Pacing & Curriculum Guide

Earth/Space Science 2001310

Contents:

- Earth/Space Science Course Description
- Reading Standards for Literacy in Science and Technical Subjects
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GENERAL NOTES

English Language Development ELD Standards Special Notes Section:
Teachers are required to provide listening, speaking, reading and writing instruction that allows English language learners (ELLs) to communicate information, ideas and concepts for academic success in the content area of Science. For the given level of English language proficiency and with visual, graphic, or interactive support, students will interact with grade level words, expressions, sentences and discourse to process or produce language necessary for academic success The ELD standard should specify a relevant content area concept or topic of study chosen by curriculum developers and teachers which maximizes an ELL's need for communication and social skills. To access an ELL supporting document which delineates performance definitions and descriptors, please click on the following link: http://www.cpalms.org/uploads/docs/standards/eld/SC.pdf

For additional information on the development and implementation of the ELD standards, please contact the Bureau of Student Achievement through Language Acquisition at sala@fldoe.org.

Additional Instructional Resources:
A.V.E. for Success Collection: http://www.fasa.net/iTunesU/index.cfm

Common Core State Standards for Mathematics Mathematical Practices, Grades K-12

MP 1: Make sense of problems and persevere in solving them	Mathematically proficient students will x start by explaining to themselves the meaning of a problem and looking for entry points to its solution. x analyze givens, constraints, relationships, and goals. x make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. x consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. x monitor and evaluate their progress and change course if necessary. x explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. x check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” x understand the approaches of others to solving complex problems and identify correspondences between different approaches.

CCPS Earth/Space Science Curriculum Map (Course Number: 200131

	Current Textbook Alignment: Pearson Earth Science	Standards
Quarter 1	Meteorology and Weather Chapter 1.3: Representing Earth's Surface Chapter 17.1: Atmospheric Characteristics Chapter 17.2: Heating the Atmosphere Chapter 17.3: Temperature Controls Chapter 18.1: Water in the Atmosphere Chapter 19.1: Understanding Air Pressure Chapter 20.1: Air Masses Chapter 20.2: Fronts Chapter 20.3: Severe Storms Affect Climate	Meteorology and Weather SC.912.N.3.5 SC.912.E.7.3 SC.912.E.7.4 SC.912.E.7.5 SC.912.E.7.6 SC.912.E.7.7 SC.912.E.7.8 SC.912.P.10.4 SC.912.P.10.16
Quarter 2	The Rock Cycle Chapter 2.1: Matter Chapter 2.2: Minerals Chapter 2.3: Properties of Minerals Chapter 3.1: The Rock Cycle Chapter 3.2: Igneous Rocks Chapter 3.3Sedimentary Rocks Chapter 3.4: Metamorphic Rocks	The Rock Cycle SC.912.E.7.3
Quarter 3	Plate Tectonics and Forces That Shape the Earth Chapter 8.4: Earth's Layered Structures Chapter 9.1: Continental Drift Chapter 9.2: Sea-Floor Spreading Chapter 9.3: Thed44.7 (:)-0.7 (T)-Ce -0.002 4.7 (:)-0.re ft.28 237pnt7 (r 9t2.9 (S) (.)-3.3)2.7 (s)]:s 322.3 (h)3 (a)-3 (3.4 (er)-2.7 (9)	

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Explicit instruction on the Nature of Science is to be embedded throughout this course.

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Meteorology and Weather	Recommended Pacing: Quarter One

Representing Earth's Surface

Driving Questions	Academic Vocabulary	Resources
What lines on a graph are used to indicate location? What is the difference in Latitude and Longitude? What are coordinate points on a global and local map, and how are they used?	Latitude Longitude Coordinate points	

Standards: Atmospheric Characteristics

SC.912.E.7.1 Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.
SC.912.E.7.2 Summarize the conditions that contribute to the climate of a geographic area, including the relationships to lakes and oc

Driving Questions	Academic Vocabulary		Resources
Compare and contrast weather and climate. Explain why seasonal changes occur.	Ozone Troposphere Stratosphere Mesosphere Thermosphere	Exosphere Summer solstice Winter solstice Fall equinox Spring equinox	

Standards: Heating the Atmosphere

SC.912.E.7.1 Differentiate and describe the various interactions among Earth systems, including: atmosphere5.1 (n3e)9 4 240.6 Tm (t)2.6 3(phe)2.1 (r)4.6 (e)9 (5

Standards: Temperature Controls
SC.912.E.7.3

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Standards: Understanding Air Pressure		
SC.912.E.7.3 Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.		
DrivingQuestions	**Academic Vocabulary**	**Resources**
Describe how the Coriolis Effect influences freely moving objects. Describe how air pressure is exerted on objects.		

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Standards: Severe Storms Affect Climate

SC.912.E.7.8 Predict future weather conditions based on present observations and conceptual models and recognize limitations and uncertain

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The Rock Cycle

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Standards: The Rock Cycle	
SC.912.E.7.1 Analyze the movement of matter and energy through the different biogeochemical cycles, including water and carbon. SC.912.E.7.3 Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.	Key Benchmark Clarifications for Earth/Space Science Students will analyze the movement of matter through different biogeochemical cycles. Key Content Limits for Earth/Space Science Items assessing biogeochemical cycles are limited to the water cycle and the carbon cycle. Items referring to the biogeochemical cycles may address but will not assess photosynthesis and cellular respiration in isolation. Scenarios will express energy in joules (J).
Driving Questions	

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Igneous Rocks	
Driving Questions	Academic Vocabulary

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Plate Tectonics and Forces That Shape the Ear	Recommended Pacing: Quarter Three

Standards: Earth's Layered Structure

SC.912.E.6.1 Describe and differentiate the layers of Earth and the interactions among them.
SC.912.E.6.4 Analyze how specific geologic processes and features are expressed in Florida and elsewhere.
SC.912.E.7.3 Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.

Driving Questions	Academic Vocabulary	Resources
What are Earth's layers based on composition? What are Earth's layers based on physical properties? How did scientists determine Earth's structure and composition?	Crust Mantle Lithosphere Asthenosphere Outer / Inner Core	

Standards: Continental Drift

SC.912.N.1.5 Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome.
SC.912.N.1.6 Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.

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Students will assess the reliability of sources of information according to scientific standards.
Students will identify examples of scientific inferences made from observatio(e)3 (ev. (e)-T/TT0 1 Tf 9.4)3 (

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Standards: Sea Floor Spreading	
SC.912.N.1.6 Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied. SC.912.E.6.1 Describe and differentiate the layers of Earth and the interactions among them. SC.912.E.6.2 Analyze the scientific theory of plate tectonics and identify related major processes and features as a result of moving plates. SC.912.E.6.4 Analyze how specific geologic processes and features are expressed in Florida and elsewhere. SC.912.E.6.5 Describe the geologic development of the present day oceans and identify commonly found features. SC.912.E.7.3 Differentiate and describe the various interactions among Earth systems, including: atmosphere, hydrosphere, cryosphere, geosphere, and biosphere.	(see "Continental Drift standards for more information)

	Academic Vocabulary

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Driving Questions	Academic Vocabulary	Resources
Explain the theory of plate tectonics Describe lithospheric plates. Identify the three types of plate boundaries.	Plate Plate Tectonic Divergent boundary Convergent boundary Transform Fault Continental volcanic arc Volcanic island arc.	Video on plate tectonics by Bozeman Science: https://www.youtube.com/watch?v=JmCvjQGSNM&t=185s
Standards: Mechanisms of Plate Motions SC.912.E.6.1		

Standards: Mountain Building and Tectonics
SC.912.E.6.1 Describe and

Historical Geology and Evolution	Recommended Pacing: Quarter Four
Standards: Discovering Earth's History	
SC.912.N.1.5 Describe and provide examples of how similar investigations conducted in many parts of the world result in the same outcome. SC.912.N.2.4	

- Items will not assess specific knowledge of the formation of microspheres or th evolution of RNA and DNA.
- Items will not address or assess the endosymbiotic theory.
- Items referring to adaptive radiation, convergent evolution, coevolution, or pu equilibrium should focus on the concepts rather than on the definition of the
- Items referring to the development of language or the manufacturing of tools this development to changes in the skull or brain size.
- Items will not assess types of genetic mutation or how these mutations occur.
- Items referring to comparative anatomy and comparative embryology will assess anatomical similarities such as homologous structures and vestigial organ not require specific knowledge of embryologic stages or structures.
- Items will not require knowledge of changes to specific species or geographi of those species.

Precambrian Time (Eon)		
Driving Questions	**Academic Vocabulary**	**Resources**
Describe the major geologic developments of Precambrian time. Describe the major developments in the evolution of living things during Precambrian time.	Shields Photosynthesis Stromatolties Prokaryotes Eukaryotes	
Paleozoic Era		
Driving Questions	**Academic Vocabulary**	**Resources**
List the kinds of environmental changes that have affected the evolution of life over geologic time. Describe the major developments in Earth's geology and life forms during the Paleozoic era.	Mass extinction Gondwana Laurasia Amphibian Reptile	
Mesozoic Era		
Driving Questions	**Academic Vocabulary**	**Resources**
Describe the major developments in Earth's geolog and life forms during the Mesozoic era. State the cause of the mass extinction at the end of the Mesozoic era.	Mammal Gymnosperm	
Cenozoic Era		
Driving Questions	**Academic Vocabulary**	**Resources**
Explain why mammals became widespread and successful in the Cenozoic era. Describe the major developments in Earth's geology and life forms during the Cenozoic era.	Milinkovic Cycle	