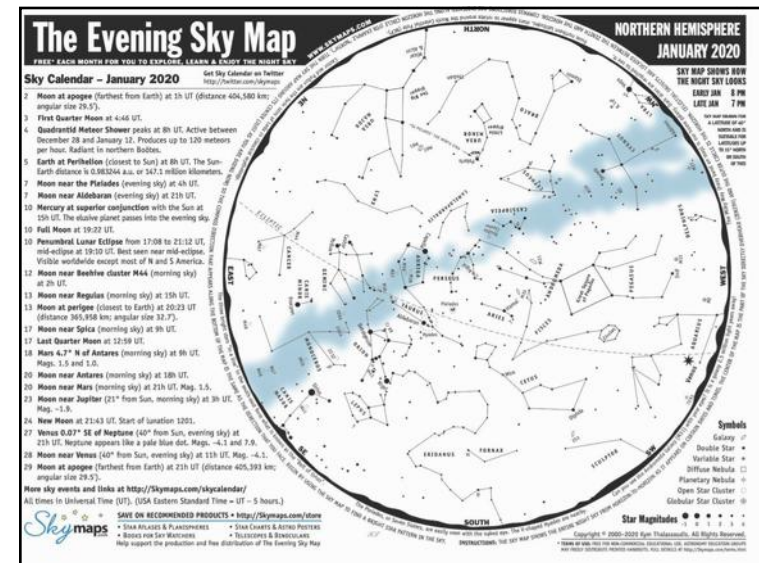
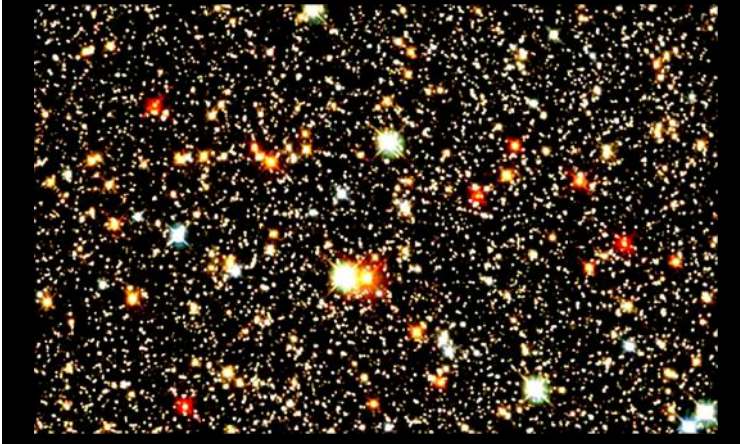


Navigating the Sky



Circumpolar



The Big Dipper



Polaris



Cassiopeia

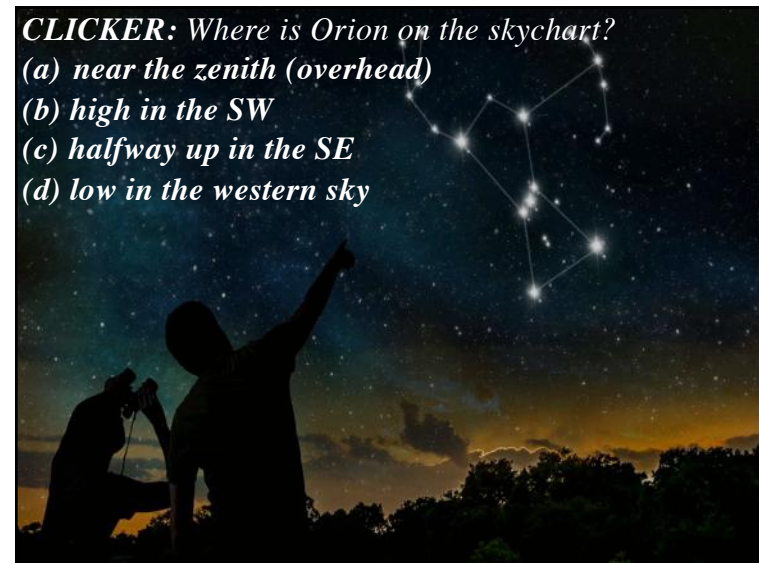


The Spring Sky



CLICKER: Where is Orion on the skychart?

- (a) near the zenith (overhead)
- (b) high in the SW
- (c) halfway up in the SE
- (d) low in the western sky



Orion (constellation)

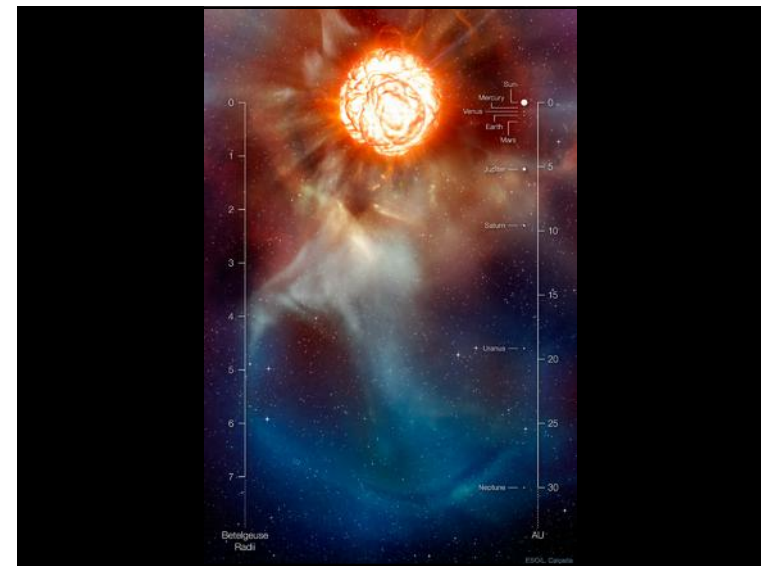
- **Orion** (“The Hunter”) is also an **asterism**
- **Betelgeuse** (“Hand of the Central One”); his shoulder
- M21, ~640 ly away; 10th brightest star
- **Rigel** (“Left leg of the Central One”); Orion's knee
- B8I, 770 ly away; ~60 times size of Sun, 7th brightest star
- has **three bright blue stars** in his ‘belt’
- middle “star” of his sword is **Great Orion Nebula (M42)**
- **Orion's dogs, Canis Major & Canis Minor**
- **Sirius** (“Dog Star”), A1V, **brightest star in sky**, 9 ly away



Betelgeuse (HST, 96)



- one of only a few stars **directly** imaged (besides Sun)
- **maximum** diameter~10 AU (~1000 x Sun!), ~20 x mass
- has recently "shrunk" and dimmed...???

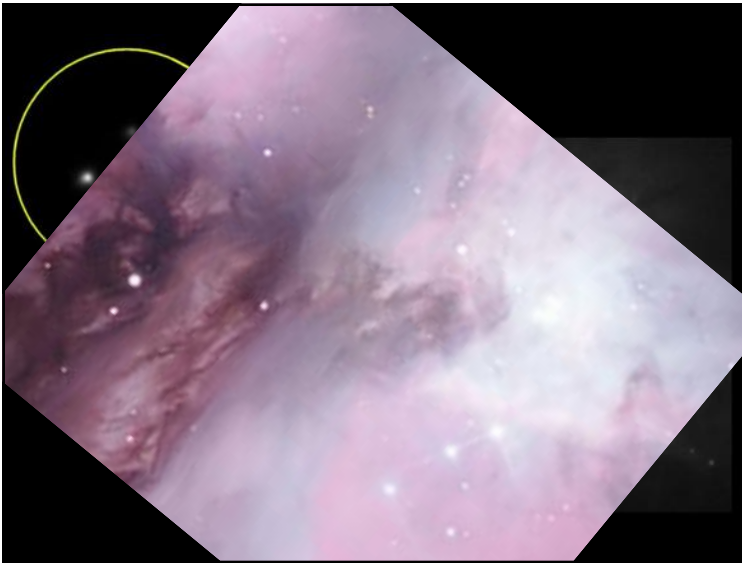


Orion Nebular Region

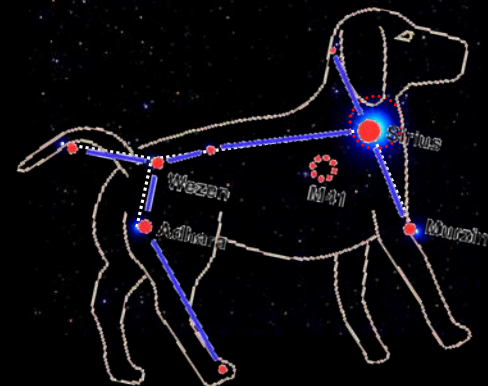


Great Orion Nebula (M42)

(1500 ly away & ~10 ly across)



Sirius in Canis Major

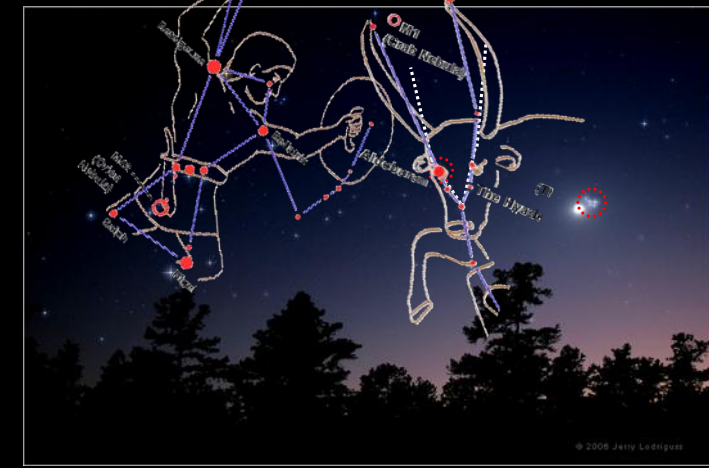


Taurus

(Zodiac constellation)

- **Taurus** ("The Bull ")
- **Aldebaran** ("Cor Tauri")
- brightest of **Hyades cluster** ("V" that is **Taurus'** "face")
- **K5III**, 770 ly away; 13th brightest star
- behind Taurus are the **7 Sisters** (**Pleiades**, **Subaru**)
- **Taurus** protects the **Pleiades**, fights **Orion**

Taurus, Hyades & Pleiades



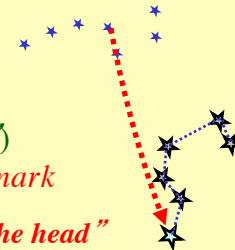
The Pleiades



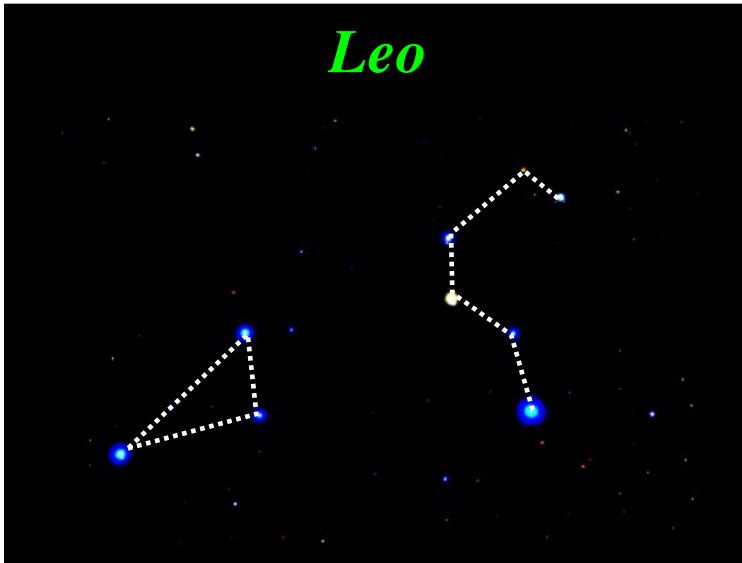
Leo

(Zodiac constellation)

- killed by **Hercules** as one of his 12 tasks
- **Regulus** (or "Cor Leonis"), B7V, 78 ly away
- **Denebola** ("Lion's Tail"), A3V, 36 ly away
- connect **first two** stars in bucket of **Big Dipper**
- "sickle" asterism (Leo's "head")
- looks like **backwards question mark**
- "bucket of Big Dipper hits Leo on the head"



Leo

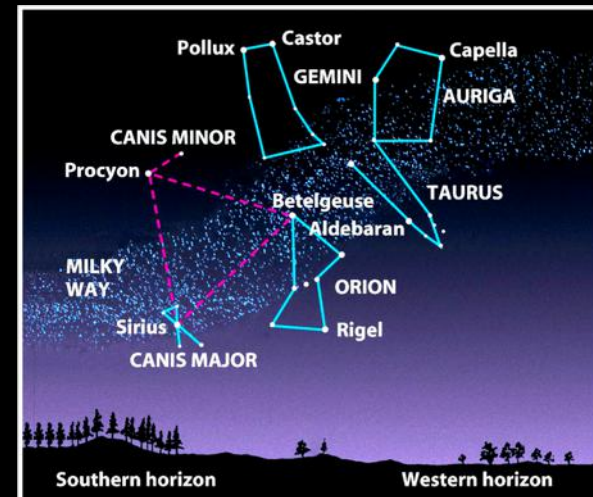
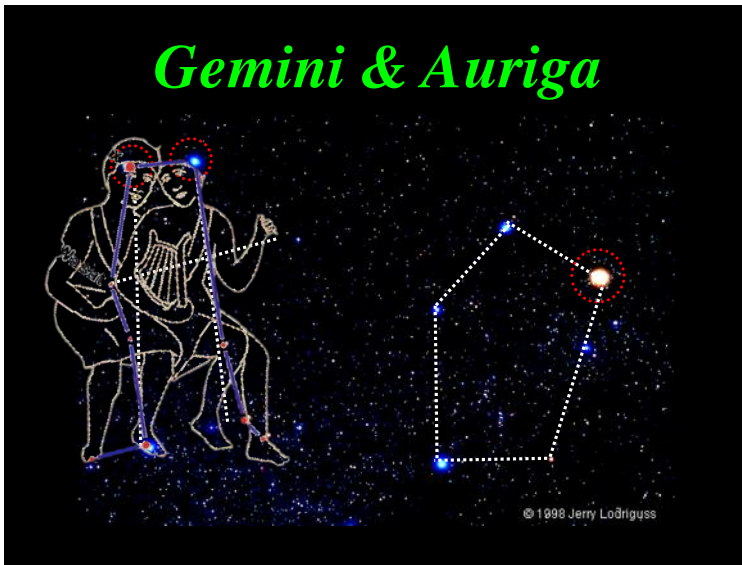


Gemini & Auriga

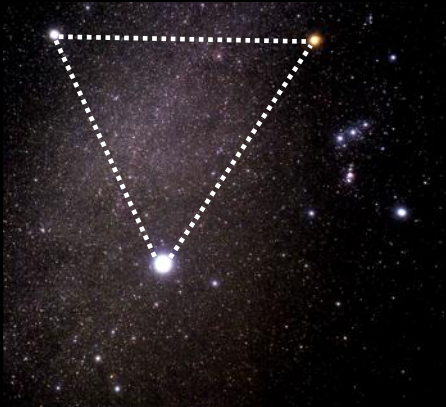
(Zodiac constellation, constellation)

- “*The Twins*”
- **Castor** (A1V, 52 ly) & **Pollux** (K0III, 34 ly)
- **Pollux** was son of **Zeus**, **Castor** a mortal
- sailed with **Jason and the Argonauts**
- **Auriga** - “*The Charioteer*”; *squashed pentagram?*
- **Capella** (“*Little She-Goat*”)
- **G5III**, 42 ly away, 6th brightest star

Gemini & Auriga



The Winter Triangle



The Winter Hexagon



CLICKER: Which of the following is NOT part of the mythology of the constellations and asterisms we discussed?

- (a) Orion pursued the Pleiades
- (b) Zeus often took the form of a bull (Taurus)
- (c) Hercules killed Leo and wore his hide
- (d) Auriga drove Apollo's chariot

