



# 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!**



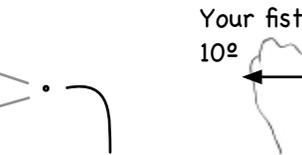
## "A" is for angular size and distance

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

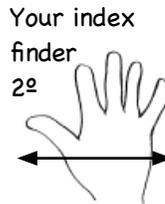
- The moon spans  $1/2^\circ$ . It would take 360 "full moons" to reach from horizon to horizon!
- The apparent width of the tip of your index finger on your extended arm is  $2^\circ$ .
- The width of the bowl of the Big Dipper is  $5^\circ$  and the bowl's length is  $10^\circ$ .
- Your clenched fist on your fully extended arm is  $10^\circ$  from side to side.
- Your outstretched hand on your extended arm is  $20^\circ$  from the tip of the pinky to the tip of the thumb.



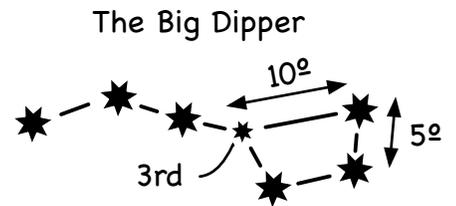
Width of the Full Moon  $1/2^\circ$



Moon's apparent size relative to your clenched fist



Your hand  $20^\circ$



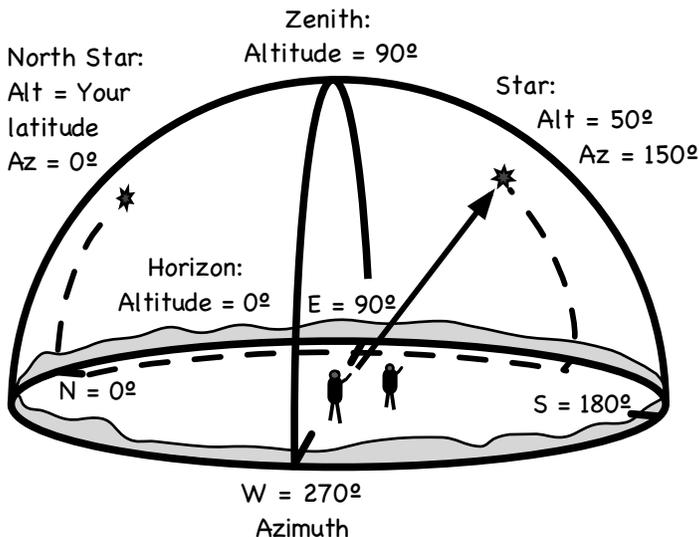
The Big Dipper  
Six of the seven stars of the Big Dipper are of the 2nd magnitude.

## "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  $0^\circ$  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



## "C" is for coordinates

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

Azimuth coordinate:	Altitude coordinate:
North is $0^\circ$	Horizon is $0^\circ$
East is $90^\circ$	Zenith is $90^\circ$
South is $180^\circ$	
West is $270^\circ$	