

Layered Earth Geology Correlations For Indiana State Science Standards



Middle School: Grades 5-8		Lesson Plans
2.1	Describe how the earth is a layered structure composed of lithospheric plates, a mantle and a dense core	A2
2.3	Characterize the immensity of geologic time and recognize that it is measured in eras and epochs	G1-2
2.4	Explain how convection currents in the mantle cause lithospheric plates to move and cause fast changes like earthquakes and volcanic eruptions and slow changes like the creation of mountains and formation of new ocean floors	B2-3, E1, F1
2.5	Describe the origin and physical properties of igneous, metamorphic and sedimentary rocks and how they are related through the rock cycle	C2-3
2.6	Describe physical and chemical characteristics of soil layers and how they are influenced by the process of soil formation (including the action of bacteria, fungi, insects and other organisms)	C4
3.7	Compare and contrast fossils with living organisms in a given location to explain how earth processes have changed environments over time	B1, G1
High School: Grades 9-12		Lesson Plans
5.1	Describe the large-scale, compositional layers of the Earth.	A1-2
5.3	Compare and contrast the properties of rocks and minerals. Explain the uses of rocks and minerals, particularly those found in Indiana, in daily life	C1-3
5.4	Illustrate the various processes involved in the rock cycle and discuss the conservation of matter during formation, weathering, sedimentation and reformation	C2, C4
5.5	Understand the concepts of relative and absolute geologic time and their measurement by means of evidence from fossils and radioactive dating	G1
5.6	Understand the role of changing sea level and climate in the formation of the sedimentary rocks of Indiana	B1, C3
5.7	Explain how sea level changes over time have exposed continental shelves, created and destroyed inland seas, and shaped the surface of the land	B2
6.1	Investigate and discuss how humans affect and are affected by geological systems and processes	E5, F3

6.2	Differentiate among the processes of weathering, erosion, transportation of materials, deposition and soil formation	C4, D1-4
6.3	Explain the origin of geologic features and processes that result from plate tectonics (e.g., earthquakes, volcanoes, trenches and mountain ranges)	B3, E1, F1
6.4	Understand and discuss the development of plate tectonic theory, which is derived from the combination of two theories: continental drift and seafloor spreading	B1-3