

Hidden Seafloor Shapes

Read closely to identify landforms beneath the ocean.

4.7.a "geology of the ocean floor;"

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each ocean-floor landform. Circle the words that tell what the landform looks like or how it forms.

A Landscape Underwater

- ① Far from shore, the ocean floor has landforms just as Earth's dry land does. Near many continents, a shallow continental shelf slopes gently away from the coast. Beyond it, the seafloor drops down a steeper continental slope. At the slope's base, a broad continental rise is built from sediments. These features lie under seawater but are part of a continent's edge.
- ② In deep ocean basins, wide abyssal plains are among the flattest places on Earth. Thick layers of mud and other sediments can cover their rocky surface. A mid-ocean ridge is a long chain of underwater mountains. At many ridges, magma rises, cools, and forms new ocean crust, slowly pushing older crust away on both sides.
- ③ Ocean trenches are narrow, very deep valleys in the seafloor. They form where one tectonic plate bends and sinks beneath another plate. A seamount is an underwater mountain, usually formed by volcanic activity. Some seamounts are active volcanoes, while others are dormant or extinct. Scientists use sound waves to measure depth and learn about these hidden landforms.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 How are the continental shelf, continental slope, and continental rise different?

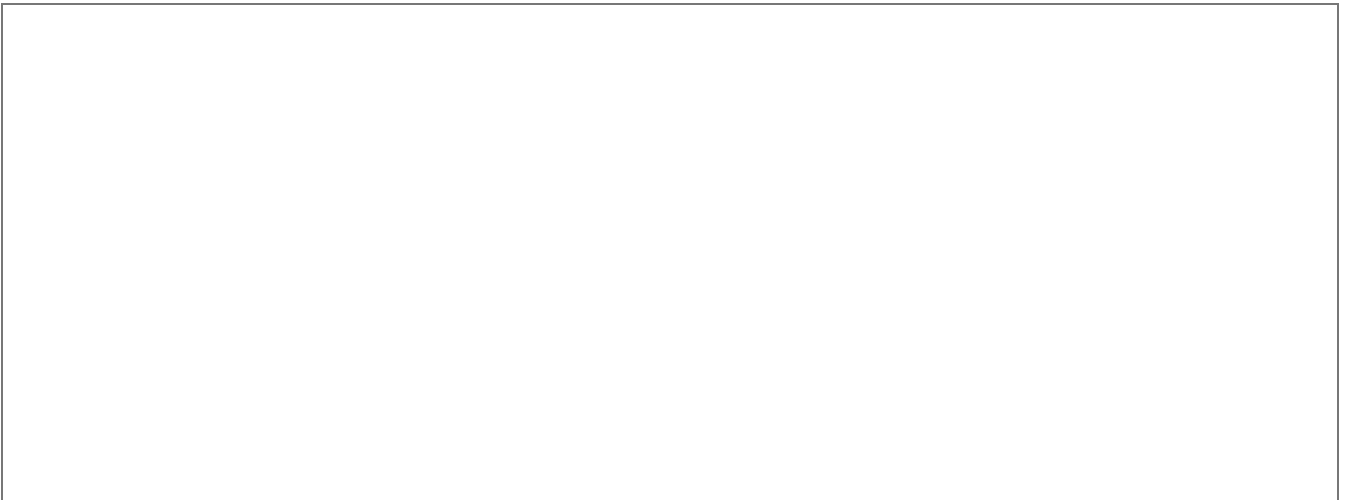
2 What is a mid-ocean ridge, and what happens there?

3 What does an ocean trench look like, and how does it form?

4 What is a seamount? What are two possible states of a seamount volcano?

3 YOUR TURN _____ Your own words

In the box, create and label a representative side-view cross-section of the ocean floor. Include a continental shelf, continental slope, continental rise, abyssal plain, and any two of these features: mid-ocean ridge, trench, seamount. Place the shelf next to a coast, then show the slope and rise leading toward an abyssal plain. Put the deep-ocean features in reasonable locations of your choice.



PART 1 • READ AND MARK

Underline each ocean-floor landform. Circle the words that tell what the landform looks like or how it forms. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	How are the continental shelf, continental slope, and continental rise different?	The continental shelf is shallow and gently sloped. The continental slope is steeper. The continental rise is broad and is built from sediments at the base of the slope.
2	What is a mid-ocean ridge, and what happens there?	A mid-ocean ridge is a long chain of underwater mountains. At many ridges, magma cools and forms new ocean crust.
3	What does an ocean trench look like, and how does it form?	An ocean trench is a narrow, very deep valley in the seafloor. It forms where one tectonic plate bends and sinks beneath another plate.
4	What is a seamount? What are two possible states of a seamount volcano?	A seamount is an underwater mountain, usually formed by volcanic activity. Its volcano may be active, dormant, or extinct.

PART 3 • YOUR TURN (SAMPLE ANSWER)

A representative labeled cross-section shows a coast, then a continental shelf, continental slope, continental rise, and abyssal plain. It also shows a seamount on a deep-ocean area and a mid-ocean ridge farther across the basin.

Accept descriptions that match the passage and clearly distinguish the features. For the sketch, accept varied placements of the ridge, trench, or seamount if the shelf, slope, and rise lead from a coast toward an abyssal plain and all required features are labeled.