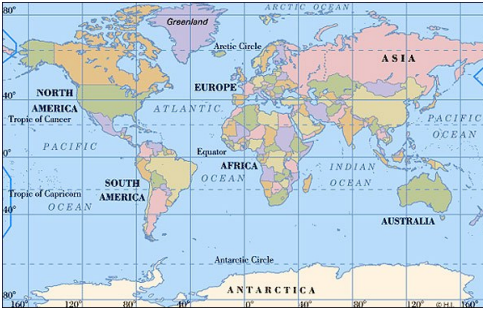


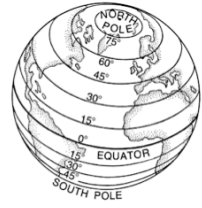
3.1 and 3.2

3.1 FINDING LOCATIONS ON EARTH & 3.2 MAPPING EARTH'S SURFACE



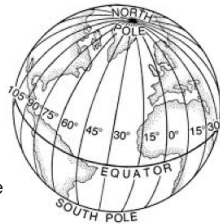
LATITUDE

- a.k.a. parallels
- measures distance north or of the equator
- east-west circles around the Earth
- 0° = equator (divides Earth into a northern and southern hemisphere)
- Oak Park = 34° N
same as Hiroshima, Japan



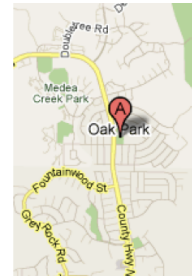
LONGITUDE

- a.k.a. meridians
- measures distance east or west of the prime meridian
- runs north or south
- all meridians meet at the poles
- distance between lines of longitude decrease toward the poles
- 0° = prime meridian (runs thru Greenwich, England)
- Oak Park = 118° W



DEGREES, MINUTES, SECONDS

- 1 degree = 60 minutes (')
- 1 minute = 60 seconds (")
- Oak Park = $34^\circ 8' 50''$ N, $118^\circ 45' 14''$ W



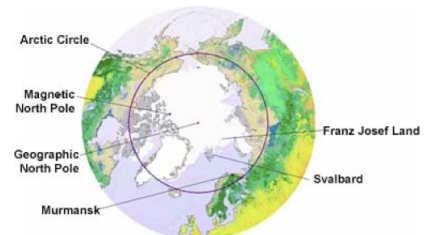
GREAT CIRCLES

- any circle that divides the globe into halves
- ex. equator
- represents the shortest distance between 2 points on a sphere used in navigation



FINDING DIRECTION

- magnetic compasses use Earth's magnetic field to indicate direction
- points to geomagnetic north pole



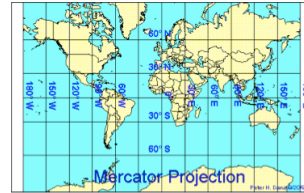
3.1 and 3.2

CARTOGRAPHY

- science of map making
- made through field studies (direct observations) and remote sensing (indirect observation)
- flat representation of Earth's curved surface
there will ALWAYS be DISTORTION
- 4 types of maps: Mercator (cylindrical), Robinson, azimuthal, conic
type of map used depends on what you need it for

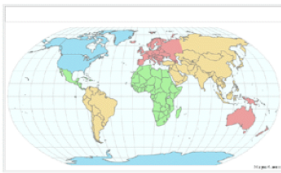
MERCATOR

- a.k.a. cylindrical
- wrap a cylinder of paper around a globe
- advantages
 - creates a grid
 - shows direction accurately
- disadvantages
 - sizes and distances are distorted
 - distortion increases as you move toward the poles



ROBINSON

- advantages
 - distance, size, and shape accurate
- disadvantages
 - distorted around edges



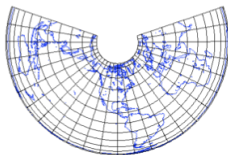
AZIMUTHAL

- a.k.a. gnomonic
- place a piece of paper on a globe so that it touches at 1 point only
- advantages
 - shows the shortest distance between 2 points
- disadvantages
 - distance and direction distorted



CONIC

- wraps a cone of paper around a particular latitude
- advantages
 - highly accurate over a small area
 - used to make road and weather maps
- disadvantages
 - highly distorted as you move away from a specific latitude



READING MAPS

- compass rose - shows cardinal directions (N, E, S, W)
- legend - list of symbols and their meanings
- scale
 - graphic - looks like a ruler
 - fractional - ratio (1:1,000)
 - verbal - sentence (One inch equals one mile.)



3.1 and 3.2

ISOGRAM

- iso = equal, same
- -gram = drawing
- line on a map that shows a constant or equal value
- ex. pressure, precipitation, elevation

