

Brunswick School Department

Science

Grade 8: Earth History

Adopted:

Unit Overview

This unit explores the long and short term processes that have occurred in the past to the Earth and are still going on today. While there are long and short term changes, the rate of change is a critical part of understanding time scales. In the development several dating measures, the fossil record can be examined and the evidence of change in organisms over time can be observed.

Essential Understandings

- Continental Drift is a theory, based on a body of evidence and observations, as to how the Earth has changed over time.
- Changes in the fossil record show how different species have evolved.
- Geologic time relates to the time it takes for plate tectonics to make long term changes to the Earth.
- Uniformitarianism is the law that process that have shaped the Earth over time are still operating today in the same way.
- Different dating methods are used to develop time and spatial scales.
- Mechanical and chemical weathering are two processes which change the Earth's surface

Priority Standards and Performance Indicators

(as based on Next Generation Science Standards)

P.S.S.2 Demonstrate an understanding of how structure influences function.

c. Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.

P.S. S-4 Understand cause and effect.

c. Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.

P.S. S-5 Demonstrate an understanding of stability and change.

d. Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.

(For both designed and natural systems, conditions that affect stability and factors that control rates of change are critical elements to consider and understand.)

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Next Generation Science Standards Addressed in this Unit

- MS-ESS1-4. Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth’s 4.6-billion-year-old history.
- MS-LS4-2. Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.

Examples of Formative / Summative Assessments

- Labs
- Quizzes
- Writing Prompts
- Mountain Top Fossil probe
- Finding Fossil Secrets in the Rockies Assessment

Sample Texts and Materials/Resources

Astrobiology Text (required)