Under the Dome
Little Dipper and Ursa Minor

To find the Little Dipper we use the Big Dipper. Draw a line using the two stars at the front of the Big Dipper bowl. These stars are called the pointer stars. Extend the line straight out and it runs into Polaris. Polaris is our North Pole star and the last star in the handle of the Little Dipper. Just like the Big Dipper the Little Dipper has seven stars, three in the handle and four in the bowl. And like the Big Dipper the Little Dipper is an asterism. The official name of this constellation is Ursa Minor, Latin for the “Lesser Bear” or the “Little Bear.” Folks are sometimes disappointed with the Little Dipper. Except for Polaris and the two stars at the front of the bowl, called the “Guard Stars,” the rest of the stars are not very bright. A clear dark night makes finding this constellation easier, no full moon or light pollution. There is a story telling how in Ursa Major’s old age she grew greedy and wanted Polaris for herself. It is said she wanted Polaris because it was as bright as her own stars. But for all her plotting and planning and attempts to steal Polaris she never succeeded. The “Guard Stars” which are located between Polaris and Ursa Major protect Polaris to this day from the Big Bear.

Probably the most interesting thing about the “Little Bear” is the star Polaris. Polaris is called the “North Star” because it is always in the north, marking the celestial north pole. Many believe that Polaris is the brightest star in the sky. This is not so. Actually, it is no brighter than the stars of the Big Dipper. Polaris is a white supergiant star located 430 light years from Earth. Its radius is 22 million miles which is about 50 times the size of our own sun and is estimated to be 4.5 times more massive than our sun. Due to its size Polaris has a luminosity 2500 times greater than our sun, this is the only reason it appears as bright as it does given its distance from Earth.

If you were to stand at the North Pole of Earth, Polaris would be almost directly overhead. I say “almost directly overhead” because to be precise Polaris is half a degree off the pole. If the Earth’s axis were extended into the sky it would appear to intersect with Polaris. This is why Polaris is the only star in the sky that does not appear to move as the Earth rotates on its axis. Watch how the Dippers and the Bears move through the night. They appear to be circling Polaris.