

Marston Middle School  
www.sandiegounified.org/schools/marston

# 8<sup>th</sup> Grade Science

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## Mission Statement

The mission of Marston Middle School is to educate all students in an integrated setting to become responsible, literate, thinking, and contributing members of a technological society. Because we believe that all students can learn, we work cooperatively to instill confidence and self-esteem in every student. By creating a safe learning environment with an instructional curriculum enhanced by interactive technology and a partnership with parents, each student is valued and respected and has opportunities to succeed academically, socially, and personally.

### Standards:

<https://www.cde.ca.gov/pd/ca/sc/ngsstandards.asp>

### Curriculum:

**Amplify**

### Materials:

Agenda, pencil & eraser, colored pencils, spiral notebook

## Course Description

8<sup>th</sup> Grade Science is a year-long standards-based course. Instructional Units:

- Harnessing Human Energy
- Force & Motion
- Magnetic Fields
- Light Waves
- Earth, Moon, & Sun
- Natural Selection
- Evolutionary History
- Sexual Health Education

## Technology Goals

The integrated 21<sup>st</sup> Century (i21) Interactive Classroom is an engaging and personalized learning environment designed to optimize teaching and learning through the interconnected use of mobile computing, audio, visual and formative assessment technologies across the curriculum.



**Parent support in encouraging appropriate behavior and work ethic is greatly appreciated.**

## Homework Goals

All assignments **not completed** "in class" become homework. The time needed will vary from day to day depending on the nature of the assignment and the ability of the individual student.

## Academic Grading Policy

Grading will be based on demonstration of mastery. Students will attempt standards-aligned activities (projects, notebooks, quizzes, essays, presentations, etc.). Student output will be assessed and the appropriate mastery level that was demonstrated will be assigned. Periodic checks and grading of assignments will take place to check for understanding and to ensure the completion of assignments. Benchmark assessments will be administered at the end of each unit.

## Behavioral Expectations

1. Be safe
2. Be Respectful
3. Be Responsible
4. Work Together

## Citizenship Grading Policy

Citizenship is a reflection of the general behavior, attitude, values, and habits of an individual student in the school community. They measure personal qualities, not academic performance, and will not be equated with the academic grade. All students will begin with a "satisfactory" and will either move up or down based on their overall contribution to the class & school community.



- E - Exceeds**
- M - Meets**
- I - Inconsistent**
- U - Unsatisfactory**



### Student Goal: Ride the Bike Independently

	<b>4</b>	<b>Exceeding the Standard</b> The student can not only ride the bike independently, but also perform stunts!	A = 90%
	<b>3</b>	<b>Meeting the Standard</b> The student is successful at riding the bike independently.	B = 75%
	<b>2</b>	<b>Progressing Toward the Standard</b> The student is pedaling well and staying upright, as long as someone is assisting.	C = 50%
	<b>1</b>	<b>Not Meeting the Standard</b> The student is riding a bike, but only with the use of training wheels	D = 25%

## Attendance

Students must be "in class" to gain the most from their education. Daily attendance will be taken during class.

It is the student's responsibility to determine missed work due to an absence, by checking Canvas or with a peer from class. Students have until the end of the current grading period to make up work.

# General Expectations



## Assignments & Homework

Copy **BOTH** the assignment & homework DAILY in your student agenda. Being organized and prepared can lead to good grades and a successful school year.

## Cheating

Think and act for yourself! Copying or letting someone else copy is not acceptable. Instead, ask for help!



## Late Work

Late work will be accepted but **MUST** be complete and within the current grading period. Late work may be subject to higher grading standards and/or attendance at mandatory office hours.

## Absent or Need Extra Help?

Check out **Canvas** ([sandiegounified.instructure.com](http://sandiegounified.instructure.com)) for the daily update and posted assignments. Request makeup work if needed. Ask questions during class or through email.



Tutoring is available during office hours after school (by appointment). I need to know that you are coming.



### Harnessing Human Energy

In their role as energy scientists, students learn about energy transfer and conversion as they design a system to power the electronic devices of rescue workers.

PS3-1: Energy  
PS3-2: Energy

### Force and Motion

As student physicists at the fictional Universal Space Agency, students must analyze what went wrong in a space station docking failure. To do so, they need to apply what they learn about forces, changes in motion, and collisions.

PS2-1: Motion and Stability: Forces and Interactions  
PS2-2: Motion and Stability: Forces and Interactions

### Force and Motion: Engineering Internship

As mechanical engineering interns, students apply ideas about force and motion, as well as engineering and design concepts, to design supply pods to be dropped in disaster areas.

ETS1-1: Engineering Design  
ETS1-2: Engineering Design  
ETS1-3: Engineering Design  
ETS1-4: Engineering Design

### Magnetic Fields

In their roles as student physicists, students must analyze why the new magnet-driven space jet launcher is not working as expected. They apply ideas about non-touching forces and potential energy.

PS2-3: Motion and Stability: Forces and Interactions  
PS2-4: Motion and Stability: Forces and Interactions  
PS2-5: Motion and Stability: Forces and Interactions  
PS3-2: Energy

### Light Waves

In their role as spectroscopists, students learn about light waves and how they interact with matter, and apply this knowledge to investigate Australia's elevated skin cancer rate.

PS4-1: Waves and their Applications in Technologies for Information Transfer  
PS4-2: Waves and their Applications in Technologies for Information Transfer  
PS4-3: Waves and their Applications in Technologies for Information Transfer

### Earth, Moon, and Sun

Students play the role of student astronomers who must learn about the Earth/moon/sun system, including phases and eclipses, in order to advise an astrophotographer who is photographing moon features.

ESS1-1: Earth's Place in the Universe  
ESS1-2: Earth's Place in the Universe  
ESS1-3: Earth's Place in the Universe

### Natural Selection

In the role of biologists, students investigate how a population of rough-skinned newts in Oregon State Park become incredibly poisonous. They learn about variation, adaptation, and the mechanism of natural selection.

LS3-1: Heredity: Inheritance and Variation of Traits  
LS4-4: Biological Evolution: Unity and Diversity  
LS4-6: Biological Evolution: Unity and Diversity

### Engineering Internship: Natural Selection

As clinical engineers, students apply what they have learned about natural selection as well as engineering and design concepts to develop, test, and refine treatments for drug-resistant malaria.

ETS1-1: Engineering Design  
ETS1-2: Engineering Design  
ETS1-3: Engineering Design  
ETS1-4: Engineering Design

### Evolutionary History

In the role of paleontologists, students investigate a fossil recently excavated in Egypt that could be closely related to whales or to wolves. They learn how the fossil record helps provide evidence for evolutionary relationships.

LS4-1: Biological Evolution: Unity and Diversity  
LS4-2: Biological Evolution: Unity and Diversity  
LS4-3: Biological Evolution: Unity and Diversity