

Chapter 1 Mapping Earth's Surface

Study Guide

1. Exploring Earth's Surface

a. **Topography**

- i. **Elevation**
- ii. **Relief**
- iii. **Landforms**

1. **Landform region**

b. **Types of Landforms**

- i. **Plains**
- ii. **Mountains**

1. **Mountain range**

iii. **Plateaus**

c. **Earth's Four Spheres**

- i. The **Lithosphere**
- ii. The **Atmosphere**
- iii. The **Hydrosphere**
- iv. The **Biosphere**

d. **Earth's Structure**

- i. **Core**
- ii. **Mantle**
- iii. **Crust**
- iv. **Rock**

e. **The Development of Geology**

i. **Geology**

2. Models of Earth

a. **Maps and Globes**

- i. **Map**
- ii. **Globe**
- iii. **Scale**
- iv. **Symbols**
- v. **Key**

- b. An Earth Reference System
 - i. The **Equator**
 - 1. **Hemisphere**
 - ii. **The Prime Meridian**
 - iii. Measurements on a Sphere
 - 1. **Degree**
 - c. Locating Points on Earth's Surface
 - i. **Latitude**
 - ii. **Longitude**
 - d. **Map Projections**
3. Maps in the Computer Age
- a. Satellite Mapping
 - i. Printing **Satellite Images**
 - 1. **Pixels**
 - ii. Interpreting Satellite Images
 - b. Computer Mapping
 - i. **Digitizing**
4. Topographic Maps
- a. Mapping Earth's Topography
 - i. **Topographic map**
 - ii. Uses of Topographic Maps
 - iii. Scale
 - iv. Coverage
 - v. Symbols
 - b. Showing Relief on Topographic Maps
 - i. **Contour line**
 - ii. **Contour interval**
 - c. **Global Positioning System (GPS)**

SECTION 1-1

REVIEW AND REINFORCE

Exploring Earth's Surface

◆ Understanding Main Ideas

Fill in the blanks in the table below.

Landform	Elevation	Relief
Plains	Low or high	1.
2.	High	High
3.	High	Low

Answer the following questions on a separate sheet of paper.

4. How does a coastal plain differ from an interior plain?
5. Compare and contrast a mountain range with a mountain system.

◆ Building Vocabulary

Match each term with its definition by writing the letter of the correct definition on the line beside the term.

- | | |
|--|---|
| <p>_____ 6. plateau</p> <p>_____ 7. topography</p> <p>_____ 8. elevation</p> <p>_____ 9. mantle</p> <p>_____ 10. core</p> <p>_____ 11. relief</p> <p>_____ 12. landform region</p> <p>_____ 13. rock</p> <p>_____ 14. crust</p> <p>_____ 15. plain</p> | <p>a. Earth's surface layer</p> <p>b. the height above sea level of a point on Earth's surface</p> <p>c. the shape of the land</p> <p>d. flat or gently rolling land with low relief</p> <p>e. a large area of land where the topography is similar</p> <p>f. the center of Earth</p> <p>g. the difference in elevation between the highest and the lowest parts of an area</p> <p>h. the layer of Earth that surround the core</p> <p>i. the hard, solid material that makes up the outer layer of Earth</p> <p>j. a landform that has high elevation and a fairly level surface</p> |
|--|---|

SECTION 1-3

REVIEW AND REINFORCE

Maps in the Computer Age

◆ Understanding Main Ideas

Fill in the blanks to complete the flowchart below.

1. _____ satellites collect data about a strip of Earth's surface. → The satellites relay the data back to a(n) 2. _____ on Earth. → The data is made into a picture by a(n) 3. _____. → When the image is printed, it is made up of thousands of tiny 4. _____.

Answer the following questions in the spaces provided.

5. How are airplanes used in mapmaking?

6. How can satellite images help scientists to better understand the environment?

7. Explain how mapmakers use computers to store and display map data.

◆ Building Vocabulary

Fill in the blank to complete each statement.

8. The process by which mapmakers convert the location of map points to numbers is called _____.

9. Pictures of the surface based on data collected by Landsat are called _____.

10. A satellite image is made up of thousands of tiny dots called _____.

SECTION 1-4

REVIEW AND REINFORCE

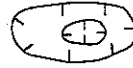
Topographic Maps

◆ Understanding Main Ideas

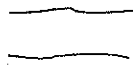
Identify each of the symbols below by filling in the blanks.



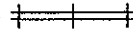
1. _____



4. _____



2. _____



5. _____



3. _____



6. _____

Answer the following questions on a separate sheet of paper.

7. What government agency is responsible for making topographic maps in the United States?
8. You see that a USGS map of your area has a scale of 1 : 24,000. What does this tell you?
9. Can a contour line on a topographic map connect a point with an elevation of 100 feet to a point with an elevation of 110 feet? Explain why or why not.
10. On a topographic map, how would you show an island in the ocean with an elevation of 80 feet if the contour interval is 10 feet?
11. How could a person lost at sea use the Global Positioning System to find out where he or she is?

◆ Building Vocabulary

Fill in the blank to complete each statement.

12. The elevation difference from one contour line to the next is called the _____.
13. The _____ is a method of finding latitude, longitude, and elevation of points on Earth's surface using a network of satellites.
14. A(n) _____ connects points of equal elevation on a topographic map.
15. A(n) _____ map shows the surface features of an area.

Name: _____

Class: Earth Science
Ch. 1 Review

Choose the letter of the correct answer.

1. If you were in a submersible and landed on the ocean floor, you would be touching down on Earth's
[A] lithosphere. [B] biosphere. [C] hydrosphere. [D] atmosphere.
2. Which of the locations listed below is farthest from the prime meridian?
[A] 10° N 25° W [B] 40° N 35° W [C] 10° S 25° E [D] 25° S 40° E
3. It would be easy to walk up a slope represented by contour lines that
[A] are curved. [B] are far apart. [C] form closed loops. [D] are close together.
4. V-shaped contour lines pointing uphill indicate a
[A] ridge. [B] depression. [C] valley. [D] mountain top.
5. If you were to take the shortest route from 25° S 30° E to 25° N 30° W, in which direction would you travel?
[A] northeast [B] southwest [C] southeast [D] northwest
6. Elevation, relief, and slope on a topographic map are shown using symbols called
[A] pixels. [B] contour lines. [C] GPS units. [D] contour intervals.
7. If Lima, Peru, is located at about 12° S 77° W, then Lima is in the
[A] western hemisphere only. [B] northern and eastern hemispheres.
[C] southern and western hemispheres. [D] southern hemisphere only.
8. Plateaus, plains, and mountains are all part of which of Earth's spheres?
[A] lithosphere [B] biosphere [C] atmosphere [D] hydrosphere
9. The distance in degrees east or west of the prime meridian is called
[A] map projection. [B] map scale. [C] longitude. [D] latitude.
10. A contour line that forms a closed loop and has small dashes pointing to the inside of the loop represents
[A] an unknown area. [B] a mapmaker's mistake.
[C] a small plateau. [D] a depression in the ground.

Choose the letter of the correct answer.

11. The science that studies the constructive and destructive forces that build up or wear away Earth's surface is
[A] astronomy. [B] geology. [C] meteorology. [D] biology.
12. A map projection in which the lines of latitude and longitude are all straight, parallel lines that form a rectangle is the
[A] global projection. [B] Greenland projection.
[C] equal-area projection. [D] Mercator projection.
13. The point on Earth's surface having zero degrees latitude and zero degrees longitude would be located
[A] in Greenwich, England. [B] at the North Pole.
[C] at the South Pole. [D] where the equator crosses the prime meridian.

Fill in the word or phrase that best completes the statement(s).

14. A large area of land where the topography is similar is called a _____ region.
15. The _____ of the North Pole is 90° north.
16. Pictures of Earth's surface, called _____, are based on data obtained by Landsat satellites.
17. On a topographic map, points of equal elevation are connected by _____.
18. Computer mapmakers use the process of _____ to convert the location of points on a map to numbers.
19. A _____ map uses contour lines to show the elevation, relief, and slope of an area.

If the statement is true, write true. If it is false, change the underlined word or words to make the statement true.

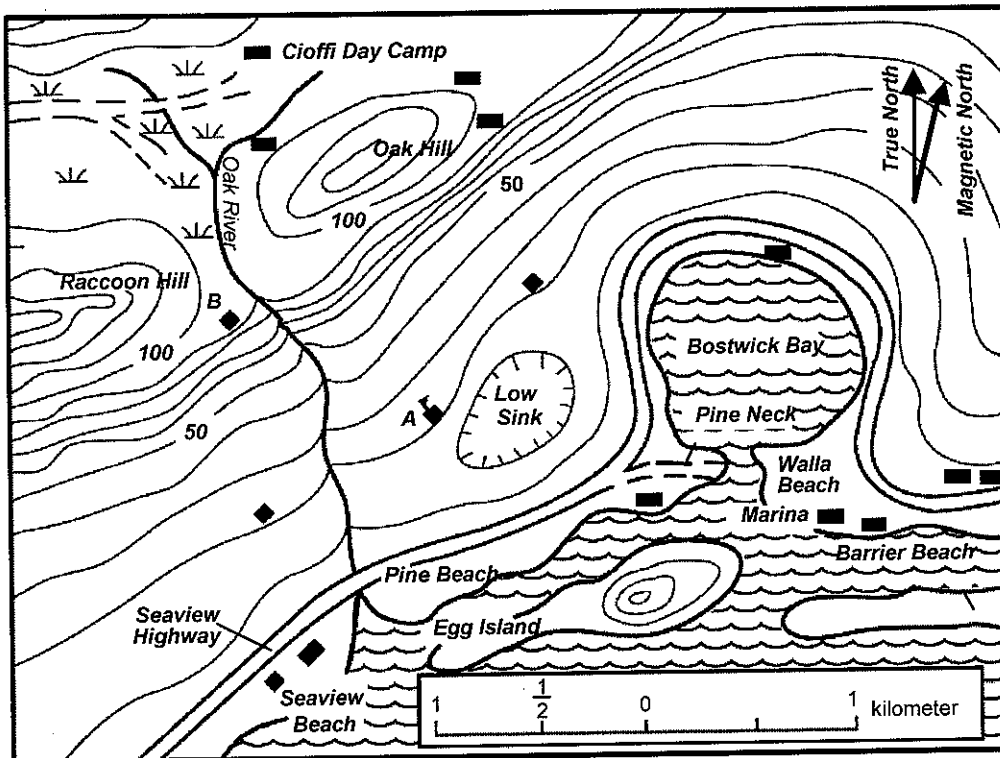
20. On a topographic map, steep slopes are indicated by contour lines that are widely spaced.
21. The prime meridian circles Earth halfway between the North and South poles.
22. On a road map, the map key shows the symbol that represents a highway.

If the statement is true, write true. If it is false, change the underlined word or words to make the statement true.

23. The elevation of an area is the difference in height between its highest and lowest point.

Use the map to answer the question(s).

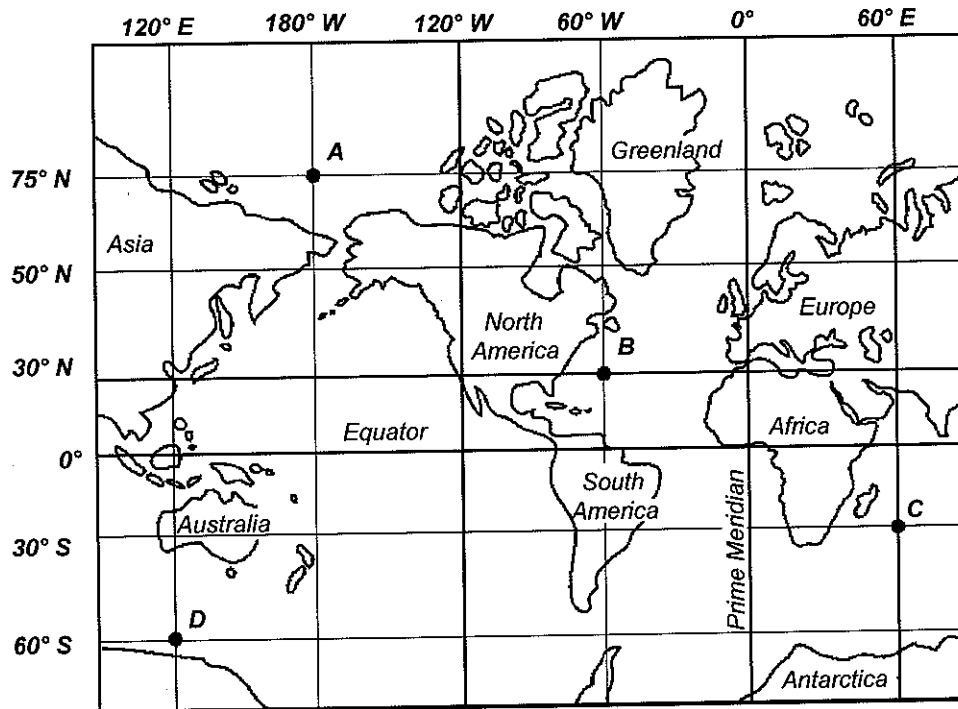
Topographic Map



24. What is the elevation of Seaview Highway?
25. At high tide during a coming storm, large waves are expected to wash up to the 10 m contour line. How many buildings will be flooded as a result?
26. Where is north on the map?

Use the map to answer the question(s).

World Map



27. Is the statement "Point B is located at 60° north latitude" correct? Explain your answer.
28. What does the grid of vertical and horizontal lines on the map represent?
29. A ship is at point C on the map. What is the exact position of the ship?

Write an answer to the following question(s).

30. Your pen pal lives in a town at 62° W. Can you locate this town using only this information? Explain your answer.

Thank you for evaluating AnyBizSoft PDF Splitter.

A watermark is added at the end of each output PDF file.

To remove the watermark, you need to purchase the software from

<http://www.anypdftools.com/buy/buy-pdf-splitter.html>