

1-9

How do you read a topographic map?

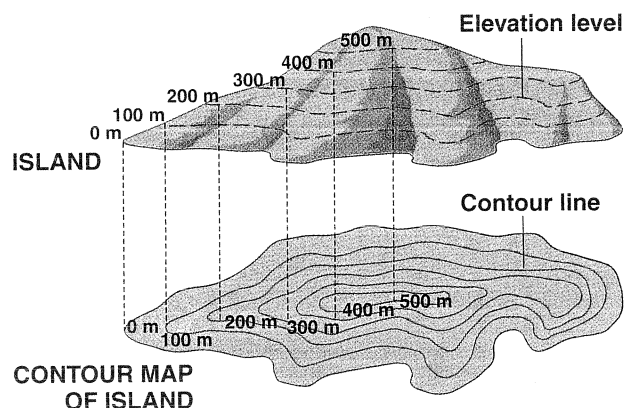
Objective

Explain how to read a topographic map.

Key Term

contour interval (IN-tuhr-vuhl): difference in elevation between one contour line and the next

Contour Intervals A topographic map shows the elevation of features on Earth's surface. Look at the topographic map shown in Figure 1-30. Every point on a contour line is at the same elevation.



▲ **Figure 1-30** This drawing shows how an island's different elevations would look on a topographic map.

The places where contour lines are close together, the land has a steep slope. The places where the lines are far apart, the land has a gentle slope.

The difference in elevation between one contour line and the next is called a **contour interval**. If two contour lines near each other are marked 500 and 600 m, the contour interval between them is 100 m. Mapmakers use different contour intervals for different maps. A large contour interval is used for mountainous areas. A small contour interval is used for flat areas.

1 OBSERVE: What is the contour interval for the map in Figure 1-30?

Relief Map A map that uses color, shading, or contour lines to indicate the different heights of features is called a relief map. On a relief map, like the one in Figure 1-31, one color might be used to show high mountains. Another color might be used to show areas near sea level. Still other colors might be used to show elevations in between or for areas below sea level.

2 EXPLAIN: How is color sometimes used to show elevation on a relief map?



Figure 1-31 ► Relief map of the United States, showing areas of different elevations

✓ CHECKING CONCEPTS

1. Where contour lines are close together, the land has a _____ slope.
2. The difference in elevation between two neighboring contour lines is called the _____.
3. A map of a flat area would usually have a _____ contour interval.
4. Instead of contour lines, some maps use _____ to show elevation.

💡 THINKING CRITICALLY

Use Figures 1-30 and 1-31 to answer the following questions.

5. **OBSERVE:** What is the highest elevation shown in Figure 1-30?
6. **ANALYZE:** Is the land shown in Figure 1-30 flat or hilly? How do you know?
7. **OBSERVE:** What color is used in Figure 1-31 to show elevations from 0 to 300 m?
8. **ANALYZE:** What is the elevation of the land shown in dark green in Figure 1-31?



Hands-On Activity

INTERPRETING A TOPOGRAPHIC MAP

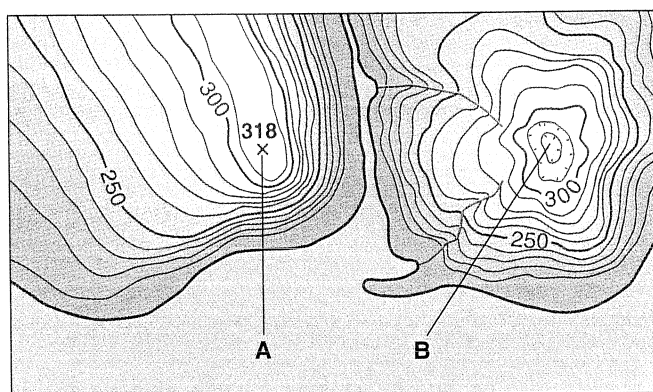
You will need a pencil, a sheet of paper, and a metric ruler. Examine the map in Figure 1-33. Then, answer the following questions.

Practicing Your Skills

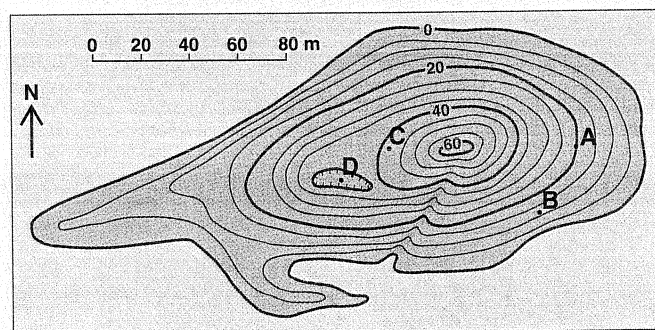
1. **IDENTIFY:** What contour interval is used on the map in Figure 1-33?
2. **CALCULATE:** What are the elevations of Points A, B, and C?
3. **CALCULATE:** How many meters is the highest point on the map?
4. **MEASURE:** How long in meters is the river?
5. **INFER:** The hill shown on the map has three sides that are steep and one side that is gentle. How can you tell which are the steep sides and which is the gentle side? What is the compass direction of the gentle side of the hill?
6. **ANALYZE:** Which letter is in a depression? How do you know?

INTERPRETING VISUALS

Reading a Topographic Map The symbol X on a topographic map is called a benchmark. A benchmark is a mark on a map that shows a landmark with a known height. The landmark is used as a reference point in relation to the height of other things on the map. A depression is shown on a topographic map by using short, straight lines pointing toward the center of the depression. Look at Figure 1-32. Which point on the map is the benchmark? What is the elevation at the benchmark? Which point shows a depression?



▲ Figure 1-32 Elevation is shown in meters.



▲ Figure 1-33 The contour lines on this map show several land features.