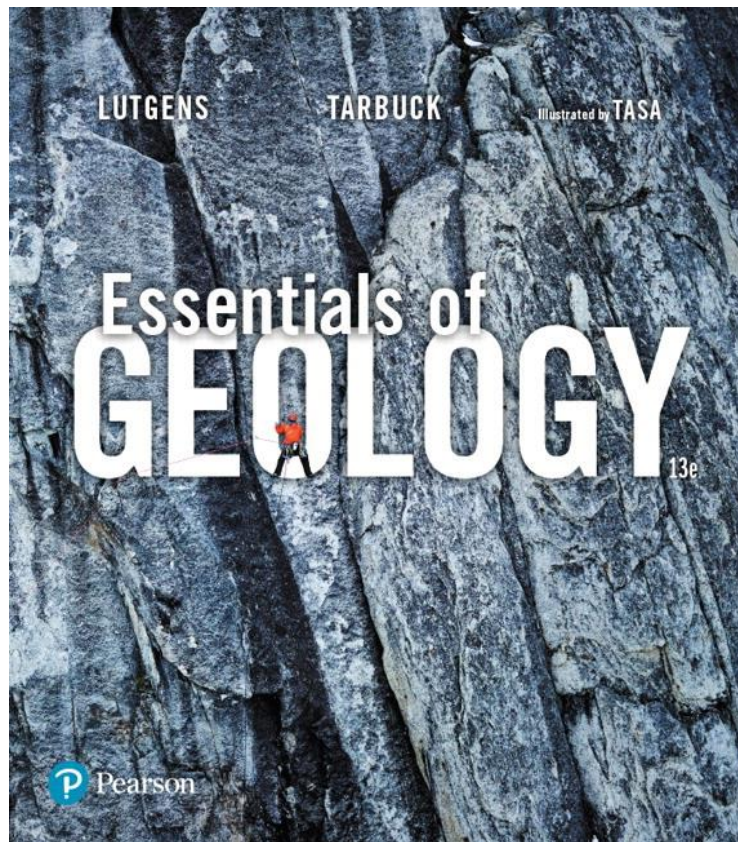


SAVVAS

A Correlation of
Pearson
Essentials of Geology
©2018



To the
Next Generation Science Standards
Earth and Space Science

**A Correlation of Pearson Essentials of Geology ©2018
To the
NGSS Earth and Space Science Performance Expectations**

NGSS Earth and Space Science Criteria	Essentials of Geology ©2018
Performance Expectations	
(HS.SS) Space Systems	
(HS-ESS1-1) Develop a model based on evidence to illustrate the life span of the sun and the role of nuclear fusion in the sun's core to release energy that eventually reaches Earth in the form of radiation.	TE ONLY: Chapter 1.5 - Origin and Early Evolution of Earth, pp. 17-18
(HS-ESS1-2) Construct an explanation of the Big Bang theory based on astronomical evidence of light spectra, motion of distant galaxies, and composition of matter in the universe.	SE/TE: Chapter 19.2 - Birth of a Planet, pp. 497-498
(HS-ESS1-3) Communicate scientific ideas about the way stars, over their life cycle, produce elements.	SE/TE: Chapter 19.2 - Birth of a Planet, pp. 497-498
(HS-ESS1-4) Use mathematical or computational representations to predict the motion of orbiting objects in the solar system.	SE/TE: Variations in Earth's Orbit, pp. 417-418
(HS.HE) History of Earth	
(HS-ESS1-5) Evaluate evidence of the past and current movements of continental and oceanic crust and the theory of plate tectonics to explain the ages of crustal rocks.	SE/TE: Chapter 2 - Plate Tectonics: A Scientific Revolution Unfolds, pp. 32-65
(HS-ESS1-6) Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history.	SE/TE: Chapter 19 - Earth's Evolution Through Geologic Time, pp. 492-525
(HS-ESS2-1) Develop a model to illustrate how Earth's internal and surface processes operate at different spatial and temporal scales to form continental and ocean-floor features.	SE/TE: Chapter 2.10 - What Drives Plate Motions?, pp. 59-61 Chapter 2.5 - Convergent Plate Boundaries and Subduction, pp. 43-48

**A Correlation of Pearson Essentials of Geology ©2018
To the
NGSS Earth and Space Science Performance Expectations**

NGSS Earth and Space Science Criteria	Essentials of Geology ©2018
(HS.ES) Earth's Systems	
(HS-ESS2-2) Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth systems.	SE/TE: Chapter 2.5 - Convergent Plate Boundaries and Subduction, pp. 45-48 Chapter 9.2 - Seismology: The Study of Earthquake Waves, pp. 245-246
(HS-ESS2-3) Develop a model based on evidence of Earth's interior to describe the cycling of matter by thermal convection.	SE/TE: Chapter 2.10 - What Drives Plate Motions? pp. 59-61
(HS-ESS2-5) Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes.	Please find supporting content: SE/TE: Chapter 1.4 - Earth as a System, pp. 13-15
(HS-ESS2-6) Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.	SE/TE: Chapter 7.9 - The Carbon Cycle & Sedimentary Rocks, pp. 210-211; illustration, video
(HS-ESS2-7) Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth.	SE/TE: Chapter 19 - Earth's Evolution Through Geologic Time, pp. 492-525
(HS.WC) Weather and Climate	
(HS-ESS2-4) Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.	SE/TE: Chapter 20.4 - Heating the Atmosphere, pp. 537-538 Chapter 20.6 - Human Impact on Global Climate, pp. 543-546 Chapter 20.7 Climate Feedback Mechanisms, pp. 547-548
(HS-ESS3-5) Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.	SE/TE: Chapter 20.6 - Human Impact on Global Climate, pp. 543-546 Chapter 20.7 Climate Feedback Mechanisms, pp. 547-548 Chapter 20.8 Some Consequences of Global Warming, pp. 549-552

**A Correlation of Pearson Essentials of Geology ©2018
To the
NGSS Earth and Space Science Performance Expectations**

NGSS Earth and Space Science Criteria	Essentials of Geology ©2018
(HS.HI) Human Impacts	
(HS-ESS3-1) Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.	SE/TE: Chapter 3.9 - Minerals: A Nonrenewable Resource, pp. 89-90 Chapter 5.8 Volcanic Hazards, pp. 143-146 Chapter 6.4 - Rates of Weathering, pp. 169-170 Chapter 6.7 - The Impact of Human Activities on Soil, pp. 176-179 Chapter 20.6 - Human Impact on Global Climate, pp. 543-546
(HS-ESS3-2) Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.	See supporting content on cost benefit of large scale mining operations: SE/TE: 3.9 Minerals: A Nonrenewable Resource, pp. 89-90
(HS-ESS3-3) Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.	See supporting content on management of human populations or biodiversity: SE/TE: Chapter 13.8 - Floods & Flood Control, pp. 262-264 Chapter 20.6 - Human Impact on Global Climate, pp. 543-546
(HS-ESS3-4) Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.	See supporting content on solutions to reduce impact of human activity on shoreline erosion: SE/TE: Chapter 17.6 - Stabilizing the Shore, pp. 460-462
(HS-ESS3-6) Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.	SE/TE: Chapter 1.4 - Earth as a System, pp. 12-16 Chapter 3.9 - Minerals: A Nonrenewable Resource, pp. 89-90 Chapter 6.7 - The Impact of Human Activities on Soil, pp. 176-179 Chapter 20.7 - Climate Feedback Mechanisms, pp. 457-458