

Wright City Science Curriculum

6th Grade

Grade	6
Unit of Study	Dynamic Earth: Rocks, Plates, and Processes
Length of Unit	6 weeks
Sample Essential Questions	Sample Corresponding Big Ideas
Why do tectonic plates move, and what drives that movement?	Earth's interior heat drives mantle convection, which moves tectonic plates.
How do moving plates shape Earth's surface features?	Plate movements create landforms like mountains, trenches, volcanoes, and ocean ridges.
How do rocks change from one type to another over time?	Rocks change over time through the rock cycle.
Why do some geologic changes take millions of years while others happen quickly?	Geological processes happen at different rates, from slow changes to rapid events.
How can fossils and rocks show that continents and ocean floors have moved?	Fossils, rock types, and seafloor features provide clues about past plate movements.

Missouri Learning Standards

Priority Standards

6-8.ESS2.A.1 Develop and use a model to illustrate that energy from the Earth's interior drives convection which cycles Earth's crust leading to melting, crystallization, weathering, and deformation of large rock formations, including generation of ocean sea floor at ridges, submergence of ocean sea floor trenches, mountain building and active volcanic chains.

6-8.ESS2.A.2 Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.

6-8.ESS2.B.1 Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.

Unit 1 Sequence			
MLS	Topic(s)	Learning Targets	Academic Vocabulary
6-8.ESS2.A.1	Earth's Internal Energy & Rock Cycle	I can describe that Earth's interior has heat energy that drives convection currents in the mantle and explain how convection currents move pieces of Earth's crust (tectonic plates).	inner core outer core mantle crust convection currents weathering erosion deposition sediment sedimentary rock metamorphic rock igneous rock melting cooling compaction cementation heat pressure rock cycle magma lava
		I can describe how rocks transform through the rock cycle.	
		I can create a model to show how convection in Earth's interior moves the crust and drives geological processes.	
6-8.ESS2.A.2	Geoscience Processes and Earth's Surface Changes	I can explain how ocean ridges form new sea floor.	tectonic plates continental drift plate boundary divergent boundary convergent boundary
		I can explain how trenches submerge oceanic crust.	
		I can describe how mountains are built and how volcanic chains form along plate boundaries.	

		I can identify processes that change Earth's surface, such as erosion, weathering, volcanism, tectonic activity, and sediment deposition.	transform boundary oceanic crust continental crust mid-ocean ridge seafloor spreading trench subduction mountain volcano earthquake
		I can explain that these processes occur at different rates and scales, from slow changes over millions of years to rapid events like earthquakes or volcanic eruptions.	
		I can examine data, maps, diagrams, or observations to identify and explain how Earth's surface has changed over time.	
		I can describe the timing and scale of these changes, noting which processes act quickly and which act slowly.	
6-8.ESS2.B.1	Evidence of Past Plate Movement	I can describe how fossils, rock types, and seafloor features provide clues about how continents and ocean floors have moved over time.	fossil fossil record extinct evidence rock layer tectonic plates continental Law of Superposition
		I can explain the concept of past plate motions and continental drift.	
		I can examine the locations of similar fossils or rock types on different continents to infer past connections.	
		I can identify patterns in rock ages and compositions that suggest movement of Earth's plates.	
		I can explain how structures provide evidence for the directions and rates of past plate motions.	
		I can combine information from fossils, rock distributions, continental shapes, and seafloor data to construct an explanation of past plate movements.	

MLS	Learning Activities	
6-8.ESS2.A.1	Weathering, Erosion, and Deposition Notes	Must Do ▾
6-8.ESS2.A.1	Causes of Weathering Jigsaw	Can Do ▾
6-8.ESS2.A.1	Layers of the Earth Scaled Model and Notes	Must Do ▾
6-8.ESS2.A.2	Rock Cycle Notes	Must Do ▾
6-8.ESS2.A.2	Rock Cycle Starburst Activity	Can Do ▾
6-8.ESS2.A.2	Journey Through the Rock Cycle Activity	Can Do ▾
6-8.ESS2.B.1	Plate Tectonics Oreo Cookie Activity/Notes	Must Do ▾

6-8.ESS2.B.1	Tectonic Plate Boundary Map	Must Do ▾
6-8.ESS2.B.1	Plate Boundary Map Project	Must Do ▾
6-8.ESS2.B.1	Tectonic Plates Informational Text and Comprehension Questions	Can Do ▾
6-8.ESS2.B.1	Fossils and Superposition Reading and Questions	Can Do ▾
6-8.ESS2.B.1	Superposition Lab	Can Do ▾
6-8.ESS2.B.1	Fossils Superposition Cards	Can Do ▾

Assessments		
MLS	Description or Location	Rubric/Location
6-8.ESS2.A.1	Earth's Internal Energy & Rock Cycle	Pear Assessment
6-8.ESS2.A.2 6-8.ESS2.B.1	Geoscience Processes and Earth's Surface Changes/Evidence of Past Plate Movement	Pear Assessment

Additional Resources
Sedimentary, Metamorphic, and Igneous Rock Textbook Reading