:

Percentage	Letter Grade	GPA
95 - 100	A	4.0
90 - 94.9	A-	3.7
87 - 89.9	B+	3.3

83 - 86.9	B	3.0
80 - 82.9	B-	2.7

Technical Requirements

Prerequisite Skills



Before you begin, you should be able to:

- Complete basic operations with a word processing software.
- Complete basic operations with presentation software.
- Perform online research using various search engines.
- Communicate through email.

Contact Technical Support

1. Check the **technical support webpage** to see if your issue is listed.
2. If your technical issue is not addressed on the technical support page then fill out a **support ticket**.

CMASAS Honor Code



CMASAS is a virtual community where we want all who join our school to feel valued. As a member of our community you have a responsibility to help build this type of environment by following our school's honor code. The honor code is outlined in the Parent-Student Handbook but we have provided a brief overview below.

- **Global citizenship**: Students are responsible for good behavior in our virtual hallways, just as they are in a classroom or a school hallway. Always use a computer in a way that shows consideration and respect. You are not to use obscene, profane, threatening, or disrespectful language. CMASAS expects students to adhere to the local and country laws applicable to them.

- **Act with academic integrity:** Integrity and authenticity of student work is something that we take very seriously at CMASAS. Do not cut, copy, or plagiarize internet content or the work of your online classmates. This includes any artificial intelligence tools.
- **Be mindful of copyrights:** Just as copying someone's writing is considered plagiarizing, so is the act of using someone else's photo, comic, joke, or quote without giving proper credit to its creator or author.
- **Be kind:** Communicate in a respectful and kind way, keeping comments and subject matter in posts appropriate.
- **Don't troll:** Avoid hijacking conversation threads for personal gain or steering conversation toward off-topic subjects or personal attacks toward another user.
- **Be sensitive to privacy:** Always limit your audience to a need-to-know basis.
- **Limit the spread of spam:** Spam is the equivalent of junk mail that clogs email inboxes and offers little professional or personal value while potentially opening up the users to hacking.
- **Use proper spelling and grammar**: Communicate with others using proper spelling and grammar. Save acronyms, web jargon, and shorthand for its prospective audience if it must be used at all.

- **Exercise self-control and open mindedness**: All students should exercise self-control, think before speaking, and look for value in the opinions of others.
- **Be respectful:** CMASAS requires that all comments made and opposing viewpoints expressed be done in non-confrontational and respectful manner.
- **Consider consequences and protect yourself:** Think about the social consequences of any publicly accessible online community forum or other program you interact with.
- **Follow school policies:** All students must follow CMASAS school policies listed at the end of the Parent-Student Handbook.

Academic Integrity

Academic integrity is founded upon and encompasses the following five values: **honesty, trust, fairness, respect, and responsibility**. Supporting and affirming these values is essential to promoting and maintaining a high level of academic integrity. Each member of the academic community must stand accountable for his or her actions. As a result, a community develops in which students learn the responsibilities of citizenship and how to contribute honorably to their professions.

The first responsibility for academic integrity lies with individual students and faculty members of this community. A violation of academic integrity is an act harmful to all other students, faculty, and the school. Deceit and

misrepresentations are incompatible with the fundamental activity of this academic institution and shall not be tolerated. Members of the CMASAS community are expected to foster in their own work the spirit of academic honesty and not to tolerate its abuse by others. This Academic Integrity Policy encompasses the duration of the student's enrollment with CMASAS.

Students are expected to practice responsible and honest behavior. Acts of academic dishonesty will not be tolerated at CMASAS and typical offenses are listed but not limited to the following:

- Copying material from other sources and claiming it as your own without citation. This includes any artificial intelligence tools.
- Soliciting answers from other students, online forums, or search engines.
- Intentional falsification or invention of date, citation, or other authority in an academic exercise.
- Taking someone else's work or ideas as your own, with or without their consent, by incorporating it into your work without full acknowledgment.
- Theft or alteration of materials.