

Sunrise and sunset occur at different times in different parts of the world because the earth rotates on its axis. Most countries have agreed upon standard time zones to avoid confusion. The prime meridian or Greenwich Meridian is established as the beginning point for the time zones.

Because there are 24 hours in a day, 24 time zones have been established. Each zone covers 15 degrees of longitude, since there are 360° in a circle. However, some time zones have been adjusted to make them more convenient by placing them along boundaries of countries, states, or provinces, so that the entire area lies within the same time zone.

Because the earth rotates from west to east, for each time zone west, you subtract one hour; for each time zone east, you add one hour.

Halfway around the world from the prime meridian at 180°, is the international date line. It marks the change from one calendar day to another.

Use the map on page 35 and the information given above to answer the following questions.

1. How many hours does it take the earth to make one complete rotation? _____

2. Through how many degrees does the earth turn to make one complete rotation? _____

3. When it is noon at the prime meridian, what time is it in

New York City _____

Peking _____

Moscow _____

Los Angeles _____

Chicago _____

London _____

4. When it is noon at Brasilia, what time is it in

Capetown _____

Wellington _____

Vienna _____

Canberra _____

Washington, D.C. _____

Juneau _____

5. How many hours difference is there between Rio de Janeiro and Manila? _____

6. What other city on the map is the same time zone as Dallas? _____

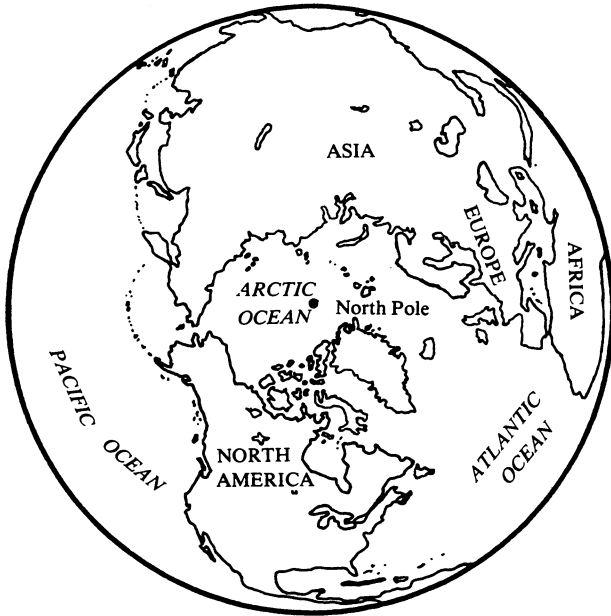
7. Do time zones change from north to south or from east to west? _____

8. As you cross the International Date Line traveling east, do you gain a day or lose a day? _____

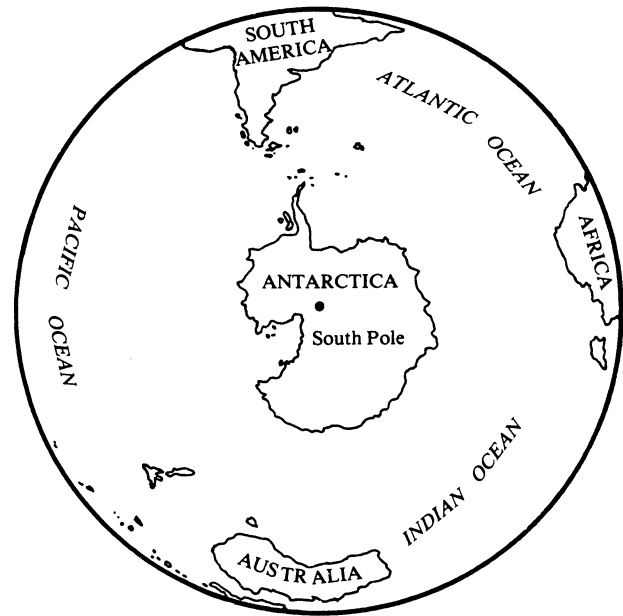
(hemispheres — north, south)

NAME _____

A globe is a scale model of the earth. Its shape is called a sphere. From any view of a globe or the earth, you can see only half of it. Half of a sphere is called a hemisphere. Map makers divide the earth into two pairs of hemispheres: Northern Hemisphere and Southern Hemisphere, and Eastern Hemisphere and Western Hemisphere. The Northern Hemisphere and Southern Hemisphere are divided by the equator.



Northern Hemisphere



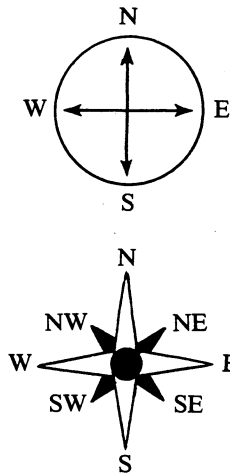
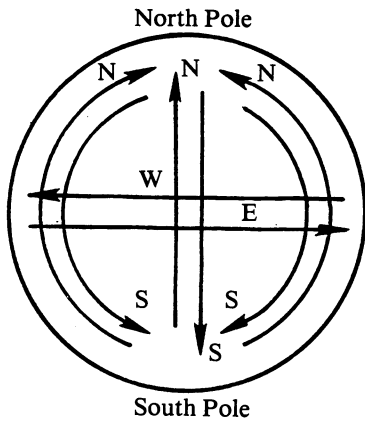
Southern Hemisphere

Answer the following questions about the Northern and the Southern Hemispheres.

1. What point is at the centre of the Northern Hemisphere? _____
2. What point is at the centre of the Southern Hemisphere? _____
3. Which ocean lies completely within the Northern Hemisphere? _____
4. Which two continents are completely within the Southern Hemisphere? _____
5. What line of latitude separates the Northern Hemisphere from the Southern Hemisphere? _____
6. Which hemisphere has more land? _____
7. Which hemisphere has more water? _____
8. In which hemisphere do you live? _____
9. The shortest route to Asia from North America crosses what body of water? _____
10. Which other continent is closest to Antarctica? _____
11. What direction do you travel as you move toward the top of the map of the Northern Hemisphere?

12. What direction do you travel as you move toward the bottom of the map of the Southern Hemisphere? _____

(directions -- cardinal, intermediate)

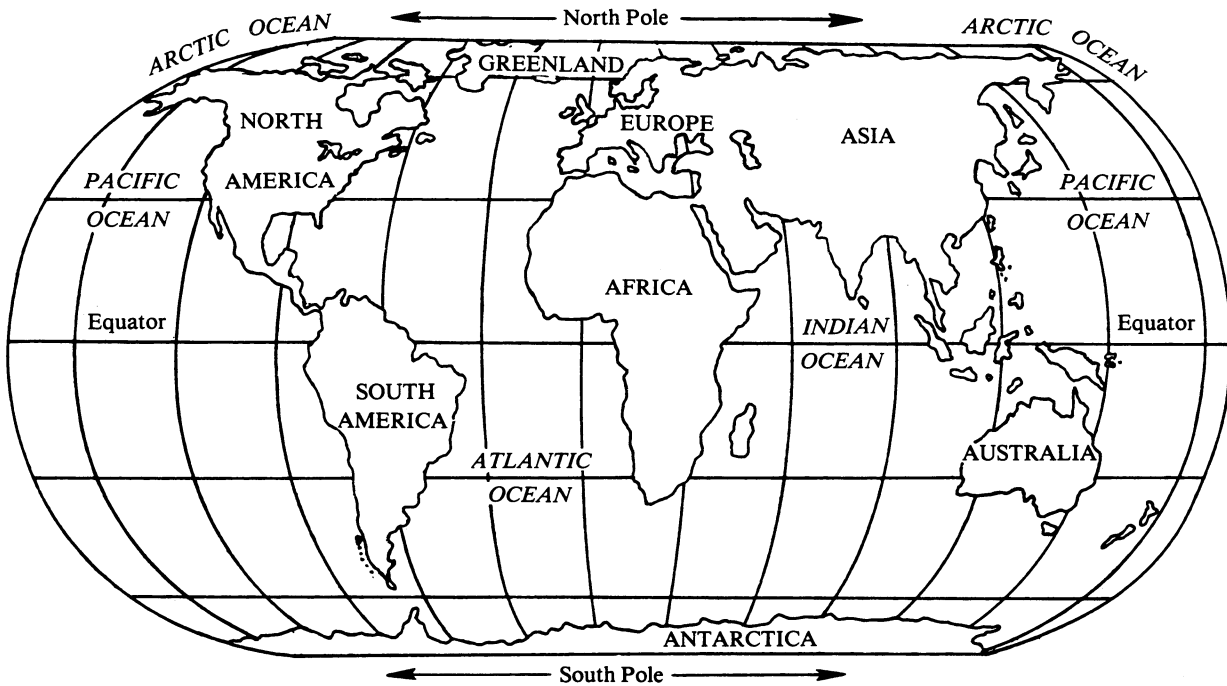


NAME _____

The two opposite ends of the earth's axis are called the North Pole and South Pole. The poles are the reference points for determining all directions on earth. The North Pole is the point farthest north; the South Pole is the point farthest south.

The compass rose indicates cardinal directions (north, south, east, west) and intermediate directions (northeast, southeast, northwest, southwest) to determine the orientation of a map on a page.

Complete the following statements using the world map and information given above. Fill each blank with a cardinal or an intermediate direction.



1. Europe is _____ of Africa.
2. The Indian Ocean is _____ of Asia.
3. The Arctic Ocean is farthest _____.
4. Antarctica is farthest _____.
5. South America is _____ of Antarctica.
6. Greenland is _____ of Europe.
7. Australia is _____ of Asia.
8. North America and South America are _____ of the Atlantic Ocean.
9. The equator is _____ of Europe.
10. South America is _____ of North America.
11. North America is _____ of Africa.
12. The direction that is opposite of southwest is _____.
13. Australia is _____ of the equator.
14. The Pacific Ocean is _____ of North America and South America.
15. Antarctica is _____ of all the other continents.