

## Earth Science

State Standard Number	State Standard Area/Description	Unit Name	Course Topic Description
SC.912.E.5	Earth in Space and Time		
SC.912.E.5.1	Cite evidence used to develop and verify the scientific theory of the Big Bang (also known as the Big Bang Theory) of the origin of the universe.	The Solar System	Origin of the Universe
SC.912.E.5.2	Identify patterns in the organization and distribution of matter in the universe and the forces that determine them.	The Solar System	The Composition of the Universe
SC.912.E.5.3	Describe and predict how the initial mass of a star determines its evolution.	The Solar System	Star Maturity
SC.912.E.5.4	Explain the physical properties of the Sun and its dynamic nature and connect them to conditions and events on Earth.	The Solar System	The Sun
SC.912.E.5.5	Explain the formation of planetary systems based on our knowledge of our Solar System and apply this knowledge to newly discovered planetary systems.	The Solar System	The Close Encounter Hypothesis Nebular Hypothesis
SC.912.E.5.6	Develop logical connections through physical principles, including Kepler's and Newton's Laws about the relationships and the effects of Earth, Moon, and Sun on each other.	The Solar System	The Sun, Moon, and Inner Planets
SC.912.E.5.7	Relate the history of and explain the justification for future space exploration and continuing technology development.	The Solar System	History of Space Exploration Advantages and Risks of Space Exploration
SC.912.E.5.8	Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.	The Solar System	The Outer Solar System and Space Exploration

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SC.912.E.5.9	Analyze the broad effects of space exploration on the economy and culture of Florida.	Teacher Guide	PowerPoint (Space Exploration and Florida's Culture & Economy)
SC.912.E.5.10	Describe and apply the coordinate system used to locate objects in the sky.	The Solar System	Structure and Composition of the Universe
SC.912.E.5.11	Distinguish the various methods of measuring astronomical distances and apply each in appropriate situations.	The Solar System	Astronomical Distances
SC.912.E.6	Earth Structures		
SC.912.E.6.1	Describe and differentiate the layers of Earth and the interactions among them.	The Study of Earth Science	Earth's Internal Structure
SC.912.E.6.2	Connect surface features to surface processes that are responsible for their formation.	Landscape Features	Glaciers Karst Topography Shorelines Eolian Systems
SC.912.E.6.3	Analyze the scientific theory of plate tectonics and identify related major processes and features as a result of moving plates.	Plate Tectonics	The Theory of Plate Tectonics Earthquakes Convergent Plate Boundaries Divergent Plate Boundaries Transform Plate Boundaries Plate Tectonics and the Landscape

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SC.912.E.6.4	Analyze how specific geologic processes and features are expressed in Florida and elsewhere.	Teacher Guide	PowerPoint (Florida's Geologic Features)
SC.912.E.6.5	Describe the geologic development of the present day oceans and identify commonly found features.	Plate Tectonics The Atmosphere-Ocean System	The Mid-Ocean Ridges Continental Rift Zones Topography of the Ocean Floor
SC.912.E.6.6	Analyze past, present, and potential future consequences to the environment resulting from various energy production technologies.	Earth's Natural Resources	Fossil Fuels Nuclear Energy Mining
SC.912.E.7	Earth Systems and Patterns		
SC.912.E.7.1	Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon.	Earth's Natural Resources Rivers and Groundwater	The Carbon Cycle Earth's Water Cycle
SC.912.E.7.2	Analyze the causes of the various kinds of surface and deep water motion within the oceans and their impacts on the transfer of energy between the poles and the equator.	The Atmosphere-Ocean System	Ocean Surface Currents Deep Ocean Currents
SC.912.E.7.3	Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.	Covered throughout the course	
SC.912.E.7.4	Summarize the conditions that contribute to the climate of a geographic area, including the relationships to lakes and oceans.	The Atmosphere-Ocean System	Influences on Climate

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SC.912.E.7.5	Predict future weather conditions based on present observations and conceptual models and recognize limitations and uncertainties of such predictions.	The Atmosphere-Ocean System	Fronts Weather Maps
SC.912.E.7.6	Relate the formation of severe weather to the various physical factors.	The Atmosphere-Ocean System	Air Masses Fronts The Formation of Storms
SC.912.E.7.7	Identify, analyze, and relate the internal (Earth system) and external (astronomical) conditions that contribute to global climate change.	The Atmosphere-Ocean System	Natural Influences on the Atmosphere Human Influences on the Atmosphere The Oceans and Global Climate Change
SC.912.E.7.8	Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively.	Teacher Guide	PowerPoint (Florida's Environment and Human Behavior)
SC.912.E.7.9	Cite evidence that the ocean has had a significant influence on climate change by absorbing, storing, and moving heat, carbon, and water.	The Atmosphere-Ocean System	The Oceans and Global Climate Change