



## Mapping the Ocean Floor

### Lab Preview

**Directions:** Answer these questions before you begin the Lab.

1. What information do you need to plot a point on the graph?

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2. What would you expect to find if you were standing at station number one (0,0)?

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*In this lab you will use sonar data from the Atlantic Ocean to make a profile of the ocean bottom.*

### Real-World Question

What does the ocean floor look like?

### Materials

graph paper

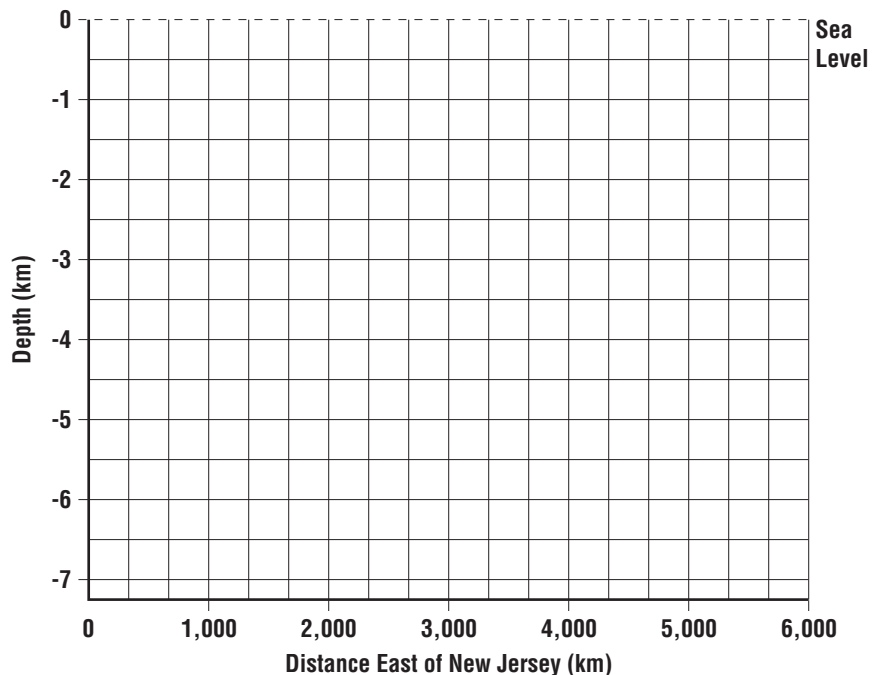
### Goals

- **Make** a profile of the ocean floor.
- **Identify** seafloor structures.

### Procedure

1. Copy and complete a graph like the one shown.
2. **Plot** each data point and connect the points with a smooth line.
3. Color water blue and the seafloor brown.

**Graph 1**





(continued)

**Table 1, Ocean Floor Data**

| Station Number | Distance from New Jersey (km) | Depth to Ocean Floor (m) | Station Number | Distance from New Jersey (km) | Depth to Ocean Floor (m) |
|----------------|-------------------------------|--------------------------|----------------|-------------------------------|--------------------------|
| 1              | 0                             | 0                        | 14             | 3,450                         | 3,400                    |
| 2              | 160                           | 165                      | 15             | 3,550                         | 2,100                    |
| 3              | 200                           | 1,800                    | 16             | 3,700                         | 1,275                    |
| 4              | 500                           | 3,500                    | 17             | 3,950                         | 1,000                    |
| 5              | 1,050                         | 5,450                    | 18             | 4,000                         | 0                        |
| 6              | 1,450                         | 5,100                    | 19             | 4,100                         | 1,800                    |
| 7              | 1,800                         | 5,300                    | 20             | 4,350                         | 3,650                    |
| 8              | 2,000                         | 5,600                    | 21             | 4,500                         | 5,100                    |
| 9              | 2,300                         | 4,750                    | 22             | 5,000                         | 5,000                    |
| 10             | 2,400                         | 3,500                    | 23             | 5,300                         | 4,200                    |
| 11             | 2,600                         | 3,100                    | 24             | 5,450                         | 1,800                    |
| 12             | 3,000                         | 4,300                    | 25             | 5,500                         | 920                      |
| 13             | 3,200                         | 3,900                    | 26             | 5,650                         | 0                        |

**Conclude and Apply**

1. What ocean floor structures occur between 160 km and 1,050 km east of New Jersey? Between 2,000 km and 4,500 km? Between 5,300 km and 5,500 km?

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2. When a profile of a feature is drawn to scale, the horizontal and vertical scales must be the same. Does your profile give an accurate picture of the ocean floor? Explain.

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