The ABCs of Stargazing

How would you describe to a friend the size of a sky object,
its distance from a particular star, its brightness,
or its location on the celestial dome?

The ABCs of stargazing allow you to do just that!

### "A" is for angular size and distance

Be sure to remember these handy references when discussing size or distance in the sky:

• The moon spans 1/2º. It would take 360 "full moons" to reach from horizon to horizon!
• The apparent width of the tip of your index finger on your extended arm is less than 2º.
• The width of the bowl of the Big Dipper is 5º and the bowl's length is 10º.
• Your clenched fist on your fully extended arm is 10º from side to side.
• Your outstretched hand on your extended arm is 15º from the tip of the pinky to the tip of the thumb.

Your fist
10º
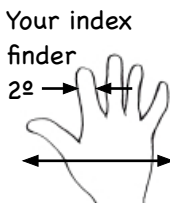
Your index
finder
2º →

Your hand
15º

The Big Dipper

10º

5º

3rd

Width of
the Full
Moon 1/2º

Moon's apparent size
relative to your
clenched fist
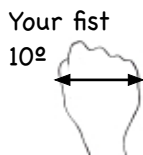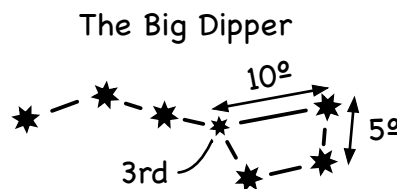
Six of the seven stars
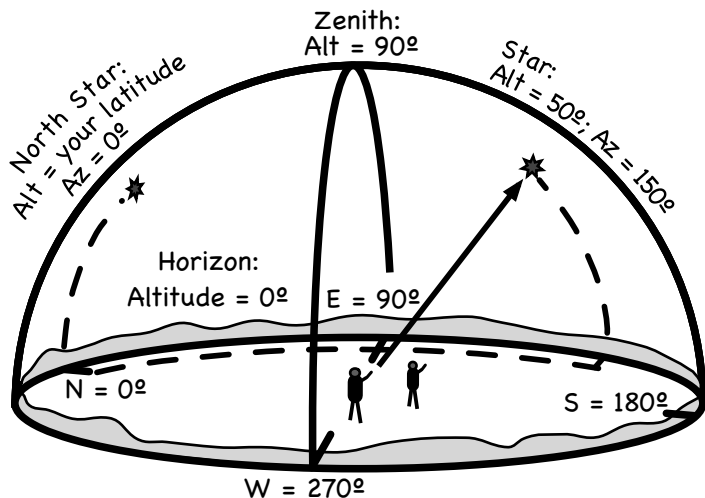of the Big Dipper are of
the 2nd magnitude.

"B" is for brightness

Skywatchers use the "magnitude" scale to describe an object's brightness. Don't be confused by the reverse nature of the scale: The brighter the object, the smaller the magnitude. Objects with negative magnitudes are very bright, indeed!

Polaris, the North Star, always has an azimuth of 0º and has an altitude above the northern horizon matching the latitude of the observer.

Mag.	Object
–26	Sun (never look at the sun!)
–12	Full moon
–4	Venus
–2.5	Jupiter at its brightest
–1.5	Sirius, the brightest star in the night
0	Arcturus, Vega, Capella, Saturn
+1	Pollux, Regulus, Altair
+2	Six stars of the Big Dipper, North Star
+6	The faintest star seen by unaided eyes

Zenith:
Alt = 90º

Star:
Alt = 50º, Az = 150º

North Star:
Alt = your latitude
Az = 0º

Horizon:
Altitude = 0º

E = 90º

N = 0º

S = 180º

W = 270º

"C" is for coordinates

Stargazers often use the simple, but descriptive altitude-azimuth (alt-az) system to locate objects in the sky.

Azimuth coordinate:
  North is 0º
  East is 90º
  South is 180º
  West is 270º

Altitude coordinate:
  Horizon is 0º
  Zenith is 90º