

Patterns in the Night Sky

Constellations

- * A grouping of stars observed from Earth.
- * The sky is divided into 88 regions associated with patterns of stars or constellations.



Taurus the Bull

Canis Minor
the Little Dog

Orion the Hunter

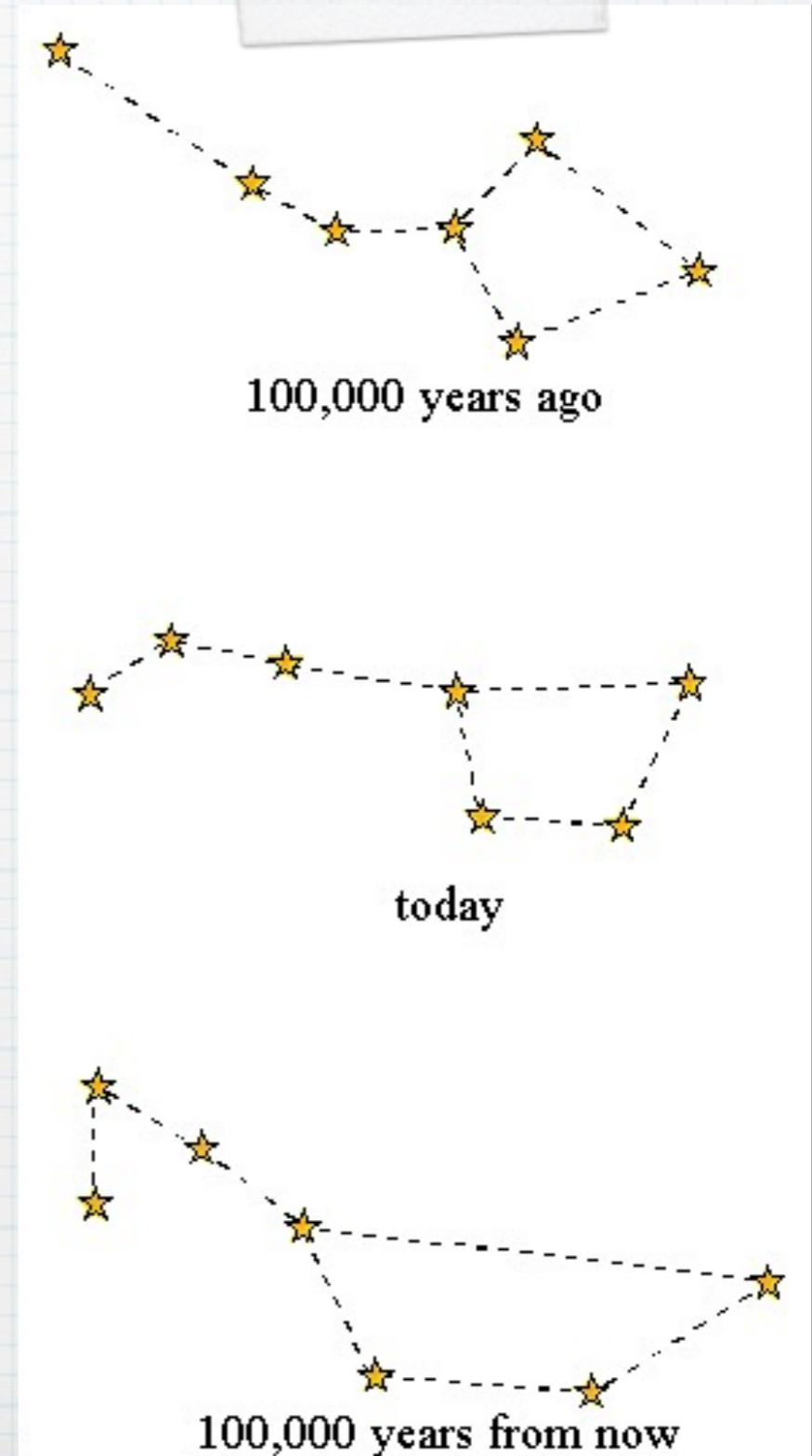
Canis Major
the Big Dog

Lepus the Hare

The Stars are Moving...

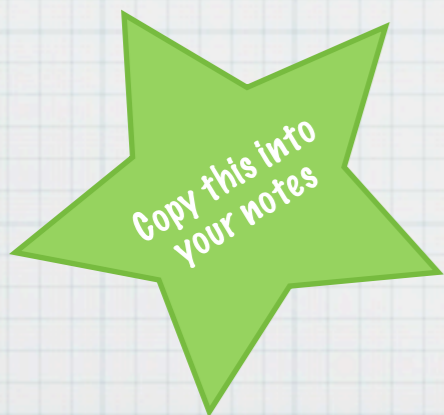
- * While today's constellations are the same as seen in ancient times, stars are not in the exact same location as they once were.

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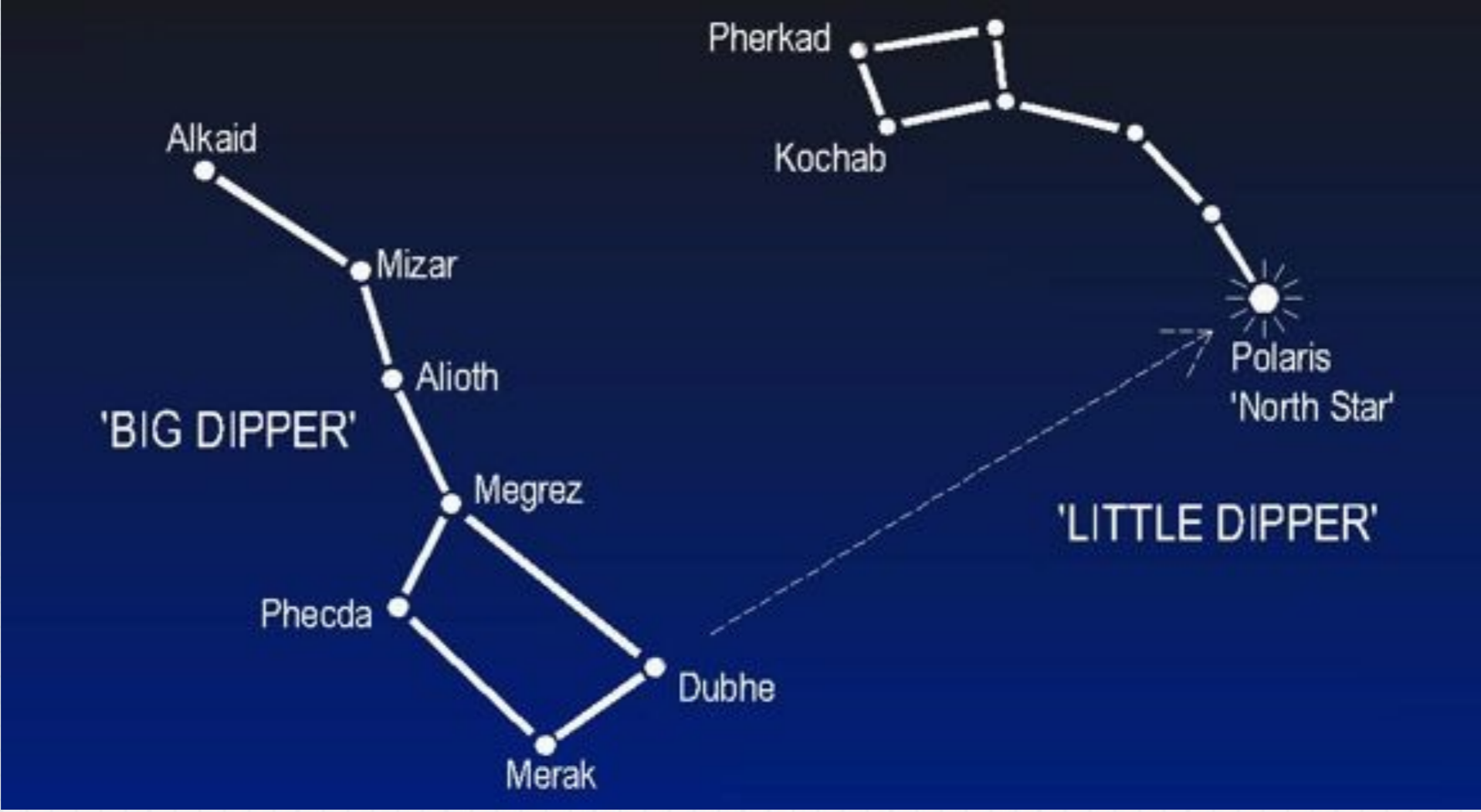
The Stars are Moving...

- * This is because the stars are moving away from each other due to the expanding Universe.
- * Also, because of Earth's rotation the stars (and the constellations) always appear to be moving in the sky.



Pointer Stars...

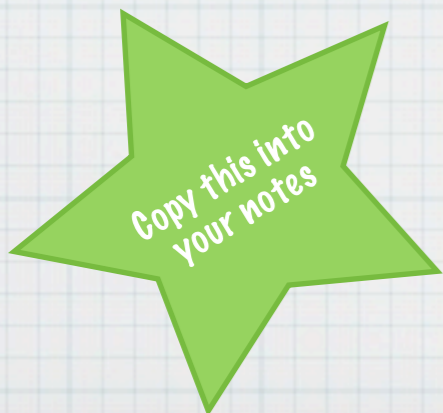
- * The two stars at the end of the bowl of the Big Dipper are called the "Pointer Stars" because a line drawn between them points to Polaris, the North Star.



Pointer Stars...

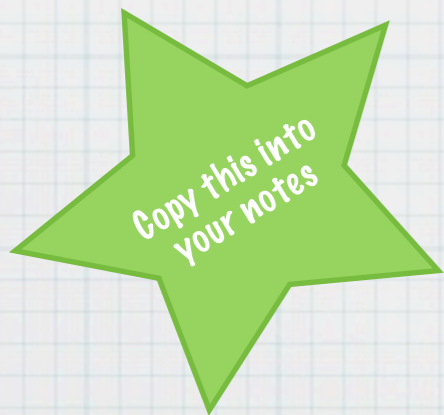
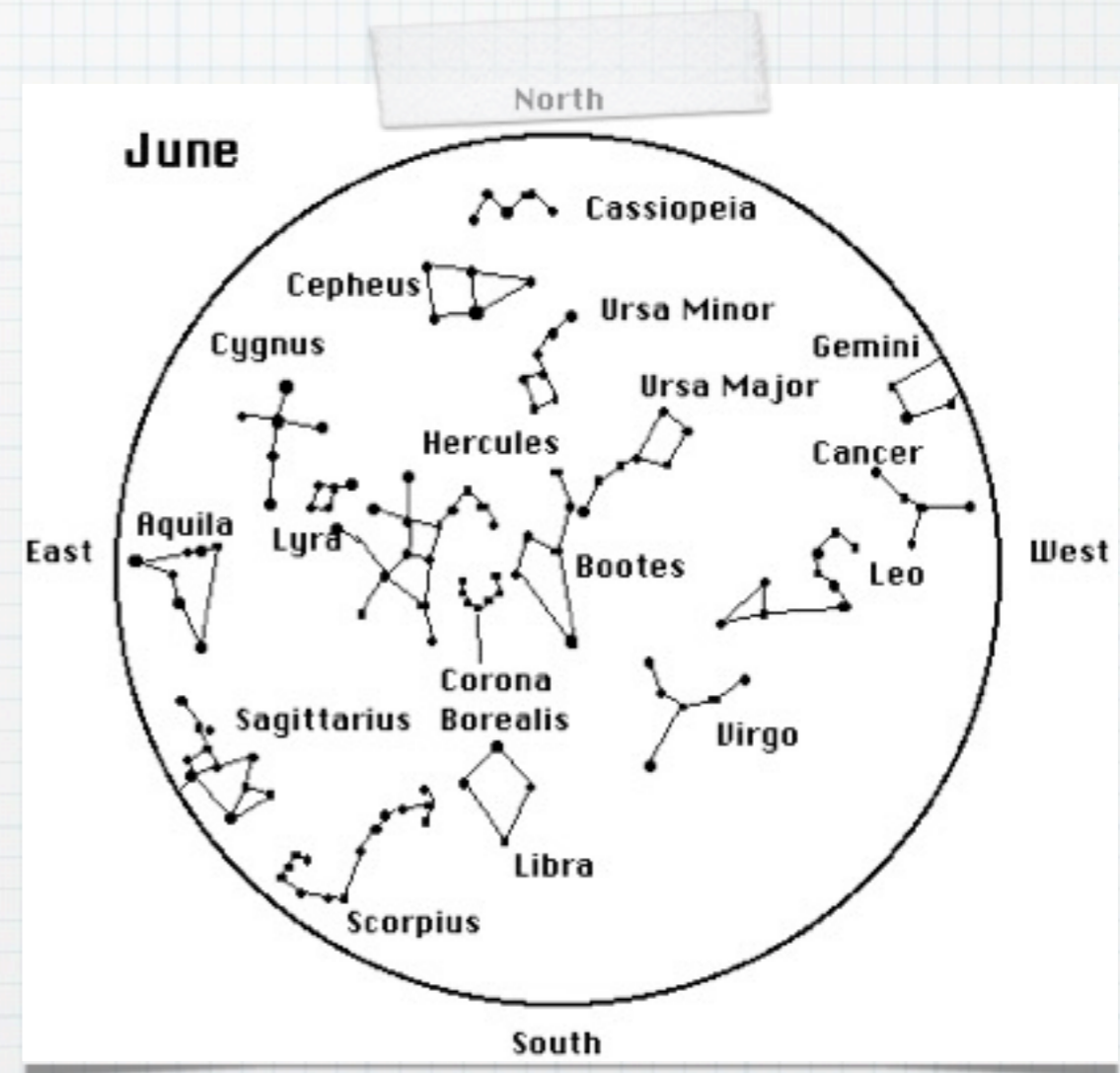
* The Big Dipper is a circumpolar asterism

* It stays above the horizon all night as it apparently rotates around Polaris due to the Earth's rotation.



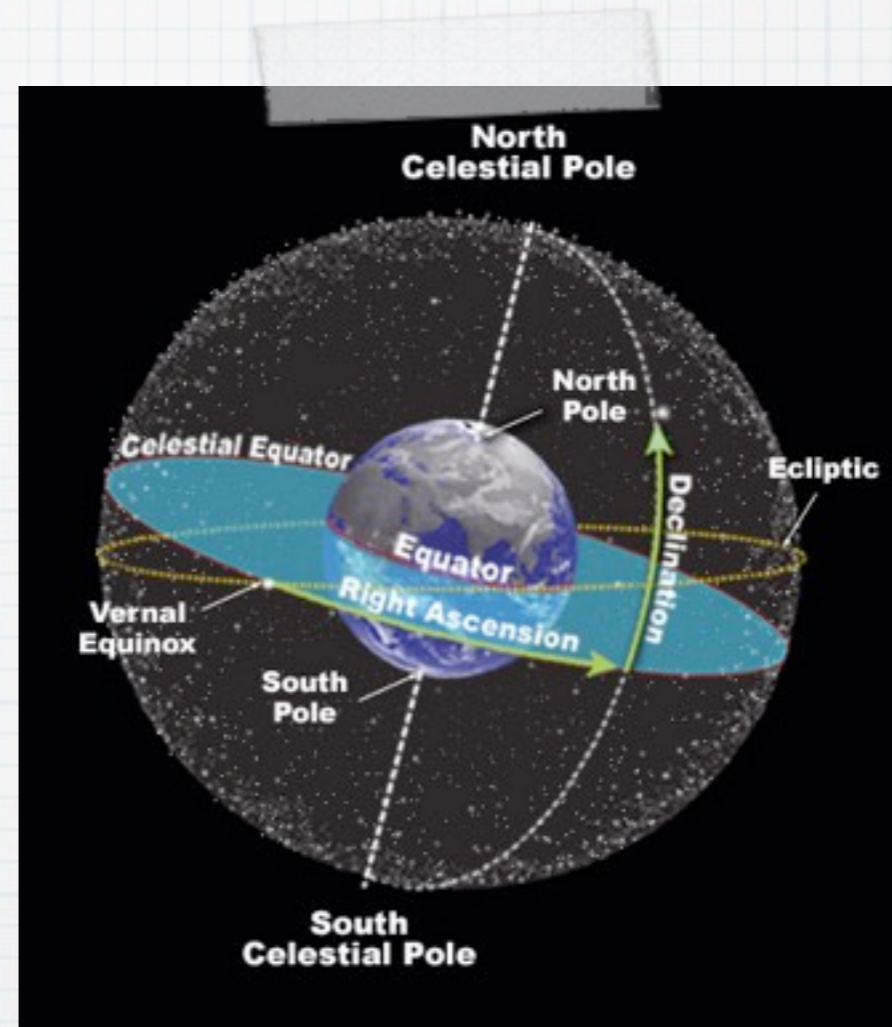
Star Maps

- * Shows the relative positions of the stars in a particular part of the sky.



The Celestial Sphere

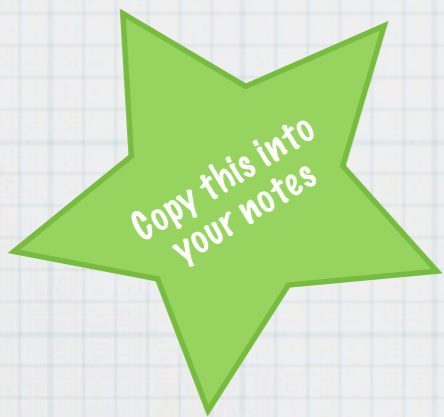
- * It is the imaginary sphere that rotates around Earth, onto which all celestial objects are projected.



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Navigation using Stars

- * **Celestial navigation – Using the positions of stars to determine location and direction when traveling.**



Navigation using Stars

- * The Big Dipper and Polaris were use in the Underground railroad to help slaves escape to Canada.

Culture Connection

- * **Mayans** – built a pyramid (El Castillo) and on the solstices at sunset the shadow formed looks like a snake

Culture Connection

- * Stonehenge - may have been used to predict the motions of the Sun (an astronomical calendar)

