

FLORIDA SCIENCE STANDARDS Grades 9–12
Contents Standards Mapping

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Earth and Space Science	Boardworks High School Earth Science Presentation
Standard 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.	Doppler Effect Astronomical Distances Observing the Universe
<i>SC.912.E.5.2 - Identify patterns in the organization and distribution of matter in the universe and the forces that determine them.</i>	–
SC.912.E.5.3 - Describe and predict how the initial mass of a star determines its evolution.	The Lifecycle of Stars Properties of Stars
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.	Structure of the Universe
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.	Planets of the Solar System
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.	Gravity and Orbits
<i>SC.912.E.5.7 - Relate the history of and explain the justification for future space exploration and continuing technology development.</i>	–
SC.912.E.5.8 - Connect the concepts of radiation and the electromagnetic spectrum to the use of historical and newly-developed observational tools.	Observing the Universe Telescopes
<i>SC.912.E.5.9 - Analyze the broad effects of space exploration on the economy and culture of Florida.</i>	–
<i>SC.912.E.5.10 - Describe and apply the coordinate system used to locate objects in the sky.</i>	–
SC.912.E.5.11 - Distinguish the various methods of measuring astronomical distances and apply each in appropriate situations.	Astronomical Distances
Standard 6: Earth Structures	
SC.912.E.6.1 - Describe and differentiate the layers of Earth and the interactions among them.	Earth's Structure
SC.912.E.6.2 - Connect surface features to surface processes that are responsible for their formation.	Plate Tectonics Earthquake Causes The Rock Cycle

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 Earthquake Causes Earthquake Effects Volcanoes
SC.912.E.6.4 - Analyze how specific geologic processes and features are expressed in Florida and	–
SC.912.E.6.5 - Describe the geologic development of the present day oceans and identify commonly found	Plate Tectonics
SC.912.E.6.6 - Analyze past, present, and potential future consequences to the environment resulting from various energy production technologies.	Air Pollution Climate Change Crude Oil Evidence for Climate Change Formation of Fossil Fuels Fossil Fuels Greenhouse Gases Predicting Climate Change The Impact of Mining
STANDARD 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.	The Carbon Cycle The Nitrogen Cycle The 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.	Heat Transfer and Global Interactions ENSO
SC.912.E.7.3 - Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.	The Atmosphere ENSO Heat Transfer and Global Interactions
SC.912.E.7.4 - Summarize the conditions that contribute to the climate of a geographic area, including the relationships to lakes and oceans.	Weather and Climate Precipitation The Rotation of the Earth
SC.912.E.7.5 - Predict future weather conditions based on present observations and conceptual models and recognize limitations and uncertainties of such predictions.	–
SC.912.E.7.6 - Relate the formation of severe weather to the various physical factors.	ENSO Extreme Flooding River Flooding Tropical Cyclones
SC.912.E.7.7 - Identify, analyze, and relate the internal (Earth system) and external (astronomical) conditions that contribute to global climate change.	Climate Change Greenhouse Gases The Atmosphere

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.	-
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 Carbon Cycle Heat Transfer and Global Interactions ENSO