Earth Map Clues

Use map details to describe patterns in Earth's features.

4-ESS2-2 "Analyze and interpret data from maps to describe patterns of Earth's features. Clarification Statement: Maps can include topographic maps of Earth's land and ocean floor, as well as maps of the locations of mountains..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline words that tell where an Earth feature is located, and circle words that describe a pattern, such as a band, a chain, or few. These clues show how map data can reveal patterns.

Reading Earth's Feature Maps

1. Scientists use maps to look for patterns across Earth's surface. A physical map may show mountain ranges, deep ocean areas, and continental boundaries. A topographic map uses contour lines to show land height. Lines close together show a steep slope. Ocean-floor maps can show long ridges and deep trenches. By comparing map data, scientists can describe where features tend to occur.

2. One world map uses triangles for active volcanoes and dots for recent earthquakes. Many triangles and dots form a curved band around the Pacific Ocean. The band runs along the west coasts of North and South America and near Japan, the Philippines, Indonesia, and New Zealand. Few of these symbols appear in the middle of the Pacific Ocean. This pattern follows many continental and oceanic plate boundaries.

3. An ocean-floor map of the eastern Pacific shows a deep trench just west of South America. On the land beside it, a topographic map shows the Andes Mountains. The Andes are a long high mountain chain, not scattered single peaks. Together, these maps show a pattern: a deep ocean feature lies close to a long mountain range along a continental edge. Scientists use this pattern to study Earth's changing surface.

2 ANSWER WITH EVIDENCE

Use the passage

1. What pattern do the volcano and earthquake symbols make on the world map? Include where few symbols appear.

2. How are the volcanoes and earthquakes related to continental and oceanic plate boundaries?

3. What two features appear close together along the western edge of South America?

4. How does the description of the Andes show a pattern instead of random placement?

3 YOUR TURN

Your own words

Teacher: supply a legible Earth-feature map from a named atlas or science agency, with a legend and at least six plotted earthquakes or volcanoes plus coastlines. Supply a plate-boundary overlay if students discuss plate boundaries. Students: record the map title, source and date or plotted time period. Read its legend, then locate six actual symbols and compare their positions with a continental edge or ocean feature. Sketch that same portion of the supplied map with a key, retaining the six relative locations and the reference feature; do not invent locations. Write exactly two sentences describing one observed location pattern and comparing two features. Label specific places. Use separate paper if needed.

ANSWER KEY

Earth Map Clues

GRADE 4 · 4-ESS2-2

PART 1 · READ AND MARK

Underline words that tell where an Earth feature is located, and circle words that describe a pattern, such as a band, a chain, or few. These clues show how map data can reveal patterns. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What pattern do the volcano and earthquake symbols make on the world map? Include where few symbols appear.	**They form a curved band around the Pacific Ocean. Few symbols appear in the middle of the Pacific Ocean.**
2	How are the volcanoes and earthquakes related to continental and oceanic plate boundaries?	**Many volcanoes and earthquakes occur along continental and oceanic plate boundaries.**
3	What two features appear close together along the western edge of South America?	**A deep ocean trench west of South America and the Andes Mountains on the land beside it.**
4	How does the description of the Andes show a pattern instead of random placement?	**The Andes are described as one long, high mountain chain rather than scattered single peaks.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Map-dependent acceptance: the sketch must reproduce six actual locations and the reference feature from the supplied map, with a matching key. A two-sentence response could describe a concentration of symbols along a named coast and compare it with a named offshore area, only if the map supports that comparison. A generic invented symbol arrangement is not evidence about Earth.

The four comprehension answers refer to the described maps in the passage. For the actual-map task, inspect the provided map and learner sketch together: verify source/legend, six plotted relative locations, reference feature and two accurate evidence-based sentences. Require actual map analysis; the passage alone is insufficient. Patterns depend on map coverage, scale and the time period of plotted events. Do not infer plate boundaries from coastline alone or require a particular pattern if the supplied data differ.