

Current Staff		Casey Adam				
Course	Earth Science					
Unit/Length	Unit Objectives/ Big Ideas	Basic Outline/ Structure	Materials/ Text	Content Vocabulary	Next Gen/CCSS	Assessments & Activities
August	<p>Earth and the Solar System: This model of the solar system can explain eclipses of the sun and moon. Earth's spin and it's axis is fixed and tilted relative to it's orbit. This tilt explains the seasons.</p>	<ul style="list-style-type: none"> -Explain why Earth has day and night. -Recognize how the changing angles of sunlight produce seasons. -Model Earth's rotation in an experiment. 	<p>Chapter 20 - Earth, Moon, and Sun 20.1 Earth rotates on a Tilted Axis and Orbits the Sun.</p>	Axis of Rotation, Season , Equinox, Solstice, Mare, Impact Crater, Eclipse, Umbra, Penumbra,	NG: ESS1.B	Vocab, Re-word and Imaging, Text Reading, Q&A, Chapter Investigation- "Modelling Seasons" "Reinforcing Key Concepts" and Chapter Test
Sept	<p>The Universe and It's Stars: Patterns of the apparent motion of the sun, moon and sky can be observed, described, predicted and explained with models.</p>	<ul style="list-style-type: none"> -Explain how the moon moves. -Why the moon has phases. -What causes eclipses. -Moon's gravity causes tides on Earth. 	<p>Chapter 20 - Earth, Moon, and Sun 20.2 - The Moon is Earth's natural Satellite 20.3 - Positions of the Sun and Moon Affect Earth.</p>	Orbit, Solar System , Galaxy, Universe, Constellation, Gravity , Telescope, Satellite , Electromagnetic Radiation, Revolution	NG: ESS1.A	Vocab, Re-word and Imaging, Text Reading, Q&A, "Science on the Job" "Reinforcing Key Concepts" and Chapter Test
Sept - Oct	<p>Earth's Materials and Systems: All Earth processes are a result of energy flowing and matter cycling within and among the planet's systems.</p>	<ul style="list-style-type: none"> -Explain types of objects in the Solar System. -Recognize sizes and distances of objects in the Solar System. 	<p>Chapter 21 - Planets and other objects form a system around our Sun: Planets orbit the Sun at different distances.</p>	Tectonics, Terrestrial Planet, Gas Giant, Ring, Astronomical Unit, Volcanism, Asteroid, Comet, Meteor, Meteorite	NG: ESS1.A	Model Planet formation with an experiment. Vocab, Re-word and Imaging, Text Reading, Q&A, "Science on the Job" "Reinforcing Key Concepts" and Chapter Test

October	Earth's Materials and Systems: All Earth processes are a result of energy flowing and matter cycling within and among the planet's systems. This energy is derived from the sun and earth's hot interior. The energy that flows and matter that cycles produce chemical and physical changes in Earth's materials and living organisms.	-Explain how the sun produces energy. -Understand how energy flows through the Sun's layers. -Describe solar features and solar winds. -INVESTIGATION: How does reflection affect temperature?	Chapter 22 - Stars, Galaxies, and the Universe 22.1 - The Sun is our Local Star. Chapter 15 - Earth's Changing Atmosphere 15.2 - The Sun Supplies the Atmosphere's Energy	Fusion, Convection, Conduction, Radiation, Corona, Sunspot, Solar Wind, Light-year, Parallax, Nebula, Main Sequence, Neutron Star, Black Hole, Quasar, Doppler effect, Big Bang	NG: ESS2.A	Vocab, Re-word and Imaging, Text Reading, Q&A, "Connecting Sciences: Carbon Cycle Chemistry" "Reinforcing Key Concepts" and Chapter Test
Oct - Nov	The History of Planet Earth: The geologic time scale interpreted from rock strata provides a way to organize Earth's history. Relative Dating not absolute.	-Explain how different kinds of fossils show traces of life from Earth's past.	Chapter 9 - Views of Earth's Past. 9.1 - Earth's Past is Revealed in Rocks and Fossils 9.3 - The Geologic Time Scale Shows Earth's Past.	Fossil , Original Remains, Ice Core, Relative Age, Absolute Age, Half-life, Uniformitarianism, Geologic Time Scale	NG: ESS1.C	Vocab, Re-word and Imaging, Text Reading, Q&A, "Reinforcing Key Concepts" and Chapter Test
Nov	Biological Evolution: Evidence on Common Ancestry and Diversity: The Collection of Fossils and their placement in chronological order, through their location in sedimentary layers in which they are found through radioactive dating, known as the fossil record. It documents the existence, extinction, diversity, and change of many life forms throughout the history of life on Earth.	-Learn about what the relative ages of rock layers reveal about Earth. -Explain how the geologic time scale describes Earth's history. - Discuss pre-historical existence, extinction, diversity and change of organisms.	Chapter 9 - Views of Earth's Past. 9.1 - Earth's Past is Revealed in Rocks and Fossils 9.3 - The Geologic Time Scale Shows Earth's Past. LIFE SCIENCE TEXT: 6.1 (Copy)	Fossil, Original Remains, Ice Core, Relative Age, Absolute Age, Half-life, Geologic Time Scale, Species, Organism , Unicellular Organism, Multicellular Organism	NG: LS4.A	Vocab, Re-word and Imaging, Text Reading, Q&A, "Science on the Job" "Reinforcing Key Concepts" and Chapter Test
Nov - Dec	Plate Tectonics and Large Scale System Interactions: Maps of ancient land and water patterns,	-Describe different properties of Earth's four layers.	Chapter 6 - Plate Tectonics 6.2 - Continents Change Position Over Time	Density, Mineral, Rock , Inner Core, Outer Core, Mantle, Crust, Lithosphere,	NG: ESS2.B	Vocab, Re-word and Imaging, Text Reading, Q&A,

	based on investigations of rocks and fossils, make clear how Earth's plates have moved great distances, collided, and spread apart.	-Explain theory and evidence of plate tectonics. -Identify plate boundaries and movement.	6.4 - Plates Converge or Scrape Past Each Other	Asthenosphere, Tectonic Plate		"Science on the Job" "Reinforcing Key Concepts" and Chapter Test
December	The Roles of Water in Earth's Surface Processes: Water movements-both on the land and underground-cause weathering and erosion, which change the land's surface features and create underground formations. Water continually cycles among land, ocean, and atmosphere via transpiration, evaporation, condensation and crystallization and precipitation as well as downhill flows on land.	-Explain how water moves throughout Earth and it's atmosphere. - Understand how much of Earth's water is salt and fresh water, and how water collects and flows underground.	Chapter 5 - Erosion and Deposition 5.2 - Moving Water Shapes Land 5.3 - Waves and Wind Shapes Land Chapter 11 - The Water Planet 11.1 - Water Continually Cycles 11.2 - Fresh Water Flows and Freezes on Earth. 11.3 - Fresh Water Flows Under Ground	Drainage Basin, Divide, Floodplain, Alluvial Fan, Delta, Sinkhole, Longshore Drift, Longshore Current, Sandbar, Barrier Island, Dune, Loess, Atmosphere, Glacier, Evaporation, Condensation, Precipitation	NG: ESS2.B	Vocab, Re-word and Imaging, Text Reading, Q&A, "Science on the Job" "Reinforcing Key Concepts" and Chapter Test
January	The Roles of Water in Earth's Surface Processes: The complex patterns of the changes and the movement of water in the atmosphere, determined by the winds, landforms, and ocean salinity, temperatures, and currents, are major determinants of local weather patterns.	-Describe what causes ocean currents, how they interact with the climate and weather, and how they distribute heat around the globe.	Chapter 13 - Ocean Systems 13.1 Oceans are a Connected Syst 13.2 - Ocean Water Moves in Currents Chapter 11 - The Water Planet 11.1 - Water Continually Cycles 11.2 - Fresh Water Flows and Freezes on Earth.	Salinity, Density, Continental Shelf, Sonar, Ocean Current, Upwelling, Downwelling, El Nino, Rip Current, Tide, Tidal Range, Spring Tide, Neap Tide, Climate	NG: ESS2.C	Vocab, Re-word and Imaging, Text Reading, Q&A, "Science on the Job" "Reinforcing Key Concepts" and Chapter Test
Feb	Weather and Climate: Weather and climate are influenced by interactions involving sunlight, the ocean, the atmosphere, ice, landforms, and living things, they vary with latitude, altitude, and local and regional geography, all of which can affect oceanic and atmospheric flow patterns.		Chapter 16 - Weather Patterns 16.2 The Atmosphere has Wind Patterns Chapter 18 - Climate and Climate Change 18.2 - Earth has a Variety of Climates	Weather , Wind, Global Wind, Coriolis Effect, Jet Stream, Monsoon, Latitude, Marine Climate, Climate Zone, Microclimate, Urban Heat Island, Rain Shadow	NG: ESS2.D	Vocab, Re-word and Imaging, Text Reading, Q&A, "Science on the Job" "Reinforcing Key Concepts" and Chapter Test

