Star Life Planetarium Project 2017

Our goal is to learn from each other what each stage is really like and where some examples of each stage are in the sky. You will choose one stage to research in depth and be given several objects that represent that stage in a star's life. Your job is to create a presentation in planetarium that shows us where that object is located and explains that object scientifically.

Due Date – Presentations will be May 19 & 23, 2017.

Presentation

1. Share the examples of your type of object.
    a. What constellations are they in?
    b. Where in the constellation are they located?
2. Find the constellation and location of objects in the planetarium.
3. Show what the objects look like.
4. Share about the science involved with that stage of a star's life. Is it burning Hydrogen or Helium for fuel? Is it collapsing or expanding? What is an average size of a star at this stage?
5. Explain where on the HR diagram this type of object would be.
6. Share the current questions astronomers are trying to answer about this type of object.

Plan your presentation.

a. Where is it in the planetarium?
b. How will you show images of the object? Images? PowerPoint? Web pages?
c. What science do you have to talk about?

Use your Work Days wisely.

1. Practice finding your objects in the planetarium
2. Research your life cycle stage & create a presentation

Resources

Books – check the shelves around the room. There are some very good references
Stellarium – use the computer program to help you find where your objects are located
Internet – there are many great sites, check class web site for a list of links to get started
Textbook *The Cosmos* – chp 12 (star birth, energy in stars, main sequence); chp 13 (death of stars); chp 14 (black holes)

Type	Common name	Other name	Constellation
Nebulae-Protostars	Lagoon nebula	M8	Sagittarius
	Trifid nebula	M20	Sagittarius
	Orion nebula	M4	Orion
	Rosette nebula	NGC 2237	Monoceros
	Eagle nebula	M16	Serpens
Brown Dwarfs	ULAS J133553.45+113005.2 (T dwarf) 2/100 of Mass of Sun		Virgo
	Teide 1 5/100 of Mass of Sun		Taurus (in the Pleiades)
Main sequence star	Siruis A 2 x Mass of Sun	Alpha CMa	Canis Major
	Vega 2 x Mass of Sun	Alpha Lyr	Lyra
	Spica 10 x Mass of Sun	Alpha vir	Virgo
	Fomalhaut 2 x Mass of Sun	Alpha PsA	Piscis Austrinus (Southern)
	Proxima Centauri 1/8 of Mass of Sun	Alpha Cen	Centaurus
	Barnard's star 1/10 of Mass of Sun		Ophiuchus
	Altair 2 x Mass of Sun	Alpha Aql	Aquila
	Sun		
	Van Biesbroeck's star (red dwarf) 8/100 of Mass of Sun	VB 10	Aquila
Red Giant	Pollux 2 x Mass of Sun	Beta Gem	Gemini
	Arcturus 1 x Mass of Sun	Alpha Boo	Bootes
	Aldebaran 1.5 x Mass of Sun	Alpha Tau	Taurus
Super Giant	Betelgeuse 11 x Mass of Sun	Alpha Ori	Orion
	Antares 7 x Mass of Sun	Alpha Sco	Scorpius
	Rigel 23 x Mass of Sun	Beta Ori	Orion
Planetary nebulae	Dumbbell nebula	M27	Vulpecula
	Ring nebula	M57	Lyra
	Cat's eye nebula	NGC 5463	Draco
	Helix nebula	NGC 7293	Aquarius (Southern)
	Owl nebula	M97	Ursa Major
	Eskimo nebula	NGC 2932	Gemini
White Dwarf / Black Dwarf	Siruis B 98% of Mass of Sun		Canis Major
	Procyon B 6/10 of Mass of Sun		Canis Minor
Supernova	Crab nebula	M1	Taurus
	Veil nebula	NGC 6992 / 95	Cygnus
	Witch head nebula	IC 2118	Eridanus (Southern)
Neutron star- Pulsars	Crab nebula	M1	Taurus
	PSR B1257+12		Virgo
Blackhole	Cygnus X-1		Cygnus
	NGC 6240		Ophiuchus
	NGC 4261		Virgo
	NGC 4151		Canes Venatici
	V404 cygni		Cygnus
Supershell (Superbubble)	HI supershell in M101		Ursa Major
	Orion-Eridanus Superbubble		Orion