Latitude and Longitude

Introduction

A circle such as around the globe is 360 degrees (°). Each degree may be further divided into 60 minutes (') and each minute into 60 seconds ("). A grid system or graticule is formed in this manner using a base of two perpendicular circles. Latitude measures the number of degrees north or south of the equator which has a latitude of 0°. Lines of *latitude* (parallels) run east-west around the globe and are used to ***measure*** distances ***NORTH*** and ***SOUTH*** of the ***equator***. Since the equator is 0°, the latitude of the North Pole, 1/4 of the way around the globe going in a northerly direction, would be 90°N. This is the highest latitude possible. All latitudes except for the equator must be designated either north or south of the equator. The longitude coordinate is also needed, then, to designate one particular point on the earth's surface. Longitude measures the number of degrees ***EAST*** or ***WEST*** of the ***Prime Meridian*** which runs through Greenwich, England. The Prime Meridian has a longitude of 0°. Lines of *longitude* (meridians) running north-south around the globe ***measure*** distances ***EAST*** and ***WEST*** of the ***Prime Meridian***. Directly on the opposite side of the earth from the prime meridian is located the 180° meridian, called the International Date Line. This is the highest longitude possible. All other longitudes must be designated either east or west of the Prime Meridian. All meridians converge at the poles so exactly at the poles no longitude is given; the longitude of the poles is left blank. It is required that latitude be given before longitude (generally preferred in non-computer applications). Lines of latitude and longitude represent true geographic east-west and north-south directions despite the fact that on some maps the grid lines may be curved due to the problems of projecting the spherical surface of the earth onto the flat surface of a map. When giving the latitude and longitude coordinates, be sure to <u>identify</u> if the location is north or south, east or west of the base or reference lines!! At these lines, no direction can be given, so do not put a letter after the degree sign.

Additional Summary

The directions _____ or _____ must always be given with latitude EXCEPT for _____ which is the _____. The directions _____ or _____ must always be given with longitude EXCEPT for _____ which is the _____ and _____ on the opposite side of the earth, known as the _____. Latitude can NEVER be over _____ and longitude can NEVER be over _____ . All points on the earth's surface must be identified by **both** coordinates EXCEPT for _____ which is the _____ and _____ which is the _____.