
PETERS TOWNSHIP MIDDLE SCHOOL
COURSE SYLLABUS: SCIENCE 7

Course Information	Teacher Information
<u>Course Length:</u> Full Year	<u>Name:</u> Mrs. Palko, Mrs. Markowski, Mrs. Bernardo-Pankuch

Course Overview and Essential Skills

The 7th grade science curriculum offers the 21st century learner an inquiry based approach to units such as the scientific method, Earth's structure, chemistry, astronomy, cell biology and genetics and forces and motion. Through hands on learning, technology, problem based units, and synergy and collaboration with classmates, essential questions will be answered for each topic of study. Also incorporated is an interdisciplinary approach to learning through STEM that connects real world lessons to school, community, work and global awareness.

Course Textbook, Supplemental Resources

Title:

- Anderson, Michelle, et al. (2017). *Physical iScience*. Columbus: McGraw-Hill Education.
- Anderson, Michelle, et al. (2017). *Life iScience*. Columbus: McGraw-Hill Education.
- Anderson, Michelle, et al. (2017). *Earth and Space iScience*. Columbus: McGraw-Hill Education.

Required Materials

- Binder, book cover, notebook paper, writing utensils, calculator, note cards

Course Outline of Material Covered:

Unit or Topic	Course Activities/Resources	Timeframe
Scientific Inquiry and the Metric System	Lab safety poem, paper airplane activity, online plant experiment simulation, matchbox car activity, reflex lab, mealworm experiment, scientific method quiz, measurement lab, using the metric system activity, metric system quiz	6 Weeks
Chemistry	Classifying activity, element symbol note cards, element symbol quiz, aluminum foil boat lab, element model and research project, carbon dioxide rocket activity, volume lab, density lab, gas law activities, chemistry test, polymer activities, surface tension lab, chemical reaction lab, chemical bonding test	10 weeks
Astronomy	Constellation presentation, seasons diagram, seasons simulation, moon	5 weeks

	phases activity, seasons and moon quiz, gravity activity, planet presentation, stellar evolution video (25 minutes), stellar evolution activity, Hubble and Webb activity, astronomy test	
Earth Science	Layers of the Earth diagram, convection current simulation, boundaries lab, crystal lab, mineral identification lab, rock identification lab, rock cycle simulation, Earth's structure test.	4 weeks
Cell Biology and Genetics	Cell comparison activity, cell diagram, microscope lab, cell structure quiz, DNA extraction lab, DNA model lab, osmosis activity, cell cycle simulation, mitosis video (15 minutes), micro-organism lab, cell processes test, traits lab, Punnett square activity, natural selection lab, genetics quiz	11 weeks

*Depending on the needs of the class or changes in the school year, the course outline is subject to change.

Homework:

Homework assignments are assigned with each unit but will vary depending on the students' needs. Homework may include assigned readings, outlining of textbook sections, and worksheets designed to reinforce the content.

Quarterly Review Quizzes:

At the end of each quarter, a cumulative quarterly quiz or review will be administered.

Binder Quizzes:

Binder quizzes will be randomly administered throughout the year on class notes and focus questions.

Teacher Grading Policy:

- Grades are calculated using a total point system. The grade for the marking period will be determined by the sum of the earned points divided by the total possible points for the marking period.
- The final course grade is calculated using an average of the letter grades from each marking period as detailed in the Student Handbook.
- Late homework is not accepted for credit. One day late labs and projects will be accepted for half credit.