

Middle School Science - 7th & 8th Grades



Syllabus

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Welcome to another school year! I am looking forward to continuing your science education and building on the concepts we explored together last year. I hope you truly enjoy your time in my class this year and encourage you to talk with me if there is anything I can do to help you find success in your scientific endeavors. Here are some details that you should know...

Scientific Literacy “is the knowledge and understanding of scientific concepts and processes required for personal decision making, participation in civic and cultural affairs, and economic productivity. It also includes specific types of abilities.” This is the ultimate goal of my class...to foster an appreciation and understanding of how science works so that all students, no matter what they chose to do in life, become better problem solvers, deep thinkers and intelligent Earth dwellers. To that end, it is my aim to make the work we do in my class REAL so there is no doubt about the relevance of the final outcome. Project Based Learning (PBL) will be a significant part of class as it is a natural fit with the scientific process.

Citizen Science: Both grades will participate in citizen science initiatives, which allow students to collect real data that is submitted for professional scientists to access and analyze. 7th grade will be submitting data collected from trees on the property to Project Budburst (budburst.org) and 8th grade will perform water quality tests at the Red Cedar River and will submit the data to GM Green (through [Woldumar Nature Center](#)).

Materials: Please bring the following supplies to every class, unless told otherwise:

- Composition notebook – may be left in the room in the designated area
- Folder or binder for loose papers – please keep the folder just for science papers
- Notebook paper
- Textbook (if you have one – see note on textbooks below)
- Pencil & Pen

Textbook: We are still evaluating new science resources for the school this year. Because no printed textbook is aligned with the most recent science standards (NGSS), we are investigating digital texts. In the meantime, we will be using a variety of resources to learn science concepts. Old textbooks will be utilized mainly for background information and introduction to vocabulary.

Standards: All science instruction in 7th and 8th grade this year will be aligned with the Next Generation Science Standards for life and Earth sciences. If you would like more information about specific content or would like to see the language of the standards (much more performance based) please refer to the NGSS website (www.nextgenscience.org)

In general, the following units will be covered in each grade:

7th – Life Science: Matter and Its Interactions
Structure, Function and Information Processing (Cells and Heredity)
Matter and Energy in Organisms and Ecosystems
Interdependent Relationships in Ecosystems
Growth, Development and Reproduction
Natural Selection and Adaptations

8th – Earth Science: Space Systems
History of Earth
Earth's Systems
Weather and Climate
Human Impacts

Assessments: Due to the performance based language of NGSS, tests this year will be more performance based and will require students to use provided materials to observe interactions, build models or collect evidence to explain concepts learned throughout the unit. Students will still be responsible to record science vocabulary, take notes and track learning goals to prepare for any assessment, which they will know about at least one week prior to the test date. Review sessions will always take place before assessments.

Learning Goals: Students will be tracking our learning goals as we progress through a unit. This will allow them to self-assess understanding of the objectives as we cover them and seek extra help if needed. The learning goal sheet will be graded, based on completeness, at the end of each unit and will also serve as a study guide when preparing for an assessment.

Science Fair: Students will be required to develop and implement a science experiment, focused around the theme for the year, which will include extensive data collection, interpretation and sharing results. They will be given a significant amount of class time to work on required elements of the project. The project will be a considerable part of the third and fourth quarter science grade. The science fair this year is scheduled for March 8th. Please put this on your calendar as all students are required to attend. Specific requirements and a timeline for deadlines will be provided well in advance of the first due date.

Missing/Late Work: When students miss school, for any reason, it is their responsibility to check with me about what they need to make up. Late work will be accepted for reduced points, the later it is the less it is worth. I encourage students to use their planners to stay organized and remember due dates.

Grades: A student's science grade will be based on class participation, in-class assignments, lab work, projects (including science fair), summative assessments, and a quarterly notebook score. I will try to update grades on PowerSchool weekly so keep checking so you know how your grade is changing with each update. The STA grading scale will be used to compute the grade. Please contact me (preferably through email) if you have any questions about grades that are posted.

Classroom Community: To create a supportive learning environment, encourage collaboration and foster productive discussion, we spend time at the beginning of each year discussing our classroom community norms, which are: Truthfulness, Active Listening, Personal Best, Respect and Encouragement, and Safety. Any student who is disruptive to our classroom community will be given a responsibility reminder and will be required to meet with me to create goals for improvement.

Please don't hesitate to contact me with questions, concerns or if you'd like to help out (I'll be asking for chaperones on more than one occasion for field trips ☺). It's going to be a great year!