



Grades 6–8

3.3.6-8.G Earth and Space Science: History of Earth

Students who demonstrate understanding can *analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.*

Clarifying Statement: Examples of data include similarities of rock and fossil types on different continents, the shapes of the continents (including continental shelves), and the locations of ocean structures (such as ridges, fracture zones, and trenches).

Assessment Boundary: Paleomagnetic anomalies in oceanic and continental crust are not assessed.

Science and Engineering Practices (SEP)	Disciplinary Core Ideas (DCI)	Crosscutting Concepts (CCC)
<p>Analyzing and Interpreting Data Analyzing data in 6–8 builds on K–5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.</p> <ul style="list-style-type: none"> Analyze and interpret data to provide evidence for phenomena. <p>Connections to Nature of Science Scientific Knowledge is Open to Revision in Light of New Evidence</p> <ul style="list-style-type: none"> Science findings are frequently revised and/or reinterpreted based on new evidence. 	<p>The History of Planet Earth</p> <ul style="list-style-type: none"> Tectonic processes continually generate new ocean sea floor at ridges and destroy old sea floor at trenches. <p>Plate Tectonics and Large Scale System Interactions</p> <ul style="list-style-type: none"> Maps of ancient land and water patterns, based on investigations of rocks and fossils, make clear how Earth's plates have moved great distances, collided, and spread apart. 	<p>Patterns</p> <ul style="list-style-type: none"> Patterns in rates of change and other numerical relationships can provide information about natural systems.

Pennsylvania Context: Examples of Pennsylvania context include but are not limited to Pennsylvania quarries, mines, caves, plate tectonics, and erosion.

PA Career Ready Skills: Analyze various perspectives on a situation.

Connections to Other Standards Content and Practices

Standard Source	Possible Connections to Other Standard(s) or Practice(s)
Agriculture (AFNR)	CS.02.01.01.a: Research and describe different types of geographic data used in AFNR systems.
Science, Environmental Literacy and Sustainability (NAEE)	5-8 Strand 2.1.A. Earth's physical systems: Learners describe the physical processes that shape Earth, including weather, climate, plate tectonics, and the hydrologic cycle. They explain how matter cycles and energy flows among the abiotic and biotic components of the environment. They describe how humans affect and are affected by Earth's physical systems.



Standard Source	Possible Connections to Other Standard(s) or Practice(s)
PA Core Standards: ELA	CC.3.5.6-8.A: Cite specific textual evidence to support analysis of science and technical texts. CC.3.5.6-8.G: Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table). CC.3.5.6-8.I: Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
PA Core Standards and Practices: Math	MP.2: Reason abstractly and quantitatively. CC.2.2.6.B.2: Understand the process of solving a one-variable equation or inequality and apply it to real-world and mathematical problems. CC.2.2.7.B.3: Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations.
PA Standards: Social Studies	7.2.6.A: Describe the characteristics of places and regions.
Educational Technology (ISTE)	1.5. Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
Technology and Engineering (ITEEA)	STEL-3G: Explain how knowledge gained from other content areas affects the development of technological products and systems.