

8th Grade Science
Ms. Cossey
West Middle School

Dear Parents/Guardians and Students,

I would like to welcome you to **8th Grade Science** and take this opportunity to express how much I am looking forward to working with you and your young student this semester. There are a few policies that you and your child need to be made aware of.

Behavior: In order for a superior learning environment to be created and maintained, each student must take responsibility for their own behavior. All students will be required to follow all classroom/ school rules and procedures at all times.

Classroom Rules:

- 1. Students must be on time and in their assigned seat when class begins**
- 2. Students must be prepared with appropriate supplies when class begins.**
- 3. Students must pay attention and follow all directions that are given.**
- 4. Each student should maintain a positive and respectful attitude.**

Supplies: The following materials will be needed for Science class: 3 ring hardback notebook (1.5 in) , pencils, wide rule notebook paper, colored pencils, 70 page composition notebook (typically these are black and marble colored- the pages should **NOT** be perforated). **NO SPIRAL NOTEBOOKS** will be allowed in science class as they can potentially damage lab table tops.

Absentee Make-up work: A student who acquires an absence has the responsibility to find out what the missed assignments were for the day(s) missed. The student has one day for each day absent to complete the work missed. If a child will have an extended absence, it is usually beneficial for them to touch base with me and request work.

Late work and/or incomplete assignments: All homework/assignments should be completed on the assigned due date. Late work and incomplete assignments will be graded and given a deserving grade. No assignments will be accepted once a grading period has ended unless there is an extenuating circumstance.

Grading Categories

Tests	35% (quarterly folder will be counted as a test)
Quizzes	5% (Undetermined quiz frequency)
Class work/Homework	50% (The bulk of the “work” will be completed in class)
Journal	10% (this includes notes and answers from investigations, added video notes, sketches, etc.)

All Tennessee Academic Standards for Science can be accessed through:

<https://www.tn.gov/education/instruction/academic-standards/science-standards.html>

The middle school science courses are each a mixture of Physical, Earth and Space, and Life Sciences as well as Engineering, Technology, and Applied Science(ETS). The 8th grade standards reflect this mixture of subjects. The following guide is not exhaustive, but rather a framework that has been adapted from the state standards. The amount of time spent on different topics is subject to change depending upon a number of factors.

Week 1

Introduction to 8th Grade Science

Students will:

- Get to know the teacher and help the teacher get to know them
- learn expectations for the class
- communicate goals, concerns, and give input about things they'd like to do in the class
- discuss upcoming topics

Weeks 2-3

Basic Procedures/Safety

Students will learn:

- safe laboratory practices
- how to choose the appropriate tools for the task
- how to identify/develop variables and controls
- basic graphing(review of previously acquired skills)

Weeks 4-15

Motion and Stability: Forces and Interactions, Waves and Their Applications in Technologies for Information Transfer.

Students will:

- Design and conduct investigations concerning the relationship between magnetism and electricity.
- Discover and learn to utilize Ohm's Law
- Learn about generators, motors, etc.
- Examine Newton's Laws
- Learn basic properties of waves (frequency, amplitude, speed, and wavelength)
- Compare different types of waves and look at the role they play in communication

Weeks 16-21

Earth's Systems, Earth and Human Activity

Students will:

- Evaluate seismographic data to create models of Earth's structure
- Describe/identify different types of rocks
- Examine plate movements and boundaries
- Learn how plate movements can relate to the occurrence of natural disasters and change the features of Earth's Surface
- Map and describe patterns in the locations of volcanoes and earthquakes as they relate to plate boundaries, interactions and hotspots.

Weeks 22- 27

Engineering Design

Students will:

- Examine ongoing testing and modification for optimal designs of motors and generators
- Consider how design improvements in motors and generators can impact how we use energy sources.
- Learn about different technologies that allow us to collect data about the Earth
- Research how data from technologies provides information about the universe
- Discuss how improvements in technologies make our lives different
- Discuss the potential impact of technological developments on the environment

Weeks 28-36

Biological Change

Students will:

- Analyze patterns in the fossil record that document the existence and extinction of life forms throughout Earth's history.
- Examine factors that impact survival in changing environments
- Consider how technologies have changed the way humans use artificial selection to influence the passing of desired traits to subsequent generations of a given species.
- Explore current trends in the field of genetics as it relates to epidemiology and the curing and treatment of diseases both infectious and non-infectious (i.e. Developments in cancer and Alzheimer's research, etc.)