

**2012 Science Textbook Approval Committee Consensus
Correlation to the 2010 Science Standards of Learning and Curriculum Framework – Earth Science**

Text Title Earth Science: Geology, the Environment, and the Universe Publisher School Education Group, a division of The McGraw-Hill Companies, Inc.
Print X Digital X Combination

Section I. Correlation with the 2010 Science Standards of Learning and Curriculum Framework Earth Science Summary	Rating		
	Adequate	Limited	No Evidence
ES.1	X		
ES.1a	X		
ES.1b	X		
ES.1c	X		
ES.1d	X		
ES.1e	X		
ES.1f	X		
ES.2	X		
ES.2a	X		
ES.2b	X		
ES.2c	X		
ES.2.d	X		

Section I. Correlation with the 2010 Science Standards of Learning and Curriculum Framework Earth Science Summary	Rating		
	Adequate	Limited	No Evidence
ES.3	X		
ES.3a	X		
ES.3b	X		
ES.3c	X		
ES.3d	X		
ES.4	X		
ES.4a	X		
ES.4b	X		
ES.5	X		
ES.5a	X		
ES.5b	X		
ES.5c	X		

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	Adequate	Limited	No Evidence
ES.6	X		
ES.6a	X		
ES.6b	X		
ES.6c	X		
ES.6d	X		
ES.7	X		
ES.7a	X		
ES.7b	X		
ES.8	X		
ES.8a	X		
ES.8b	X		
ES.8c	X		

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	Adequate	Limited	No Evidence
ES.8d	X		
ES.8e	X		
ES.8f	X		
ES.9	X		
ES.9a	X		
ES.9b	X		
ES.9c	X		
ES.9d	X		
ES.10	X		
ES.10a	X		
ES.10b	X		
ES.10c	X		

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	Adequate	Limited	No Evidence
ES.10d	X		
ES.10e	X		
ES.11	X		
ES.11a	X		
ES.11b	X		
ES.11c	X		
ES.11d	X		
ES.12	X		
ES.12a	X		
ES.12b	X		
ES.12c	X		
ES.12d	X		

Section I. Correlation with the 2010 Science Standards of Learning and Curriculum Framework Earth Science Summary	Rating		
	Adequate	Limited	No Evidence
ES.13	X		
ES.13a	X		
ES.13b	X		

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Section II. Additional Criteria: Instructional Planning and Support	Degree of Correlation: Place an X to the right of your choice (Adequate, Limited , No Evidence) Must provide comments to support the ratings other than Adequate.		
1. The textbook is presented in an organized, logical manner and is appropriate for the age, grade, and maturity of the students.	Adequate X	Limited	No Evidence
	Textbook is logically organized and grade/age appropriate for students.	Textbook lacks consistency in organization and appropriateness for the grade/age of students.	Textbook is not reasonably organized and is inappropriate for the grade/age of the students.
	Comments:		
2. The textbook is organized appropriately within and among units of study.	Adequate X	Limited	No Evidence
	Scope and sequence is easy to read and understand.	Scope and sequence is confusing and not easy to understand.	Scope and sequence is difficult to read and understand.
	Comments:		
3. The format design includes titles, subheadings, and appropriate cross-referencing for ease of use.	Adequate X	Limited	No Evidence
	Organizational properties of the textbook assist in understanding and processing content.	Organizational properties of the textbook offer limited assistance in understanding and processing content.	Organizational properties of the textbook do not assist in understanding and processing content.
	Comments:		

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Section II. Additional Criteria: Instructional Planning and Support	Degree of Correlation: Place an X to the right of your choice (Adequate, Limited , No Evidence) Must provide comments to support the ratings other than Adequate.		
4. The writing style, syntax, and vocabulary are appropriate.	Adequate X	Limited	No Evidence
	Readability is appropriate for the grade level. Writing style and syntax are varied and appropriate to enhance student understanding. Vocabulary consists of both familiar and challenging words.	Readability may be appropriate but is inconsistent throughout the text. Writing style and syntax may be inappropriate or lack variety, offering limited support for student understanding. Vocabulary may be too challenging or too familiar.	Readability is not appropriate for the grade level. Writing style and syntax are often inappropriate and lack variety to enhance student understanding. Vocabulary is too challenging or unfamiliar.
5. Graphics and illustrations are appropriate.	Adequate X	Limited	No Evidence
	Visuals are accurate, support the text, and enhance student understanding.	Visuals are somewhat unclear and offer limited support for the text and student understanding.	Visuals are inaccurate, do not support the text, and do not enhance student understanding.
6. Sufficient, high-quality instructional strategies are provided to promote depth of understanding.	Adequate X	Limited	No Evidence
	Materials (investigations, laboratories, and inquiry activities) provide students with opportunities to integrate skills and concepts.	Materials (investigations, laboratories, and inquiry activities) provide students with limited opportunities to integrate skills and concepts.	Materials (investigations, laboratories, and inquiry activities) provide students with no opportunities to integrate skills and concepts.
	Comments:		

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	Adequate	Limited	No Evidence
ES.1 The student will plan and conduct investigations in which	X		
a) volume, area, mass, elapsed time, direction, temperature, pressure, distance, density, and changes in elevation/depth are calculated utilizing the most appropriate tools;	X		
b) technologies, including computers, probeware, and geospatial technologies, are used to collect, analyze, and report data and to demonstrate concepts and simulate experimental conditions;	X		
c) scales, diagrams, charts, graphs, tables, imagery, models, and profiles are constructed and interpreted;	X		
d) maps and globes are read and interpreted, including location by latitude and longitude;	X		
e) variables are manipulated with repeated trials; and	X		
f) current applications are used to reinforce Earth science concepts.	X		
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	Adequate	Limited	No Evidence
ES.2 The student will demonstrate an understanding of the nature of science and scientific reasoning and logic. Key concepts include	X		
a) science explains and predicts the interactions and dynamics of complex Earth systems;	X		
b) evidence is required to evaluate hypotheses and explanations;	X		
c) observation and logic are essential for reaching a conclusion; and	X		
d) evidence is evaluated for scientific theories.	X		
Comments: Provide comments to support “limited” or “no evidence” ratings.			

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	Adequate	Limited	No Evidence
ES.3 The student will investigate and understand the characteristics of Earth and the solar system. Key concepts include	X		
a) position of Earth in the solar system;	X		
b) sun-Earth-moon relationships; (seasons, tides, and eclipses);	X		
c) characteristics of the sun, planets and their moons, comets, meteors, and asteroids; and	X		
d) the history and contributions of space exploration.	X		
Comments: Provide comments to support “limited” or “no evidence” ratings.			

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		Adequate	Limited	No Evidence
ES.4	The student will investigate and understand how to identify major rock-forming and ore minerals based on physical and chemical properties. Key concepts include	X		
	a) hardness, color and streak, luster, cleavage, fracture, and unique properties; and	X		
	b) uses of minerals.	X		
Comments: Provide comments to support “limited” or “no evidence” ratings.				

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	Adequate	Limited	No Evidence
ES.5 The student will investigate and understand the rock cycle as it relates to the origin and transformation of rock types and how to identify common rock types based on mineral composition and textures. Key concepts include	X		
a) igneous rocks;	X		
b) sedimentary rocks; and	X		
c) metamorphic rocks.	X		
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	Adequate	Limited	No Evidence
ES.6 The student will investigate and understand the differences between renewable and nonrenewable resources. Key concepts include	X		
a) fossil fuels, minerals, rocks, water, and vegetation;	X		
b) advantages and disadvantages of various energy sources;	X		
c) resources found in Virginia; and	X		
d) environmental costs and benefits.	X		
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	Adequate	Limited	No Evidence
ES.7 The student will investigate and understand geologic processes including plate tectonics. Key concepts include	X		
a) geologic processes and their resulting features; and	X		
b) tectonic processes.	X		
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	Adequate	Limited	No Evidence
ES.8 The student will investigate and understand how freshwater resources are influenced by geologic processes and the activities of humans. Key concepts include	X		
a) processes of soil development;	X		
b) development of karst topography;	X		
c) relationships between groundwater zones, including saturated and unsaturated zones, and the water table;	X		
d) identification of sources of fresh water including rivers, springs, and aquifers, with reference to the hydrologic cycle;	X		
e) dependence on freshwater resources and the effects of human usage on water quality; and	X		
f) identification of the major watershed systems in Virginia, including the Chesapeake Bay and its tributaries.	X		
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	Adequate	Limited	No Evidence
ES.9 The student will investigate and understand that many aspects of the history and evolution of Earth and life can be inferred by studying rocks and fossils. Key concepts include	X		
a) traces and remains of ancient, often extinct, life are preserved by various means in many sedimentary rocks;	X		
b) superposition, cross-cutting relationships, index fossils, and radioactive decay are methods of dating bodies of rock;	X		
c) absolute and relative dating have different applications but can be used together to determine the age of rocks and structures; and	X		
d) rocks and fossils from many different geologic periods and epochs are found in Virginia.	X		
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		Adequate	Limited	No Evidence
ES.10	The student will investigate and understand that oceans are complex, interactive physical, chemical, and biological systems and are subject to long- and short-term variations. Key concepts include	X		
	a) physical and chemical changes related to tides, waves, currents, sea level and ice cap variations, upwelling, and salinity variations;	X		
	b) importance of environmental and geologic implications;	X		
	c) systems interactions;	X		
	d) features of the sea floor as reflections of tectonic processes; and	X		
	e) economic and public policy issues concerning the oceans and the coastal zone including the Chesapeake Bay.	X		
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		Adequate	Limited	No Evidence
ES.11	The student will investigate and understand the origin and evolution of the atmosphere and the interrelationship of geologic processes, biologic processes, and human activities on its composition and dynamics. Key concepts include	X		
	a) scientific evidence for atmospheric composition changes over geologic time;	X		
	b) current theories related to the effects of early life on the chemical makeup of the atmosphere;	X		
	c) atmospheric regulation mechanisms including the effects of density differences and energy transfer; and	X		
	d) potential changes to the atmosphere and climate due to human, biologic, and geologic activity.	X		
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ES.12 The student will investigate and understand that energy transfer between the sun and Earth and its atmosphere drives weather and climate on Earth. Key concepts include	X		
a) observation and collection of weather data;	X		
b) prediction of weather patterns;	X		
c) severe weather occurrences, such as tornadoes, hurricanes, and major storms; and	X		
d) weather phenomena and the factors that affect climate including radiation, conduction, and convection.	X		
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	Adequate	Limited	No Evidence
ES.13 The student will investigate and understand scientific concepts related to the origin and evolution of the universe. Key concepts include	X		
a) cosmology including the Big Bang theory; and	X		
b) the origin and evolution of stars, star systems, and galaxies.	X		
Comments: Provide comments to support “limited” or “no evidence” ratings.			