# PRESCOTT UNIFIED SCHOOL DISTRICT
## District Instructional Guide
## Date Revised JUNE 2017

| Grade Level: High School | Subject: Beginning Integrated | Time: Semester 1 / Quarter 1 | Core Text: Earth Science, 2017, Heinbaugh and Winslow |
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| Time | Topic | Content (Nouns) | Skills (Verbs) | Standards | Assessments |
|---|---|---|---|---|---|
| Week 1 | Intro to Science | Lab Safety Rules | TSW (The student will) differentiate between safe and unsafe lab procedures. Analyze concepts in text and determine the meaning of symbols and key terms.<br><br>TSW demonstrate safe and ethical procedure (e.g., use and care of technology, materials, organisms) and behavior in all science inquiry. | S1C2 P01 S1C2 P02 ELA 9-10 RST 10.4, 10.5, 10.10 | Return Signed Lab Safety Contract |
| | | Scientific Method | TSW explain a hypothesis. Describe how a hypothesis is tested. Current Science Topic, cite evidence determine central idea and summarize<br><br>TSW demonstrate safe and ethical procedure (e.g., use and care of technology, materials, organisms) and behavior in all science inquiry. | S1C1, S1C2, S1C3 S2C2 ELA 9-10 RST 10.1, 10.2, 10.8<br><br>S1C1 P01-4 ELA 9-10 RST 10.3 | |

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| Weeks 2 - 5 | The Solar System | The Moon and the Sun | TSW explain the phases of the Moon, eclipses (lunar and solar), and the interaction of the Sun, Moon, and Earth (tidal effect). | S6C3PO3 | |
| | | The Planets | TSW explain the order, composition, and relation of planets to one another.<br><br>TSW describe the scientific Theory of the origin of the solar system (solar nebular hypothesis).<br><br>Describe the Big Bang Theory as an explanation of the origin of the universe. | S6C3PO2<br>S6C3PO3<br><br>S6C3P01<br><br>S6C4PO1 | |
| | | Comets, Asteroids, Meteors | TSW describe the characteristics, location, and motion of the various kinds of objects in our solar system, including the Sun, planets, satellites, comets, meteors, and asteroids. | S6C3PO2<br>S6C3PO3 | Unit Exam |
| Weeks 6-8 | The Universe outside our Solar System | Electromagnetic Spectrum | TSW explain the relationship between the wavelength of light absorbed or released by an atom or molecule and the transfer of a discrete amount of energy. | S5C5PO7 | |

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| | | The Celestial sphere | TSW explain the relationships and locations of stars in our celestial sphere with proper scientific verbiage. | S5C5PO7 | |
| | | H-R Diagram | TSW describe the fusion process that takes place in stars.<br>TSW analyze the evolution of various types of stars using the Hertzsprung-Russell (HR) diagram. | S6C4PO2<br><br>S6C4PO3 | |
| | | Life of a Star and the Sun | TSW compare the evolution (life cycles) of stars of different masses (low and high mass).<br><br>TSW will explain the formation of the light elements in stars and the heavier elements in Supernova explosions.<br><br>TSW explain the evolution and life cycles of galaxies. | S6C4PO4<br><br>S6C4P05<br><br>S6C4PO6 | Unit Exam |

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| Grade Level: High School | Subject: Beginning Integrated | Time: Semester 1/ Quarter 2 | Core Text: Earth Science, 2017, Heinbaugh and Winslow |
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| Time | Topic | Content (Nouns) | Skills (Verbs) | Standards | Assessments |
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| Weeks 1 - 5 | Dynamic Earth | Earth's Interior | TSW describe the composition and layers of Earth's layers including the crust, mantle and core; describe the flow of energy to and from the earth.<br><br>TSW demonstrate the relationship between the Earth's internal convection heat flow and plate tectonics. | S6C2PO1<br><br>S6C2PO4 | Unit Exam |
| | | Minerals and Identification | TSW classify rocks and minerals by the following: grain, color, texture and hardness<br><br>TSW identify ways materials are cycled within the Earth system (i.e., water cycle, rock cycle). | S6C1PO1<br><br>S6C1PO1 | |
| | | Rocks and the Rocks Cycle | TSW identify ways materials are cycled within the Earth system (i.e., water cycle, rock cycle).<br><br>TSW classify rocks and | S6C1PO1<br><br>S6C1PO1 | |

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| | | | minerals by the following: grain, color, texture and hardness<br><br>TSW explain how the rock cycle is related to plate tectonics.<br><br>TSW demonstrate how dynamic processes such as weathering, erosion, sedimentation, metamorphism, and orogenesis relate to redistribution of materials within the Earth system | S6C1PO3<br><br>S6C1PO2 | |
| | | Earth's History | TSW interpret a geologic time scale.<br><br>TSW distinguish between relative and absolute geologic dating techniques.<br><br>TSW describe how life on Earth has influenced the evolution of Earth's systems.<br><br>TSW sequence major events in the Earth's evolution (mass extinctions, glacial episodes using relative and absolute dating. | S6C3PO4<br><br>S6C3PO5<br><br>S6C3PO7<br><br>S6C3PO8 | |

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| | | | Analyze patterns in the fossil record related to the theory of organic evolution. | S6C3PO9 | Unit Exam |
| Weeks 6-8 | Forces that Shape Earth's Surface | Plate Tectonics | TSW demonstrate the relationships among earthquakes, volcanoes, mountain ranges, mid-oceanic ridges, deep sea trenches, and tectonic plates.<br><br>TSW demonstrate the relationship between the Earth's internal convection heat flow and plate tectonics.<br><br>TSW will explain the mechanism of heat transfer (convection, conduction, radiation) among the atmosphere, land masses and oceans. | S6C2PO5<br><br>S6C2PO4<br><br>S6C2P02 | First Semester Final Exam |

| **Grade Level: HIgh School** | **Subject: Beginning Integrated** | **Time: Semester 2/ Quarter 3** | **Core Text:Earth Science, 2017, Heinbaugh and Winslow** |
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| **Time** | **Topic** | **Content (Nouns)** | **Skills (Verbs)** | **Standards** | **Assessment** |
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| | Forces that | Volcanoes | TSW demonstrate the | S6C2PO4 | |

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| Weeks 1 - 4 | Shape Earth's Surface | | relationship between the Earth's internal convection heat flow and plate tectonics.<br><br>TSW demonstrate the relationships among earthquakes, volcanoes, mountain ranges, midoceanic ridges, deep sea trenches, and tectonic plates. | S6C2PO5 | |
| | | Earthquakes | TSW distinguish among seismic S, P, and surface waves.<br><br>TSW analyze the seismic evidence (S and P waves) used to determine the structure of the Earth.<br><br>TSW demonstrate the relationships among earthquakes, volcanoes, mountain ranges, mid-oceanic ridges, deep sea trenches, and tectonic plates | S6C2PO6<br><br>S6C2PO7<br><br>S6C2PO5 | Unit Exam |
| Week 5 - 8 | Earth's Atmosphere | Climate | TSW explain the effect of heat transfer on climate and weather, desertification, glaciation. | S6C2PO9<br>S6C2PO16 | |

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| | | | TSW list the factors that determine climate (e.g., altitude, latitude, water bodies, precipitation, prevailing winds, topography). | S6C2PO15 | |
| | | Meteorology - Weather | TSW explain the effect of heat transfer on climate and weather.<br><br>TSW describe the origin, life cyclic, behavior of weather systems (air masses, front, high and low systems).<br><br>Describe the conditions that causes Severe Weather (hurricanes, tornadoes, thunderstorms).<br><br>Propose appropriate safety measures that can be taken in preparation for severe weather. | S6C2PO03<br><br>S6C2PO11<br><br>S6C2PO12<br><br>S6C2PO13 | Unit Exam |

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| Time | Topic | Content (Nouns) | Skills (Verbs) | Standards | Assessment |
|---|---|---|---|---|---|
| Weeks 1- 6 | Earth's Water Features | Cycles in the Earth's System | TSW identify ways materials are cycled within the Earth system (i.e., carbon cycle, water cycle, rock cycle). | S6C1PO1 | |
| | | | TSW describe factors that impact current and future water quantity and quality including surface, ground, and local water issues. | S6C1PO5 | Unit Exam |
| | | Oceanography | TSW identify the topographical features of the ocean, such as the continental shelf, mid-Atlantic Ridge, mid-Atlantic Rift, slope, seamount, and trench. | S6C2PO5 | |
| | | | TSW describe ocean currents and upwelling, gyres, the Coriolis Effect, and bathymetric mapping. | S6C2PO10 | Unit Exam |

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| Week 7- 8 | Environmental Issues | Change over Time | TSW explain the causes of glaciation, desertification, solar activity and the greenhouse effect. | S6C2PO16 | |
| | | Environmental Effects of Natural and Manmade Phenomena | TSW describe the effects of acid rain, smoke, volcanic dust, urban development, greenhouse gases, and climate change. | S6C2PO17 | Unit Exam |
| | | | | | Second Semester Final Exam |