

Latitude & Longitude

Where am I?
Finding places on Earth!

Latitude and Longitude



Using Latitude & Longitude

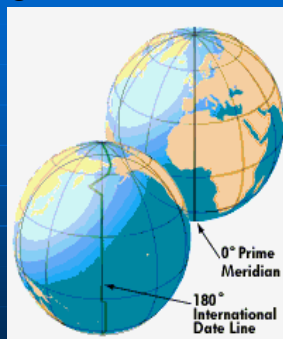


Longitude

- A.K.A – meridian
- Lines run north/south
- Show an East West location
- All intersect at the poles
- Splits Earth into the East and West Hemispheres

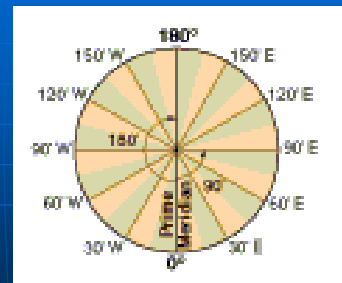
Longitude

- 2 Important Meridians
 - Prime Meridian
 - 0° (zero degrees)
 - Runs through Greenwich, England
 - International Date Line
 - 180°
 - Runs through Pacific Ocean



Longitude

- How do they work?
 - We can have many lines that range from 0 to 180
 - When writing, we must indicate either East or Western Hemisphere
 - i.e. 25°E or 172°W



Think about this!

- How many degrees does earth rotate in one day?
- How many degrees does earth rotate in one hour?
- How big (distance) is one degree of arc across the globe?
- How fast is earth spinning
 - At equator?
 - At the poles?

Longitude

- Times Zones
 - Earth is split into 24 different time zones
 - Each time zone is 15 of arc around earth
 - Represents one hour of time
 - Can you name the time zones in the US?

Longitude

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Latitude – “great circles”

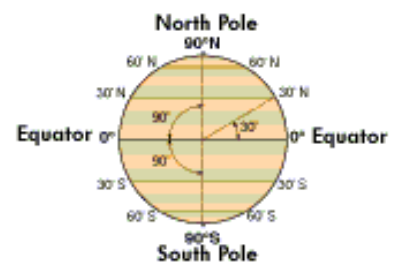


Latitude

- AKA – Parallel (never intersect!)
- Lines run East-West
- Indicate a North South location
- They run all the way around earth
- Equator splits earth into N & S Hemispheres

Latitude

- How do they work?
 - Range is 0° at the equator to 90° at the poles
 - We must show North or Southern hemisphere
 - i.e. 55° N or 20° S



- 1 degree = 111km
- 1 degree split into 60 minutes (')
- 1 minute = 1.85 km
- 1 Minute split into seconds (")
- 1 second = .0308 km (30.8 meters)
- Example - 41° 25' 30"N
- Often converted to a decimal
- 41.425°N

Latitude

- Lines of interest
 - Equator - 0°
 - Tropic of Cancer
 - Tropic of Capricorn
 - North Pole
 - South Pole