

THE STANDARD

Landscape Changes

"Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time."

DCI

DISCIPLINARY
CORE IDEA

ESS1.C · The History of Planet Earth

"Local, regional, and global patterns of rock formations reveal changes over time due to earth forces, such as earthquakes. The presence and location of certain fossil types indicate the order in which rock layers were formed."

Rock layers are like a stack of pages, and the bottom one was laid down first. The fossils trapped inside each layer are clues about what lived there back then. **When 4th graders see shell fossils in a layer above plant fossils, the rock is telling them this place used to be dry land and later became covered by water.**

SEP

SCIENCE &
ENGINEERING
PRACTICE

Constructing Explanations and Designing Solutions

"Identify the evidence that supports particular points in an explanation."

4th graders aren't just told that a place changed. They point to the exact clue that proves it. **When they say "this used to be underwater," they have to back it up with "because there are shell fossils in this layer."** The skill is matching each part of their story to a real piece of evidence.

CCC

CROSSCUTTING
CONCEPT

Patterns

"Patterns can be used as evidence to support an explanation."

Here's the idea 4th graders carry out the door: rock layers follow a pattern, and patterns are clues you can trust. In an undisturbed stack, older layers sit on the bottom and newer ones on top. **Because the pattern is so reliable, students can read it like evidence and say what the landscape used to look like.**