

THE STANDARD

Patterns in the Fossil Record

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.



LS4.A · Evidence of Common Ancestry and Diversity

The collection of fossils and their placement in chronological order (e.g., through the location of the sedimentary layers in which they are found or through radioactive dating) is known as the fossil record. It documents the existence, diversity, extinction, and change of many life forms throughout the history of life on Earth.

The fossil record is the collection of fossils sorted by age, mostly by which rock layer they sit in. It documents which organisms existed, how diverse they were, which ones went extinct, which ones persisted with changes, and which ones first appear later in the record. Same natural laws then as now. **The patterns are there to read.**



Analyzing and Interpreting Data

Analyze and interpret data to determine similarities and differences in findings.

Students aren't memorizing geological eras or species names. They're looking at fossil data (positions, body plans, ages) and pulling patterns out of it. The work is making sense of a dataset, not reciting a timeline. **If they can describe what they see and what it implies, they're doing the science.**



Patterns

Graphs, charts, and images can be used to identify patterns in data.

Patterns are the entire game here. Older layers below, younger layers above. Simple body plans first, more complex anatomical structures later. Whole groups appearing, persisting, disappearing. **The fossil record is a dataset, and the students' job is to spot the patterns the data keeps repeating.**