

To complete this worksheet, see the instructions in the textbook (Chapter 10 Investigation).

**Table 1. Identification of Features on the Ocean Floor**

Different oceanic features are numbered (1 through 10) adjacent to the figure below. Write the name for each feature using the choices listed below. Note that the numbered spaces below do not correspond to the numbered descriptions in the textbook.

Possible choices include: Abyssal plain, back-arc basin, fracture zone, hot spot, island arc, mid-ocean ridge, oceanic plateau, oceanic trench, passive continental margin, and submarine canyon and fan.

Feature 3: \_\_\_\_\_

Feature 5: \_\_\_\_\_

Feature 1: \_\_\_\_\_

Feature 4: \_\_\_\_\_

Feature 6: \_\_\_\_\_

Feature 2: \_\_\_\_\_

Feature 7 (refers to narrow sea between continent and islands): \_\_\_\_\_

Feature 8: \_\_\_\_\_

Feature 9: \_\_\_\_\_

Feature 10: \_\_\_\_\_

**Table 2. Interpretation of the Formation and Relationship of Features**

For each of the numbered features on the previous figure, write the name of the feature in the table below and provide a brief interpretation of how the feature formed.

<b>Feature Number</b>	<b>Name of Feature</b>	<b>Interpretation of How Feature Formed</b>
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

**Table 3. Interpreted Relationship Between Adjacent Features**

Briefly describe a possible relationship between each pair of features identified below.

Related Features	Possible Interpretation of How the Features are Related
1 and 2	
3 and 4	
9 and 10	

**Table 4: Cross Section Along the Front of the Terrain**

On the gray front of the terrain below, sketch in your interpretations of the geometry of plates, such as a subduction zone or mid-ocean ridge. Use figures from the book as a guide for how to draw in the different types and thicknesses of crust and lithosphere.



**Table 5. Interpretation of the Landscape in the Past or In the Future**

For each question below, circle the appropriate answer about how the area is interpreted to have looked 20 million years ago or will look 20 million years into the future.

Question	Possible Answer
Where was the oceanic plateau relative to the hot spot 20 million years ago?	(a) farther away than today; (b) the same distance as today; (c) half the distance as today; (d) on top of the hot spot
What was the length of the linear chain of islands 20 million years ago?	(a) longer than today; (b) same length as today; (c) half as long as today; (d) it did not yet exist
Which way is the plate on which the oceanic plateau rests moving relative to the hot spot at depth? Assume that on the main figure you are looking north.	(a) west; (b) northwest; (c) north; (d) northeast; (e) east southeast; (f) south; (g) southwest
How wide was the narrow sea between the volcanic islands and the western continent 20 million years ago?	(a) wider than it is today; (b) same width as it is today; (c) a little narrower than it is today; (d) it was much narrower; (e) it did not exist
How wide was the narrow ocean between the central and eastern continents 20 million years ago?	(a) wider than it is today; (b) same width as it is today; (c) a little narrower than it is today; (d) it was much narrower; (e) it did not exist
How wide do you think the narrow ocean between the central and eastern continents will be 20 million years into the future?	(a) nearly twice as wide as it is today; (b) a little wider than today; (c) same width as today; (d) much narrower than today; (e) it will not exist
What do you think might happen to the oceanic plateau 20 million years into the future?	(a) it may become much larger than it is today; (b) it may become much smaller than it is today; (c) it may subside and become part of the abyssal plain; (d) it may collide with the trench and become a terrane
Your instructor may have you draw on a separate sheet of paper a simple map of the area 20 million years ago showing the relative positions of the different features. Be sure to draw and label mid-ocean ridges, trenches, and other features.	
Your instructor may have you draw on a separate sheet of paper a simple map of the area 20 million years into the future showing the relative positions of the different features. Be sure to draw and label mid-ocean ridges, trenches, and other features.	