Name _____   **Introduction to Maps and Globes**

Date _____

Maps and globes both show us what earth or parts of earth look like. Read each statement below and write the correct word on the line.

|				
projection	surface	inconvenient	shape	crumple
statistics	curves	misrepresent	size	sphere

1. Earth is a _____ , like a ball.

2. Maps, on the other hand, have a flat _____.

3. If you tried to wrap a map around a globe, to match country to country, the map would _____ and you could never get it to fit accurately.

4. If you tried to cut up a globe in order to flatten it out on paper, you would never get all the _____ out of it. It would not fit accurately.

5. Globes are the only true representation of what earth looks like, but they are _____ to carry in a pocket, purse, or briefcase.

6. Mapmakers look at a globe and try to reproduce a portion of it on flat paper. This series of lines drawn on paper is called a _____.

7. In one way or another, though, maps are not true. They _____ something about the earth because they are on a flat surface.

8. Some map projections show the true _____ of land and sea. These maps are important to navigators, for example, who must know what a particular bay or headland looks like.

9. Some map projections show true _____ relationships. In such maps, Africa, which is bigger than North America, will actually *look* bigger than North America.

10. Some maps are not concerned with size, shape, or direction but with special pieces of information such as _____.

Extra Activity: On a sheet of paper, label one column "Globes" and the other "Maps." Under each heading, list five positive uses for that object.

Exercise 6: Latitude and Longitude

UNIT 2: BELOW AND ABOVE EARTH'S SURFACE

Name _____ Class _____ Date _____
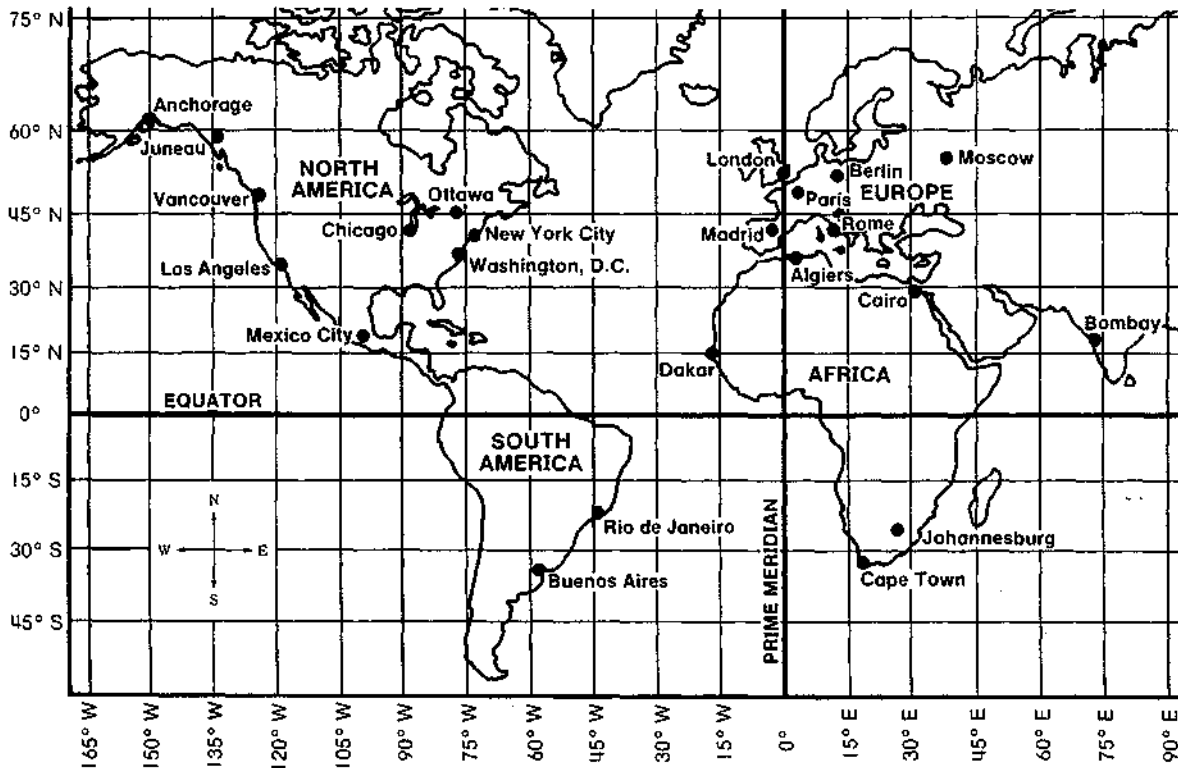
Pilots and ship captains must be able to report where they are at all times. The lines you see on a globe or map help them do that.

You already know about two of those lines—the equator and the prime meridian. Find them on the map above.

The lines running east–west are called *lines of latitude.* They are used to tell distances north and south of the equator. Distance is measured in degrees.

The lines running north–south are called *lines of longitude.* They are used to tell distances east and west of the prime meridian.

Find the city of Dakar on the west coast of Africa. What line of latitude is it on?

Dakar is at latitude 15° north. It is 15° north of the equator.

What line of longitude is Dakar on?

Since the map does not show exactly what line it is on, you have to make as good a guess as you can. Let's say Dakar is on longitude 16° west. It is 16° west of the prime meridian.

A pilot flying over Dakar would report his or her position as being 15° north and 16° west. The person receiving the pilot's message could look at a map and know where the pilot was.

Now imagine you are the pilot of the flight below. How would you report your position as you passed over each city?

Flight 208: Dakar to Anchorage

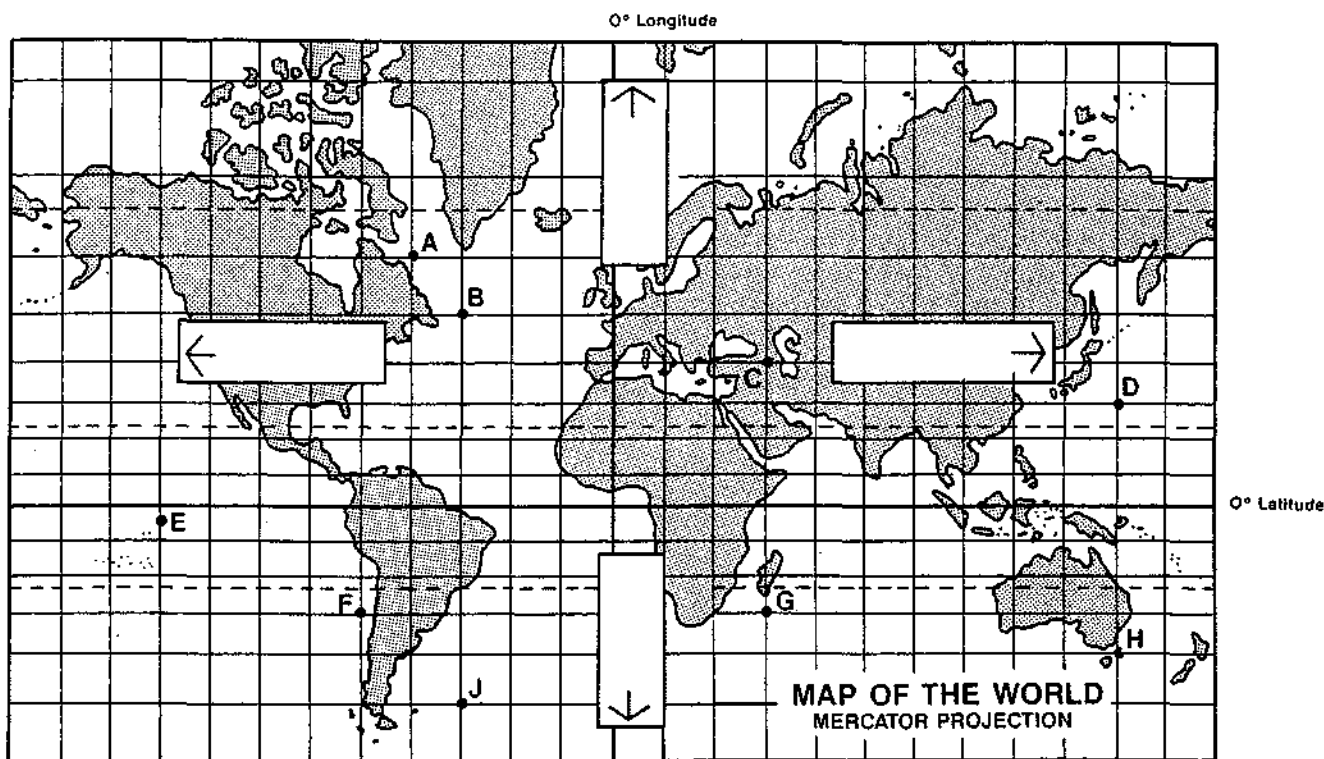Washington, D.C. _____° N _____° W

Chicago _____° N _____° W

Vancouver _____° N _____° W

Juneau _____° N _____° W

Name _____   Date _____

LOCATING PLACES WITH LATITUDE AND LONGITUDE

0° Longitude

MAP OF THE WORLD
MERCATOR PROJECTION

0° Latitude

1. Write the latitude and the longitude of the following places shown on the map.

A _____   B _____   D _____

E _____   F _____   J _____

2. How many degrees of latitude are there between:

A and B? _____   B and J? _____

C and G? _____   D and H? _____

3. How many degrees of longitude are there between:

G and F? _____   G and H? _____

E and F? _____   B and C? _____

4. Challenge: Start at Point A on the map.

a. Go south 30°. Write a w at that point.
b. Go east 45°. Write an x at that point.
c. Go north 40°. Write a y at that point.
d. Go west 30°. Write a z at that point.
What is your latitude and longitude at z?

_____

5. Suppose a ship is sinking at sea. The radar operator sends a message: "We need help. Sinking fast. Location is 30°S - 45°W." Draw a small ship at that location.

These two maps show the amount of average rainfall for South America and Africa. Study the maps, then answer the questions. Write **T** if a statement is true, or **F** if it is false.

INCHES

☐ Under 10

▨ 10–40

⬚ 40–80
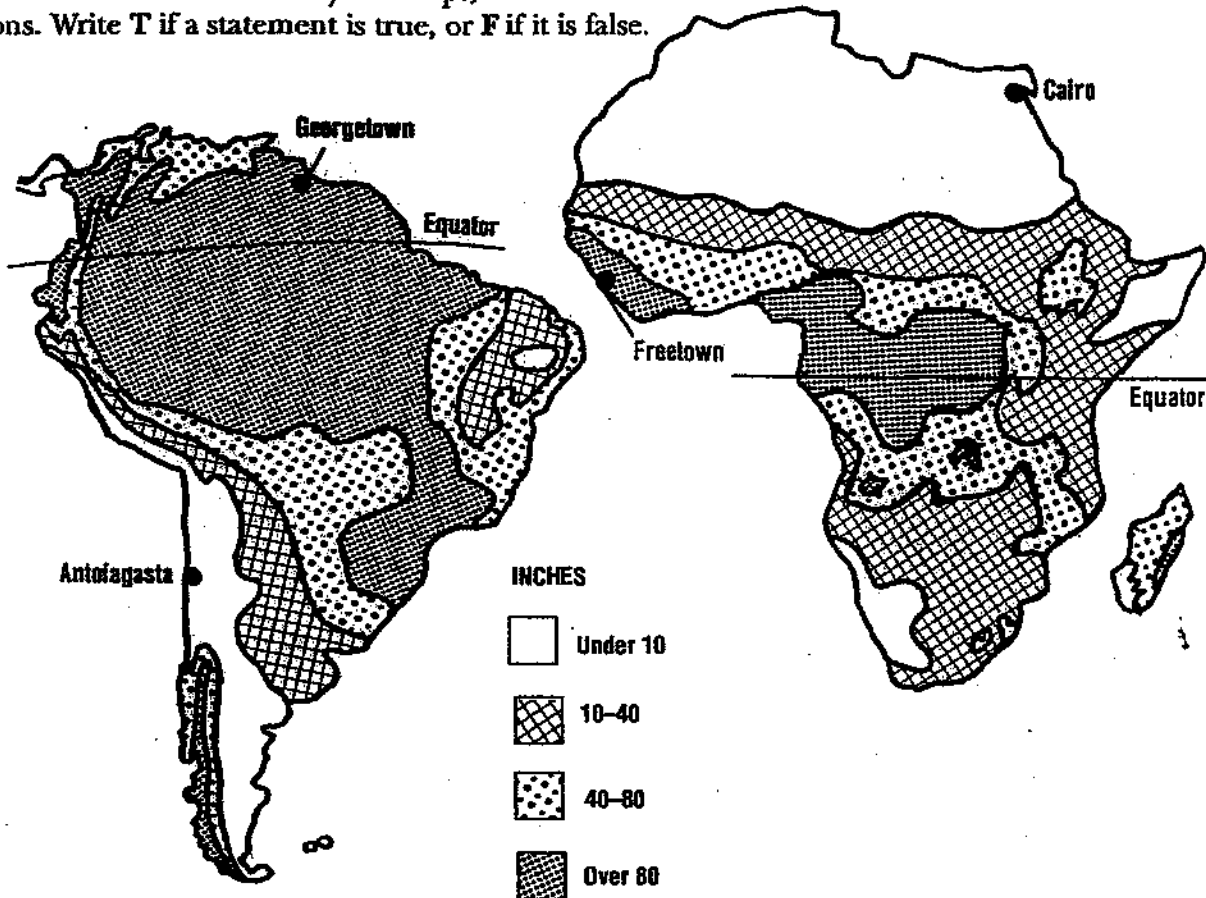
▩ Over 80

1. _____ Africa's northern section receives less than 10" of rain a year.

2. _____ No part of southern Africa receives less than 10" of rain a year.

3. _____ The northern part of South America receives over 80" of rain a year.

4. _____ In Africa, Freetown receives over 80" of rain a year.

5. _____ Cairo, in Africa, receives less than 10" of rain a year.

6. _____ In Georgetown, South America, less than 75" of rain falls per year.

7. _____ Antofagasta, South America, receives less rain than Cairo, Africa.

8. _____ There is a city in South America that receives over 80" of rain a year.

9. _____ One region of Africa at the equator receives only 8" of rainfall a year.

10. _____ Most of the western coast of South America is very dry.

11. _____ On both continents, there are areas of heavy rainfall at the equator.

12. _____ Land at or near the equator that receives heavy rainfall is probably tropical rain forest.

Extra Activity: In some areas of the world, rainfall occurs during a particular season. Using an encyclopedia and an atlas, read about the monsoon. Write a report explaining the monsoon. Draw a map of India, showing the monsoon patterns.
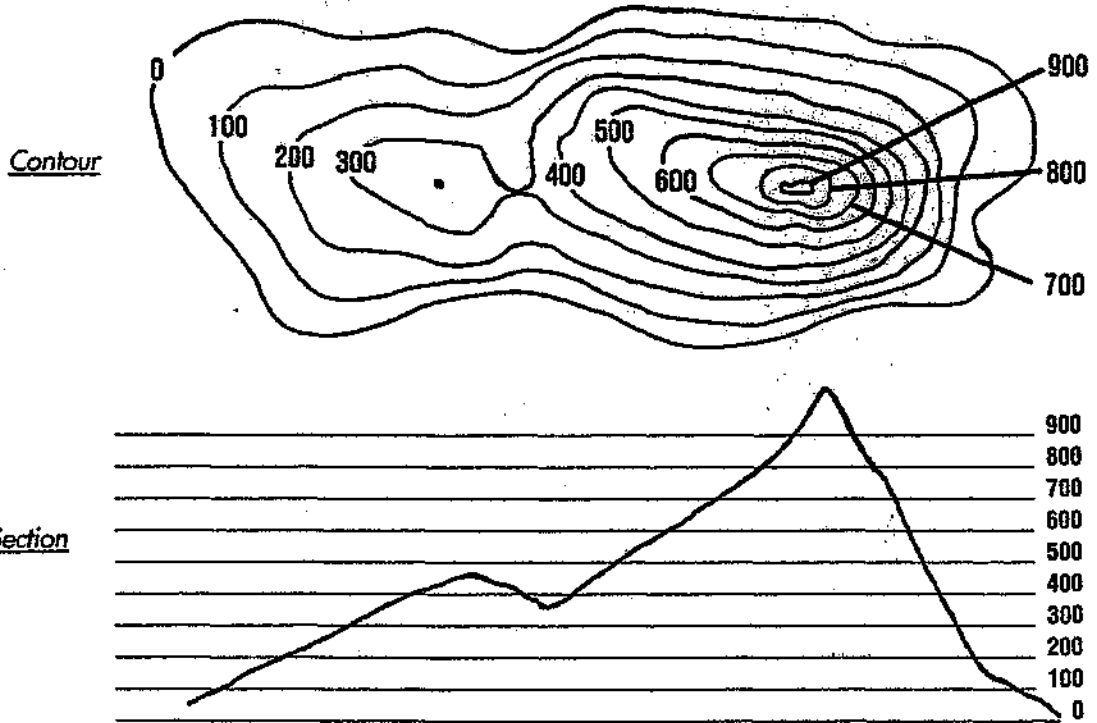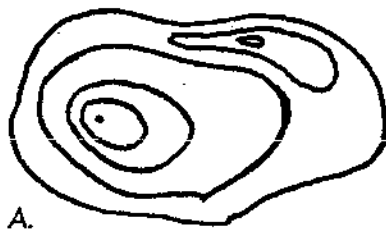
Contour Maps

How can a map show exactly the shape and elevation of a section of land? Scientists, builders, farmers, hikers, and others often need to know exactly what the land looks like, so mapmakers have developed contour maps. Imagine that you are in a helicopter above a hill that i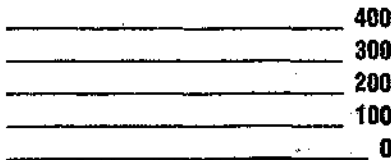s 400 feet high. Imagine that somebody has drawn red lines around the hill at the 100' elevation, 200' elevation, 300' elevation, and so on. If you took an aerial photo of the hill, you would see four sets of red lines on a flat surface. These red lines show the contour, or shape, of the land. Below is a sample contour map. Following it is a cross-section map. Study the two samples.

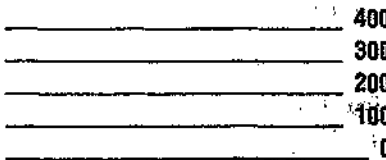*Contour*

Cross Section

For each contour map below, draw a cross-sectional outline.

A.

	400
	300
	200
	100
	0

B.

	400
	300
	200
	100
	0

C.
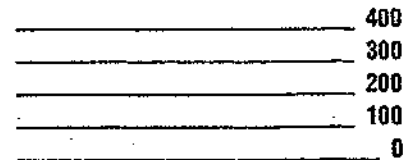
	400
	300
	200
	100
	0

Extra Activity: Write a verbal description of each of the three sections of land. Begin each description by writing, "This section of land . . . ." Do not label the descriptions A, B, or C. Exchange your description with another student. Can you match his or her verbal descriptions to A, B, and C? Is it easy to do this, or difficult? Why?

SECTION 3: PHYSICAL FEATURES

Geography Skills Activities