



8th Grade Science

8th Grade Physical Science - Year at a Glance

Course #2003010, 2003020, 2002115

A Note to Parents: The Florida state standards require that the science teacher plan lessons that build knowledge of various scientific concepts, develop the ability to apply these concepts, and engage students in critical thinking. To achieve these goals, students will take part in a range of activities including reading, discussions, writing, lab activities and projects. Safety is paramount in science labs and your child's teacher will ensure a safe learning environment.

Please note the units of study listed below indicate the course sequence. Instructional pacing may vary.

Course Description

Effective science learning enables our students to connect and apply science concepts and processes to everyday events. Students learn science by being actively engaged in the following ways: making observations; designing and conducting experiments and other types of investigations; collecting and organizing data; making predictions and possible conclusions; and communicating their understanding. The **Physical Sciences** course is an interactive course that uses up-to-date technology to investigate the following topics: Nature of Science; Force and Motion; Types of Energy; and Matter and Chemistry.

Advanced Level Course Note: Advanced courses require a greater demand on students through increased academic rigor. Academic rigor is obtained through the application, analysis, evaluation, and creation of complex ideas that are often abstract and multi-faceted. Students are challenged to think and collaborate critically on the content they are learning. Honors level rigor will be achieved by increasing text complexity through text selection, focus on high-level qualitative measures, and complexity of task. Instruction will be structured to give students a deeper understanding of conceptual themes and organization within and across disciplines.

International Baccalaureate Middle Years Program Note: The International Baccalaureate® aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect. The MYP curriculum framework comprises eight subject groups, providing a broad and balanced education for early adolescents. The MYP requires at least 50 hours of teaching time for each subject group, in each year of the program. The MYP is inclusive by design; students of all interests and academic abilities can benefit from their participation.

Cambridge Pre-AICE Program Note: The Cambridge Pre-AICE is a prestigious college preparatory program. It is designed for advanced students with a commitment to excellence, and provides a more rigorous, faster-paced instruction in the core subjects of math, science, and language arts. Advanced students can obtain high school credits toward acceleration in the subjects of Geometry, Algebra, Physical Science, Spanish and Emerging Technology.

CPALM Link

Please follow the links below to learn more about the course expectations, the course standards, and to access student resources. The student resources include Florida Department of Education recommendations that students can use to learn the concepts and skills in this course.

M/J Physical Science: <https://www.cpalms.org/PreviewCourse/Preview/4247>

M/J Physical Science Advanced: <https://www.cpalms.org/PreviewCourse/Preview/4262>

M/J Science 3 Cambridge Lower Secondary : <https://www.cpalms.org/PreviewCourse/Preview/4328>

| Unit of Study | |
|---|--|
| <p>Quarter 1 Aug 10 – Oct 12</p> | <p><i>Nature of Science</i> <i>Unit 1 – Energy Force and Motion</i></p> <ul style="list-style-type: none"> • Motion • Types of Energy • Newtons Laws • Electricity and Magnetism <p><i>Unit 2 – Light Energy</i></p> <ul style="list-style-type: none"> • Heat and Temperature • Types of Waves • Electromagnetic Spectrum • Nature of Light |
| <p>Quarter 2 Oct 13 – Dec 22</p> | <p><i>Unit 3 – Thermal Energy</i></p> <ul style="list-style-type: none"> • Heat • Temperature • Types of Heat Transfer <p><i>Unit 4 – Transforming Energy</i></p> <ul style="list-style-type: none"> • Human Use of Energy • Energy Conservation • Energy Storage and Transport |
| <p>Quarter 3 Jan 11 – Mar 11</p> | <p><i>Unit 5 – Properties of Matter</i></p> <ul style="list-style-type: none"> • Mass • Density • States of Matter • Properties of Matter <p><i>Unit 6 – Structure of Matter</i></p> <ul style="list-style-type: none"> • Structure of Atoms • Changes in States of Matter • Periodic Table |
| <p>Quarter 4 Mar 22 – May 27</p> | <p><i>Unit 7 – Chemical Changes</i></p> <ul style="list-style-type: none"> • Molecules • Compounds • Acids and Bases • Chemical Reactions <p><i>State Testing Review</i> Students are guided through the review of 6th and 7th grade standards to prepare for the annual State Science Assessment.</p> |

Course Resources

Core Techbook:

Discovery Education Science Online Techbook

For more information on this resource: <https://www.discoveryeducation.com/programs/science/middle-school/>

Supplemental Resources:

Middle School eSources which are accessed through MySCS. <https://launchpad.classlink.com/sarasota>

For additional supplemental resources, please see your child’s course syllabus.