

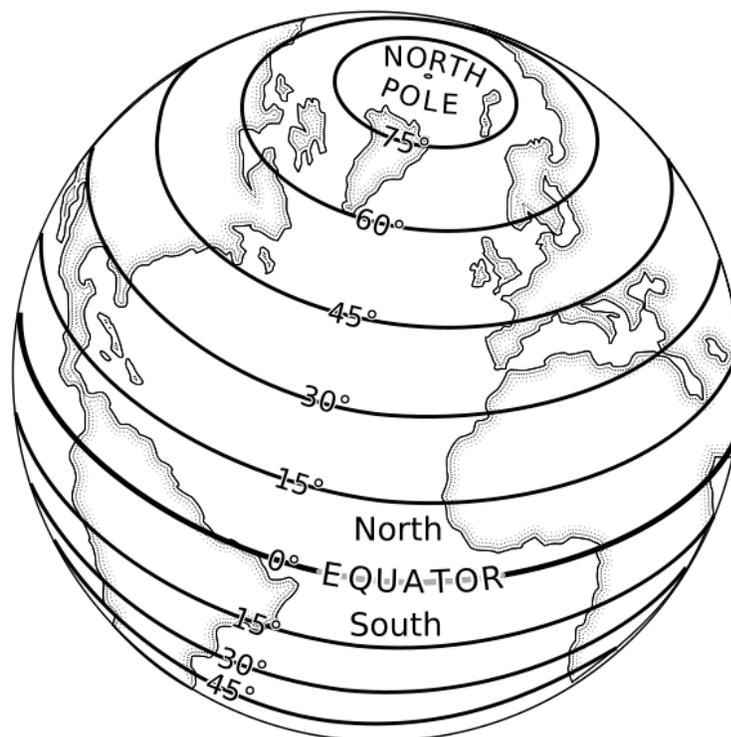
# Latitude, Longitude, Time Zones and the International Date Line

Globes and maps often have lines that help explain where places are. These lines are often called imaginary lines because they don't really exist on the Earth. But they are helpful for navigation or describing where things are. Navigation refers to finding your way. Ships and airplanes have navigation systems. You may have seen a GPS system in a car. It is used for navigation or helping people find where they want to go.

Some of these imaginary lines are lines of latitude, lines of longitude, time zones and the International Date Line. Lines of latitude and longitude are measured using degrees. The symbol for degrees is  $^{\circ}$ .

## Lines of Latitude

**Lines of latitude** go straight across the Earth. The most important line of latitude is the equator. The equator is 0 degrees. The equator divides the Earth into two hemispheres. The **Northern Hemisphere** is above the equator. The **Southern Hemisphere** is below the equator.



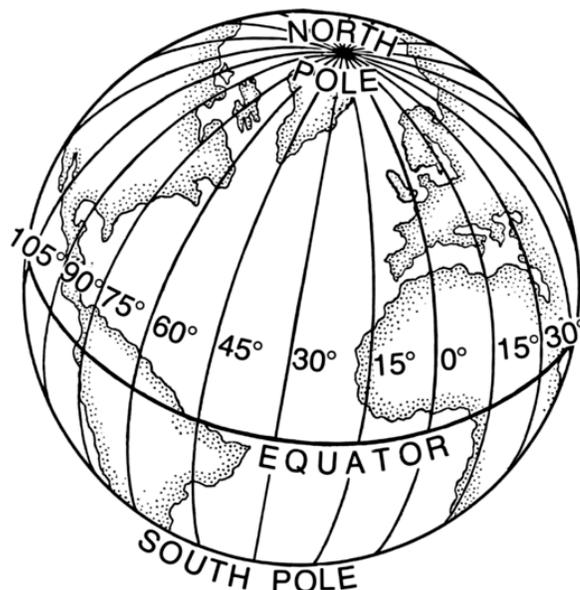
## The Tropics

**The Tropics** is an area that goes around the middle portion of the Earth. The Tropics lie between the Tropic of Cancer and the Tropic of Capricorn. Areas in the Tropics are warm all year round. The Tropics has many rainforests, including the Amazon Rainforest in South America and the Congo Rainforest in Africa.

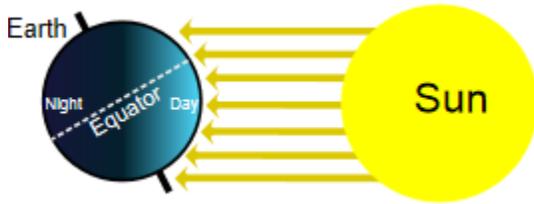


## Lines of Longitude

**Lines of longitude** go up and down. They go through the North Pole and the South Pole. The **Prime Meridian** is the most important line of longitude. It is 0 degrees. It passes through the Royal Observatory in **Greenwich**, England.

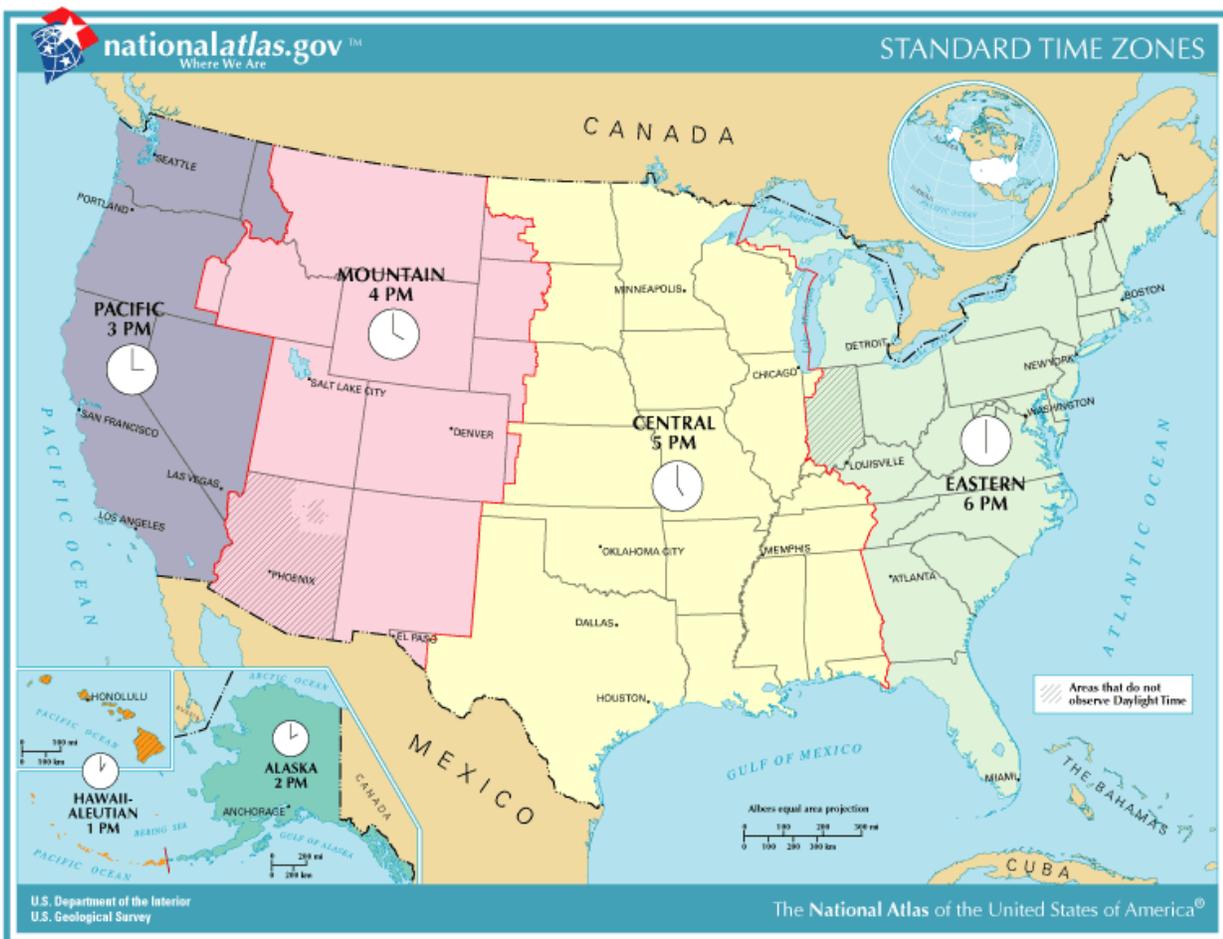


# Time Zones



Because the Earth spins, it is day or night at different times in different places. The Earth is divided into time zones, so that 9 o' clock AM is always morning no matter where you are in the world. As you can see on this map, when it is 3pm in the **Pacific**

**time zone** it is 4pm in the **Mountain time zone**, 5pm in the **Central time zone** and 6pm in the evening in the **Eastern time zone**. However, in Tokyo, Japan it is almost morning of the next day.



# International Date Line



The line that is on the opposite side of the Earth to the **Prime Meridian** is the **International Date Line**. It divides the Earth into the Eastern and Western Hemispheres. It is at about 180 degrees.

This line separates one day from the next. When someone crosses the **International Date Line** they go to the next day or the previous day depending on which way they travel.

In this picture, the pink lines are **time zones**. The black line on the right is the **International Date Line**. You will see that it isn't a straight line.

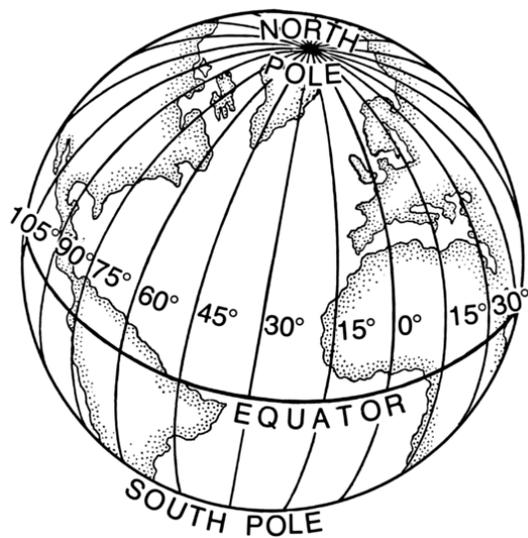
What line is being shown in each picture? Circle the correct answer in each box:



International Date Line

Lines of latitude

Time Zones



Lines of longitude

The Tropics

Time Zones



Time Zones

The Tropics

International Date Line

Circle the correct answer:

1. Lines of Latitude \_\_\_\_\_ Earth.  
(go up and down the) (across the)

2. Lines of Longitude go through the \_\_\_\_\_.  
(North and South Poles)(equator)

3. We use \_\_\_\_\_ to divide the Earth up into different times.  
(time zones)(International Date Line)

4. The International Date Line divides the Earth into two hemispheres. They are the \_\_\_\_.  
(Northern and Southern Hemispheres) (Western and Eastern Hemispheres)

5. The equator divides the Earth into two hemispheres. They are the \_\_\_\_\_.  
(Northern and Southern Hemispheres) (Western and Eastern Hemispheres)

6. Circle all lines that are 0 degrees:

Equator                      International Date Line                      Prime Meridian

7. Which line is 0 degrees latitude?    Prime Meridian                      Equator

8. Which line is 180 degrees longitude?    Prime Meridian                      International Date Line

9. Which line is 0 degrees longitude?    Prime Meridian                      Equator

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