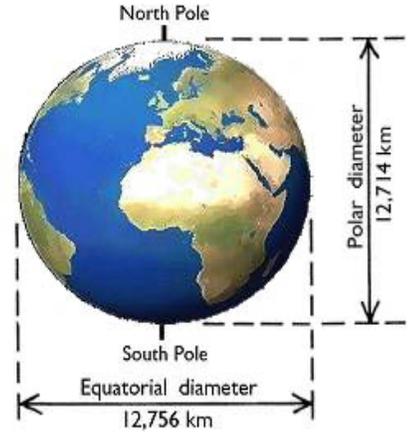Name _____   HR _____
The Earth Outline
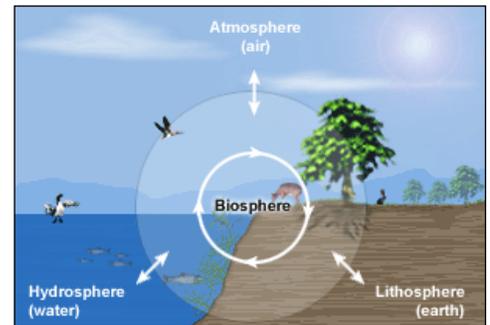
Earth's Shape

    •Earth is an _____ _____, slightly flattened at the

    _____ and bulging a little at the _____

    •From outer space, _____ looks perfectly _____ and

    _____

Earth's Structure

    •The Earth has _____ major parts

        – _____ (_____)

        – _____ (_____)

        – _____ (_____)

The Lithosphere

    •The dense, solid _____ of the earth composed of _____
    and _____ that surrounds the more fluid inner layers

The Hydrosphere

    •The _____ of the earth including the _____, lakes, rivers, and _____ in the

    _____

    •Covers over _____% of the earth's _____

The Atmosphere

    •The shell of _____ that surround the earth and is _____ into zones

        – _____ contains the gasses necessary for _____

    •78% _____, 21% _____, 1% other gasses

    •Strong winds and storms along with most of the water vapor and clouds

        – _____

        – _____

        – _____

Earth's Magnetic Field

•Our planet has a _____ field as if a giant bar

_____ were buried within Earth.

•When you use a magnetic _____, the compass needle

points toward Earth's magnetic _____ that is very close to the

_____ North Pole.
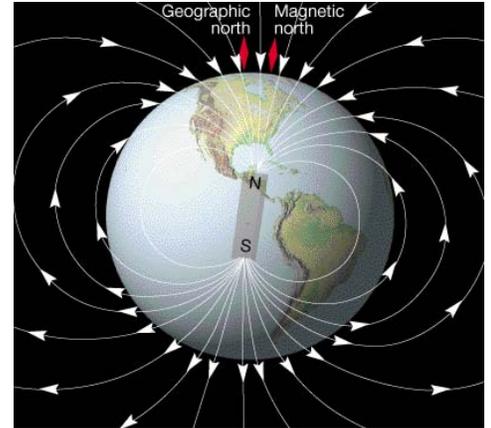
Locating Positions on Earth

•_____ **System**
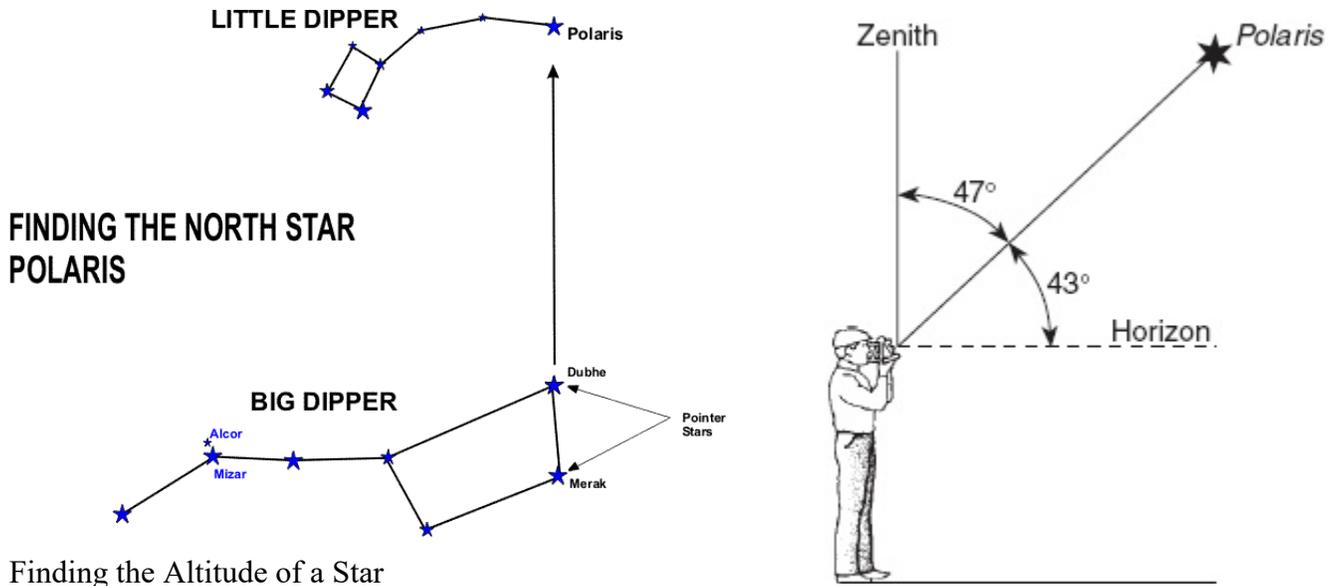
   –Scientists have established a surface _____ (_____) that you can use to

   _____ any _____ on Earth.

   –Each pair of _____ (2 numbers) are called the latitude and longitude

•_____ are distances in degrees _____ or _____ of the _____

   –The _____ is an imaginary line that circles the Earth _____

   between the _____ Pole and the _____ Pole.

•_____ are distances in degrees _____ or _____ of the

   _____

   –The _____ is an imaginary line that runs through _____,

   England, from the _____ Pole to the _____ Pole
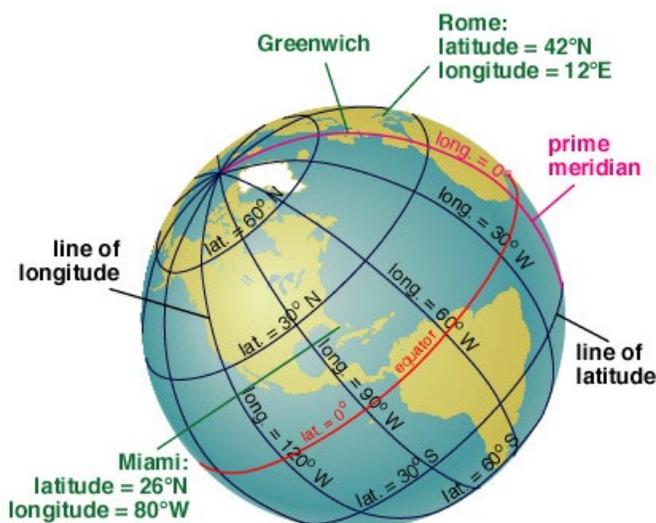
Coordinate System

Navigation

•The science of _____ your _____ on _____

•Any location _____ of the equator has a latitude that is _____ to the angle of

_____ (the _____ Star's altitude) above the _____

LITTLE DIPPER ★Polaris

FINDING THE NORTH STAR POLARIS

Zenith ★Polaris

47°

43°

Horizon

Dubhe

BIG DIPPER

Alcor

Mizar

Pointer Stars

Merak

Finding the Altitude of a Star

•The _____ is the angular height above the _____

•Measurement can be made using an _____

–A protractor with a heavy weight suspended

Solar Time and Clock Time

•_____ time is based on observations of the _____

•_____ is the time when the _____ reaches its _____ point in the _____

Calculating Longitude

•Find the difference between _____ clock time and _____ time

•_____ this time difference by _____° per hour

•If local time is _____ than Greenwich time, your position is _____ of the prime

meridian or _____ Longitude

•If local time is _____ than Greenwich time, your position is _____ of the prime

meridian or _____ Longitude

Fields

•A region of _____ where every point or location can be measured

•_____ connect points of equal values on a field map

•_____ connect points of equal _____

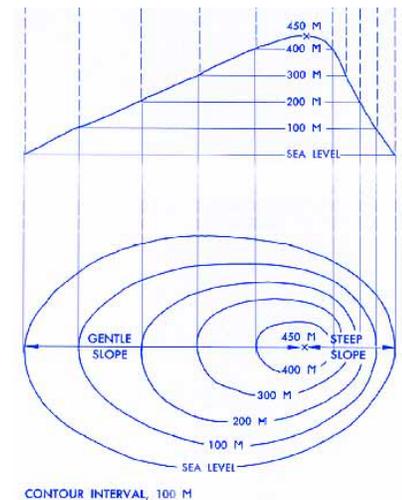•_____ connect points of equal _____ pressure

•_____ connect point of equal _____

Topographic Map (Contour Map)

•Show the _____ of the Earth's _____

•Contour lines drawn on a map give the _____ for a region

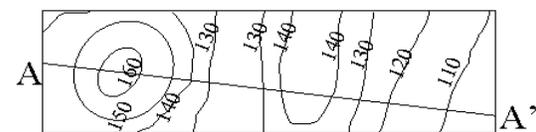•Where the lines are _____, the slope of the ground is

_____

•Where the lines are _____, the slope of the ground is
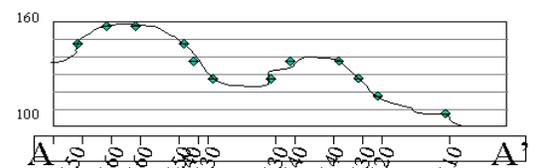
_____

Contour Map Example

1. Which hill is higher, hill A or hill B?

2. Which hill is steeper, hill A or hill B?

3. How many feet of elevation are there between contour lines?

4. How high is hill A? Hill B?

5. Are the contour lines closer on hill A or hill B?

Topographic Profile

• A cross sectional view that shows the _____ of the _____

Determining Gradient and Slope

• The _____ of change in field values between two points in a field

• The average _____, or gradient, between any two _____ (A and B) on a mountain can

be determined from a contour map

Gradient = ————————————————

Determining Gradient Sample Problem
• Calculate the average slope of a mountain trail from the 980-meter contour line to the 480-meter contour.
• The distance between these two elevations measures 4 kilometers.