

Welcome to 8th Grade Science

Welcome to 8th grade science! This year we will be studying:

*** Earth and Space Science**

Orbits, Gravity and Seasons
Tides and Oceans
Plate Tectonics (review)
Weather
Climate

*** Life Science**

Genetics
Reproduction
DNA
Natural Selection
Evolution

*** Physical Science**

Elements and Compounds
Physical/Chemical Changes
Phase Changes
Chemical Reactions
Forces and Motion

The structure of the class will vary daily, and may include hands-on activities, individual and group projects, labs, presentations, writing exercises, reading and vocabulary, and some mini-lectures.

Classroom Expectations - To Encourage Curiosity and Collaboration

A science classroom should be a safe place for asking questions and exploring ideas. To create this environment, you are expected to,

1. Use kind and respectful language (no put-downs)
2. Participate by actively listening and taking turns to speak and share ideas
3. Use technology in a mature and appropriate manner

Be Present and Be Prepared

You have a busy school day! There is so much going on - academically and socially. When you enter the room, take out your materials for the day and then take a deep breath. It's time to focus on Science! Try your best to put all other distractions aside. You will get the most out of each class if you are prepared and fully present.

Google Classroom

We are using Google Classroom as our Learning Management System. That means that all announcements and assignments that students need to pay attention to are posted on Google Classroom (GClassroom). You are responsible for checking the GClassroom for each class and using a calendar, agenda book or other organizational system to keep track of assignments.

Communication is key!!

Things happen! I understand. If something is preventing you from doing your best on a given day, please let me know! I am reachable by email and by using the private comment feature of GClassroom or you can come talk to me in the classroom. If you are confused or disorganized or falling behind, come talk to me! I want YOU to tell me when your work is not done before I discover it for myself - then we can make a plan to catch up. Be a strong advocate for yourself.

Looking forward to a great year!

Mrs. Stewart

Email: ssewart@arlington.k12.ma.us

Grading

I have 3 grading categories in science. Grades are designed to demonstrate student understanding of topics or growth of science skills. Behavior, compliance, participation, and organization are not part of the science grade. Students will be self-assessing their progress and growth in these categories.

Assignments marked **Learning and Practice** are not counted in the term or final grade. These assignments are a time to learn, practice, make mistakes, get feedback, learn more. I will enter them as complete or not complete and will give feedback (or they will be self-graded). If there is a grade assigned, it is informational and does not count. Students may make up missing Learning and Practice assignments and complete them anytime prior to the final topic assessments or end of term.

Assignments marked **Demonstrates Science Understanding** or **Demonstrates Science Skills** will be counted in the term or final grade. These may be models, projects, lab reports, quizzes or tests. This is an opportunity for students to show their comprehension and growth. Students who are unsatisfied with their level of understanding or demonstrated skills will have the opportunity to have a conference with me and then work to improve their understanding (revisions).

Grade Scale - Minimum Grade Policy

Thunder Science class has a minimum grade policy. The grade scale goes from 50% to 100%. When student work is missing or incomplete, the lowest available grade will be 50% of the value of the assignment. With this policy in place, the mid-point between the highest available grade and the lowest available grade is a passing grade (75%) and missing work is not disproportionately weighted as a 0%. If student work is missing, the 50% grade will be entered right away - students who were absent may complete the work for full credit.

Essential Questions

These are some of the Essential Questions we will be exploring this year. What sparks your curiosity or interest?

Earth and Space Science - How do Earth's systems interact and influence climate?

- Where is the Earth in the universe and how is Earth related to other objects in the universe?
- What are some characteristics of oceans, and why are oceans important?
- What processes change the Earth's surfaces?
- How do scientists describe and predict weather?
- What is climate and how does it impact life on Earth?
- How can human activities affect climate?

Life Sciences - How do species pass on traits to their offspring?

- Why do living things reproduce?
- How do environmental and genetic factors influence the growth of organisms?
- What are the advantages and disadvantages of asexual and sexual reproduction?
- How do variations in a species become an advantage for survival?
- How do species adapt to changing environments over time?

Physical Sciences

- What is matter and how does it change?
- What gives a substance its unique identity?
- What is the Law of Conservation Mass?
- In what ways do forces affect an object's motion?