

## Seventh Grade Science

*Ms. Leonhardt, Room 105*

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**Course Description:** The seventh grade science course begins with a study of the organization of living things. First, students will explore the relationship between the structure and function of cells, as well as tissues, organs, and organ systems such as the cardiovascular and nervous systems. An in-depth study of genetics, and the controversial technologies developed in this area of science, will take the course from the cellular level into the more complex human body. Our work with genetics will tie back to the nervous and cardiovascular systems when we discuss diseases like heart disease and Huntington's disease. Exploration of the evolutionary history of humans as well as other organisms will help students understand how humans developed into what we are today. Finally, students will develop an understanding of natural selection and how different features might allow an organism to better survive in different environments. While it is important that students understand the concepts discussed, the overarching theme is developing an understanding of the world around us. During the course of the year, students will have the opportunity to complete many hands-on investigations, problem solving activities, and creative projects, as well as view videos and complete online simulations. Students will also be encouraged to become more scientifically literate by making oral presentations on current science or health articles from approved sources.

While it is important that students understand essential vocabulary and concepts, the main goal of the year is to teach students to ask meaningful questions and learn to think critically. In our classroom, we are developing a culture of tolerance for "failing." Many students are afraid to take risks or make mistakes, but our classroom focuses on the importance of taking risks to truly understand science and make discoveries. Students are encouraged to look at their mistakes and understand how they could have done things differently in order to develop a deeper understanding of the world around them.

This year in Middle School we are in the first year of a three-year plan to implement a new learning sequence that aligns with the Next Generation Science Standards. The standards aim to integrate scientific learning with real-life phenomenon to allow students to more actively engage with scientific principles. We will be piloting two units from a well-reviewed curriculum that has developed simulations to support their NGSS-aligned curriculum materials. Of course we are doing this with a critical eye and are already planning how to supplement or build on these promising materials. Over the next three years, topics from life, physical and earth sciences will be increasingly distributed across 6<sup>th</sup> to 8<sup>th</sup> grade to show connections between scientific disciplines, allowing students to develop a better understanding of the world they live in.

**Materials:** Students are expected to come to class prepared with their binders, a pen or pencil and a charged Chromebook. Students will be given appropriate readings from textbooks, scientific articles, and other sources as necessary. *Amplify Science* workbooks will be distributed at the start of appropriate units.

**Grading Policy:** Assignments are given point values based on the depth of material covered and time required to complete. A student's points will be divided by the total possible points during a given grading period to determine the grade. Assignments such as classwork, in-class engagement, labs, homework, and assessments will all count toward a grade. Major assessments may include a mixture of tests and hands-on practical labs.

**Extra Help:** On Monday, Tuesday, Thursday, and Friday, extra help is offered from 11:10-11:25. Additional extra help times can be arranged by request, but students should request an appointment to ensure I can be there at a specific day and time.

**Homework:** Homework will be assigned to prepare students for activities or lessons on the following day. As such, homework assignments are due the day after they are assigned unless otherwise specified. Homework assignments will be listed on the homework portal, and digital copies are available on Schoology accounts in the case of lost or forgotten assignments.

Tests, major assessments and labs will be allowed to be redone at full credit. However, students with a C or lower are required to come to extra help prior to redoing the assessment and students are required to work out a schedule with me to re-take it. The grade of the redone assessment will be the final score for the assessment.

**Academic Integrity:** *In keeping with the academic honesty policy, the work that any student brings to class should be his or her own, irrespective of whether it is being collected or graded.*

If you have any concerns about assignments, progress, or the 7<sup>th</sup> grade science course, feel free to reach out to me. You can email me at [Meghan\\_leonhardt@fa.org](mailto:Meghan_leonhardt@fa.org)