

Ocean Floor Profile Map - Instructions

In this activity, you will construct a profile, or side view, of the features of the ocean floor between New Jersey and Portugal. To make your profile, you will use a table of data that was collected by a depth-sounding technique similar to sonar.

Essential Question

How does an understanding of the nature of the seafloor provide evidence of plate tectonics?

Procedure

1. Set up your graph (on the first page of graph paper only) according to the information below. You will be attaching 4 pages of graph paper together eventually. Make sure you are using the paper in **landscape** (sideways).

X-axis (distance) = 50 km / line (0 starts on the bottom left and goes right)

Y-axis (depth) = 250 m / line (0 starts at the top left and goes down)

2. Analyze the data from the table on the right. Think about how and where you will be plotting points.

3. Plot each point on the first page of the graph. Attach 3 more pieces of graph paper to the right side of the first page.

5. Continue labeling the x-axis and plotting the points. Connect the points together with a line.

7. Color the ocean bottom brown and the water blue. Label the following ocean floor features: **continental slope, continental shelf, mid-ocean ridge, abyssal plain, seamount.**

9. Draw a dashed line from top to bottom splitting the mid-ocean ridge. Draw arrows to show the direction of the movement of the tectonic plates.

Answer these questions in the space remaining on the right side of your graph

1. Describe the general structure of the ocean floor.
2. What is continental drift?
3. Why does the earth have to be extremely old for the theory of continental drift to be possible?
4. How does the structure of the ocean floor support the theory of continental drift?

Station Number	Distance from New Jersey (km)	Depth to the ocean floor (m)
1	0	0
2	160	165
3	200	1800
4	500	2200
5	800	4600
6	1050	5450
7	1450	5100
8	1800	5300
9	2000	5600
10	2300	4750
11	2400	3500
12	2600	3100
13	3000	4300
14	3200	3900
15	3450	3400
16	3550	2100
17	3600	1330
18	3700	1275
19	3950	1000
20	4000	0
21	4100	1800
22	4350	3650
23	4500	5100
24	5000	5000
25	5300	4200
26	5450	1800
27	5500	920
28	5600	180
29	5650	0

