**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 SafetySC.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 ConditionsSC.912.E.7.7 - Global Climate ChangeSC.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 DevelopmentSC.912.E.5.9 - Florida and Space Exploration | **The Planets** (10/17 - 11/3)\*SC.912.E.5.2 - Organization and Forces Effecting MatterSC.912.E.5.11 - Astronomical Distances SC.912.E.6.2 - Surface Features and Processes SC.912.E.7.7 - Global Climate ChangeSC.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 LawsSC.912.P.12.2 - Position, Velocity, and Acceleration SC.912.P.12.3 - Newton's Three Laws of MotionSC.912.P.12.4 - Gravitational Force Between Two ObjectsSC.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 DevelopmentSC.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 StructureSC.912.P.10.9 - Atomic Level EnergySC.912.P.10.19 - Objects Emit and Absorb Electromagnetic RadiationSC.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 EvolutionSC.912.P.8.1 - States of MatterSC.912.P.10.11 - Nuclear ReactionsSC.912.P.10.19 - Objects Emit and Absorb Electromagnetic RadiationSC.912.P.12.4 - Gravitational Force Between Two Objects | **Celestial Objects**(3/26 - 4/20)\*SC.912.E.5.3 - Stellar EvolutionSC.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 MatterSC.912.P.10.21 - Doppler EffectSC.912.P.12.2 - Position, Velocity, and Acceleration SC.912.P.12.4 - Gravitational Force Between Two ObjectsSC.912.P.12.7 - Speed of Light SC.912.P.12.8 - Special Theory of Relativity SC.912.P.12.9 - Frame of ReferenceSC.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 ProblemsSC.912.N.1.2 - Characteristics of ScienceSC.912.N.1.3 - Evaluating Scientific ClaimsSC.912.N.1.4 - Credibility of Scientific ClaimsSC.912.N.1.5 - Similar Scientific InvestigationSC.912.N.1.6 - Scientific InferencesSC.912.N.1.7 - Creativity in ScienceSC.912.N.2.1 - Science vs. PseudoscienceSC.912.N.2.2 - Questions Science AddressesSC.912.N.2.3 - PseudoscienceSC.912.N.2.4 - Qualities of Scientific KnowledgeSC.912.N.2.5 - Scientific KnowledgeSC.912.N.3.1 - Scientific TheoriesSC.912.N.3.2 - Development of TheoriesSC.912.N.3.3 - Scientific ExplanationSC.912.N.3.4 - Scientific LawsSC.912.N.3.5 - Scientific ModelsSC.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.