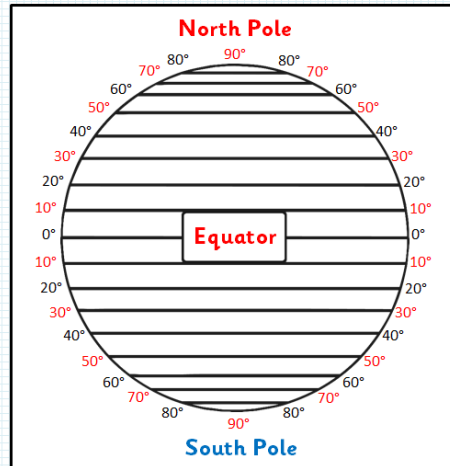


Where in the World?

Latitude

Lines of latitude (also known as **parallels**) circle the Earth from east to west. These invisible lines are all the same distance apart. One line to the next is known as 1 degree.

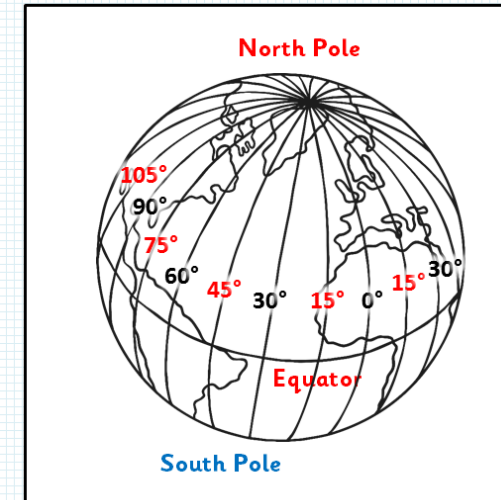
- Each degree of latitude is separated into smaller divisions called minutes.
- There are 60 minutes in 1 degree.
- Each minute is divided into 60 seconds (not always included within the co-ordinate).
- As you can see from the diagram, the Equator lies at 0 degrees.



The Equator is an important line of latitude. It is an imaginary line half way between the North and South Poles. Countries near to the Equator are very hot as this is the Earth's closest point to the Sun.

Longitude

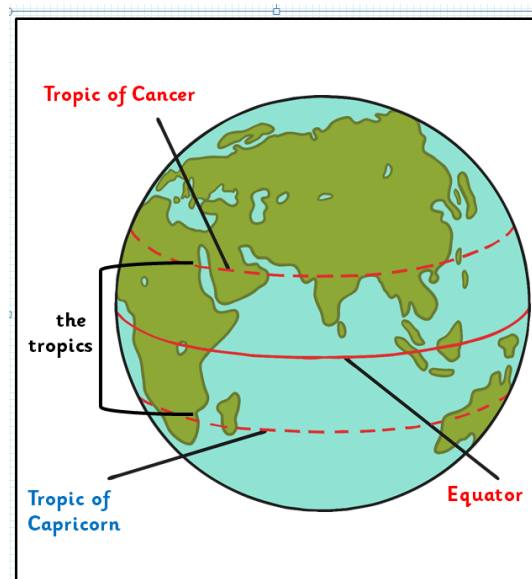
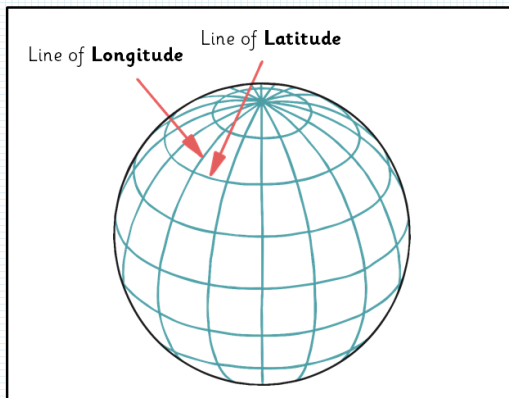
- These are the lines which run north and south and are known as lines of longitude or meridians of longitude. These lines are measured in the same way as the lines of latitude.
- Lines of longitude are not equal distances (equidistant) from each other.
- The Prime Meridian or Greenwich Meridian line is a line of longitude at 0 degrees.
- It passes right through Greenwich in London.



How is it possible to find the exact location of a place on Earth?

Latitude and Longitude

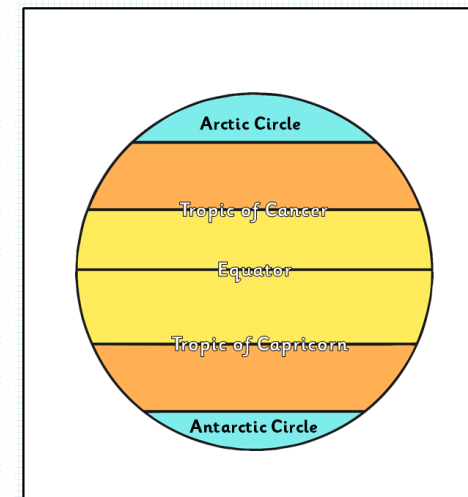
Invisible lines of latitude and longitude form a grid over the Earth. These lines help to create a co-ordinate to locate a place accurately.



Other Important Lines of Latitude

The **Tropic of Cancer** lies at 23.5 degrees north and the **Tropic of Capricorn** lies at 23.5 degrees south of the Equator.

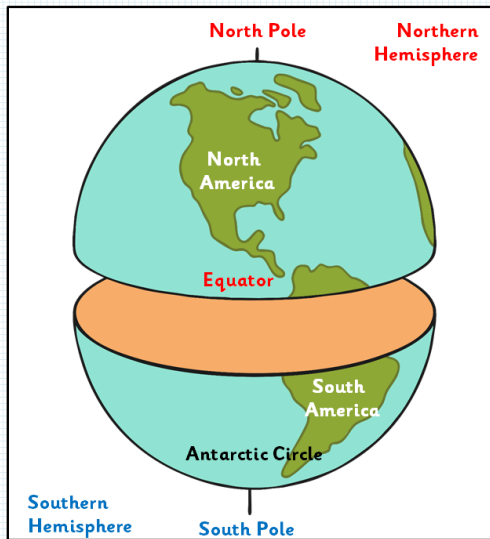
The area of the Earth which lies between both of these lines is called **the tropics**.



Other Important Lines of Latitude

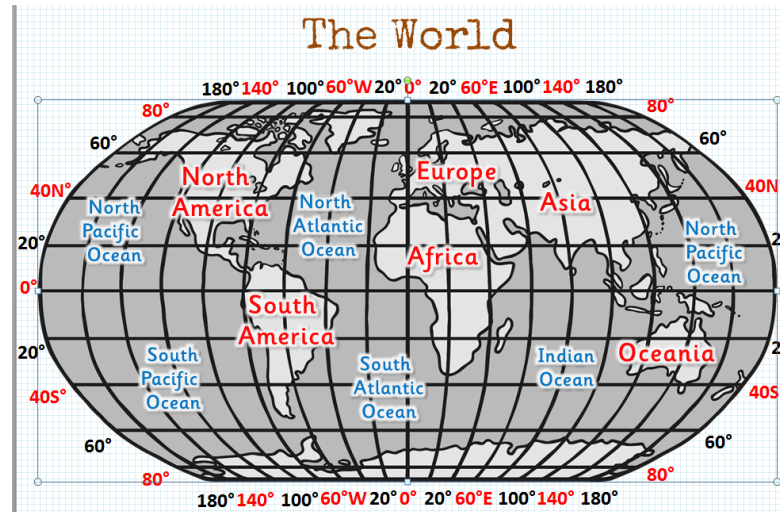
The **Arctic Circle** lies at 66.5 degrees north whilst the **Antarctic Circle** lies at 66.5 degrees south.

The areas in blue and orange are those which have 4 distinct seasons.



Imagine the Earth cut in half...

The **Northern Hemisphere** is anywhere north of the Equator whilst the **Southern Hemisphere** is anywhere south of the Equator.



How do time zones work?

- Midday (12 noon) is the time when the sun is highest in the sky. The sun is highest in the sky at different times in different places in the world. So for every place in the world to have midday when the sun is highest, we have to divide the world into time zones.
- The Earth is a sphere divided into 360 degrees. The Earth turns 360 degrees in 24 hours. 360 divided by 24 is 15 degrees so the Earth turns 15 degrees each hour.
- The Earth has 24 different time zones and local time depends on which time zone you are in.

Time Zones

All time zones are measured from a starting point at England's Greenwich Observatory. This point is known as the Greenwich Meridian or the Prime Meridian. Time at the Greenwich Meridian is known as Greenwich Mean Time (GMT) or Universal Time.

The Eastern time zone in the United States is known as GMT minus five hours (see map on the next slide). This means that when it is noon in the Eastern USA, it is 5pm in Greenwich.

The International Date Line (IDL), another 'invisible' line, is located on the opposite side of the planet from the Greenwich Observatory.



World Time Zones: How it Works

