**Grade 9 - 12 - Astronomy Solar/Galactic Honors - #2020910 - Scope & Sequence 2017-2018**

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| **First 9 Weeks** | **Second 9 Weeks** | **Third 9 Weeks** | **Fourth 9 Weeks** |
| **Establishing Classroom Routines**  [**The Practice of Astronomy**](https://docs.google.com/a/ocps.net/document/d/1B7mVi5ws4Vh6wJFK7ggSQZZCASreXh_UICooPpxPbAk/edit?usp=sharing)  (8/14 - 8/23)  Lab Rules, Procedures, and Safety  SC.912.N.1.1 - Solving Scientific Problems  [**The Sky**](https://docs.google.com/a/ocps.net/document/d/1SRHu2Me0vkDR8_yej-WrYSFX3IY-z40nLryDZw1m7Z8/edit?usp=sharing)  (8/24 - 9/8)  SC.912.E.5.10 - Locating Celestial Objects with a Coordinate System  SC.912.E.5.11 - Astronomical Distances  [**Sun, Earth, Moon**](https://docs.google.com/a/ocps.net/document/d/1vV3SIwDwFfTwRn4Gp-ScnqAZ6BBfZr-FrGeW1yZ5nQ4/edit?usp=sharing)  (9/11 - 9/29)  \*SC.912.E.5.2 - Organization and Forces Effecting Matter  \*SC.912.E.5.4 - Solar Properties and Conditions  SC.912.E.7.7 - Global Climate Change  SC.912.P.10.4 - Heat  [**Exploring the Universe**](https://docs.google.com/a/ocps.net/document/d/15gjAs3Sswx6E9EK1ZNZNTIocIfEi_DImAwloRTGpi70/edit?usp=sharing)  (10/2 - 10/13)  SC.912.E.5.7 - History of Space Exploration and Technological Development  SC.912.E.5.9 - Florida and Space Exploration | **The Planets**  (10/17 - 11/3)  \*SC.912.E.5.2 - Organization and Forces Effecting Matter  SC.912.E.5.11 - Astronomical Distances  SC.912.E.6.2 - Surface Features and Processes  SC.912.E.7.7 - Global Climate Change  SC.912.P.8.1 - States of Matter  **Planetary Movement**  (11/6 - 12/1)  \*SC.912.E.5.5 - Formation of Planetary Systems  \*SC.912.E.5.6 - Kepler’s Laws  SC.912.P.12.2 - Position, Velocity, and Acceleration  SC.912.P.12.3 - Newton's Three Laws of Motion  SC.912.P.12.4 - Gravitational Force Between Two Objects  SC.912.P.12.6 - Angular Momentum  **History of Sky Observation**  (12/4 - 12/21)  SC.912.E.5.7 - History of Space Exploration and Technological Development  SC.912.E.5.8 - History of the Electromagnetic Spectrum and Observation Tools  SC.912.P.10.18 - Theory of Electromagnetism (Electromagnetic Spectrum)  SC.912.N.3.1 - Scientific Theories | **Telescopy**  (1/8 - 1/26)  SC.912.P.10.20 - Properties of Waves  SC.912.P.10.22 - Images Location and Properties  **Spectroscopy**  (1/29 - 2/16)  SC.912.P.8.4 - Atomic Theory and Atomic Structure  SC.912.P.10.9 - Atomic Level Energy  SC.912.P.10.19 - Objects Emit and Absorb Electromagnetic Radiation  SC.912.P.10.21 - Doppler Effect  **The Stars**  (2/20 - 3/15)  \*SC.912.E.5.2 - Organization and Forces Effecting Matter  \*SC.912.E.5.3 - Stellar Evolution  SC.912.P.8.1 - States of Matter  SC.912.P.10.11 - Nuclear Reactions  SC.912.P.10.19 - Objects Emit and Absorb Electromagnetic Radiation  SC.912.P.12.4 - Gravitational Force Between Two Objects | **Celestial Objects**  (3/26 - 4/20)  \*SC.912.E.5.3 - Stellar Evolution  SC.912.E.5.11 - Astronomical Distances  SC.912.P.10.4 - Heat  SC.912.P.10.10 - Four Fundamental Forces  SC.912.P.12.6 - Angular Momentum  **Cosmology**  (4/23 - 5/30)  \*SC.912.E.5.1 - Big Bang  \*SC.912.E.5.2 - Organization and Forces Effecting Matter  SC.912.P.10.21 - Doppler Effect  SC.912.P.12.2 - Position, Velocity, and Acceleration  SC.912.P.12.4 - Gravitational Force Between Two Objects  SC.912.P.12.7 - Speed of Light  SC.912.P.12.8 - Special Theory of Relativity  SC.912.P.12.9 - Frame of Reference  SC.912.N.3.1 - Scientific Theories  **Common Final Exam**  2017-18 Testing Window TBA |
| **Standards, embedded throughout the course**  SC.912.N.1.1 - Solving Scientific Problems  SC.912.N.1.2 - Characteristics of Science  SC.912.N.1.3 - Evaluating Scientific Claims  SC.912.N.1.4 - Credibility of Scientific Claims  SC.912.N.1.5 - Similar Scientific Investigation  SC.912.N.1.6 - Scientific Inferences  SC.912.N.1.7 - Creativity in Science  SC.912.N.2.1 - Science vs. Pseudoscience  SC.912.N.2.2 - Questions Science Addresses  SC.912.N.2.3 - Pseudoscience  SC.912.N.2.4 - Qualities of Scientific Knowledge  SC.912.N.2.5 - Scientific Knowledge  SC.912.N.3.1 - Scientific Theories  SC.912.N.3.2 - Development of Theories  SC.912.N.3.3 - Scientific Explanation  SC.912.N.3.4 - Scientific Laws  SC.912.N.3.5 - Scientific Models  SC.912.N.4.1 - Scientific Knowledge and Reasoning | | | |

\*Marked Earth/space science standards indicate foundational knowledge that students interact with in lower level Earth/space science classes, yet are not listed on CPALMS as standards for this course. According to DOE “The standards addressed are certainly important to the fundamental understanding of Astronomy. It was this reasoning that placed these foundational standards in Earth Science, but not in the advanced course of Solar/Galactic Astronomy. Since the course descriptions drive any State or local assessment, it was decided that the repetition may not be necessary. However, please know that it is certainly expected that these standards may be addressed again in this course. When developing curriculum, please know that the State course description is the minimum framework for your course. Additional standards may be added to provide for a more robust course. Those standards may be science, mathematics, history, or other content areas. There is no penalty for adding additional standards to your curriculum as long as you follow the minimum framework provided by the State.” Based on this feedback, they have been inserted into the scope and sequence appropriately.