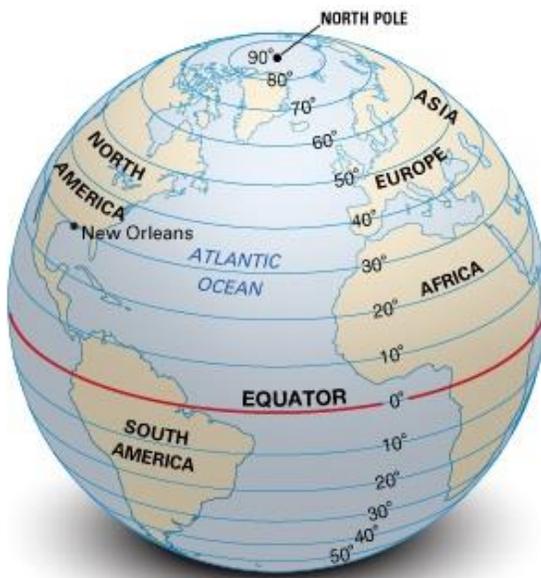


Chapter 3 Notes

3.1 Finding Locations on the Earth – An Introduction to Maps

- **Parallel** – any circle that runs east and west around the earth parallel to the _____
- **Latitude** – the angular distance _____ or _____ of the equator; measured in degrees
 - The equator is at _____ latitude, while the poles are at _____ latitude.
 - North of equator = latitude between 0 and 90° N
 - South of equator = latitude between 0 and 90° S
 - For example: Washington DC has a latitude of 39° N in the Northern Hemisphere, while Melbourne, Australia has a latitude of 39° S in the Southern Hemisphere.

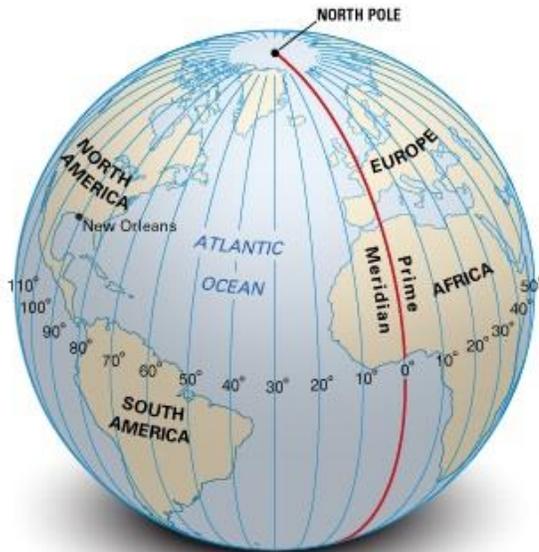


FACTS ABOUT LINES OF LATITUDE

- Are known as parallels.
- Run in an east-west direction.
- Measure distance north or south from the Equator.
- Are parallel to one another and never meet.
- Cross the prime meridian at right angles.

- One degree of latitude = 60 minutes (')
- One minute of latitude = 60 seconds ('')
 - For example: Using degrees, minutes, and seconds to improve location _____, the latitude of Washington DC is 38°53'51''

- **Meridians** – semicircle on the earth that runs from _____ to _____
- **Prime meridian** – the meridian that passes through Greenwich, _____ (0° longitude)
 - The meridian opposite the prime meridian (halfway around the world) is at 180° longitude.
- **Longitude** – the angular distance (in degrees) _____ or _____ of the prime meridian
 - East of prime meridian = longitude between 0 and 180° E
 - West of prime meridian = longitude between 0 and 180° W



FACTS ABOUT LINES OF LONGITUDE

- Are known as meridians.
- Run in a north-south direction.
- Measure distance east or west of the prime meridian.
- Are farthest apart at the Equator and meet at the poles. ← NOT equidistant!
- Cross the Equator at right angles.
- Are halves of great circles.

- Longitude can also be expressed in degrees, minutes, and seconds (for increased precision).

- For example: An even more precise location for Washington DC is $38^{\circ}53'51''$ N, $77^{\circ}0'33''$ W.

- **Great circles** – any circle that divides the globe in _____; often used in navigation (especially by long-distance aircraft)

- A great-circle route is the _____ distance between two points on a sphere
- Air and sea routes often follow along great circles

- Finding Direction - How Does a Compass Work?

- The magnetic needle in the compass is drawn to earth's _____ north pole, like a positive magnet to a negative one.
- **Geomagnetic poles** – areas offset from earth's geographic poles that correspond to the earth's internal magnetic forces.
- **True north** – the direction of the _____ North Pole
- **Magnetic declination** – angle between the direction of the earth's geographic pole and the direction in which a _____ points
 - By adjusting a measurement of magnetic north, a person can determine geographic north for any place on earth.



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