THE STANDARD

Past Plate Motions

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

DCI — DISCIPLINARY CORE IDEA

ESS1.C · The History of Planet Earth

> *Tectonic processes continually generate new ocean sea floor at ridges and destroy old sea floor at trenches.*

Earth's outer shell is broken into giant plates that move slowly on the hotter, softer rock beneath them. They've been moving for hundreds of millions of years. The continents we see today used to be stuck together in different arrangements. The proof isn't just one thing. **It's matching fossils, matching rocks, matching coastlines, and a long ridge running down the middle of the Atlantic Ocean.**

SEP — SCIENCE & ENGINEERING PRACTICE

Analyzing and Interpreting Data

> *Analyze and interpret data to provide evidence for phenomena.*

Students aren't taking plate tectonics on faith. They're looking at maps, fossil charts, and seafloor data, then arguing what those patterns mean. The data is the case. **If they can't connect a pattern in the data to a claim about plate motion, the claim doesn't hold.**

CCC — CROSSCUTTING CONCEPT

Patterns

> *Patterns in rates of change and other numerical relationships can provide information about natural systems.*

The whole standard runs on patterns. Coastlines that fit. Fossils that show up on opposite continents and nowhere else. Rock layers that match across an ocean. A ridge running straight down the Atlantic. None of those patterns mean much alone. **Together they tell one story.**