Constellation Project

**OBJECTIVES:**

**Purpose**.Develop a greater understanding of the unifying principles related to the study of Astronomy.

1. Apply prior knowledge of Astronomy, skills developed during the semester, and class activities to compare and contrast different constellation patterns and characteristics.
2. Identify and explain different stellar properties in the assigned constellation.
3. Gather information regarding deep sky objects within the assigned constellation, analyze it, and present it in a logical format.
4. Challenge creative abilities to artistically construct the project, actively focusing on the science of the constellation.

**PROJECT GUIDELINES:**

**Steps:**

* Read through **Required Information**, **Format**, and **Resources**.
* Research/gather information.
* Keep track of your sources
* Create presentation in acceptable format.
* Be prepared to present the week before final exams on your assigned date.

**Format:**

Your presentation will be displayed on the “big screen” – the Planetarium Dome. Acceptable formats include:

* Microsoft PowerPoint (recommended/most often used)
* Flash video
* Slideshow in video format
* Similar programs (Ask!!!)

You will also have the opportunity to speak over the Planetarium microphone behind “mission control” during your presentation – *be prepared to answer questions from the class and Mr. Turner*.

**Required Information**

All of this information should be highlighted in a cohesive presentation and in an appropriate order.

# CONSTELLATION/STELLAR PROPERTIES

 Constellation **Name** and **Boundary**

 **Dates** and **Time** of when constellation is best viewed from Kennesaw, Ga

 **Brief history** of this constellation (one PowerPoint slide will suffice)

 **Visible planets**/time of visibility (if your constellation is on the **ecliptic**)

 **4 Brightest Stars** in the constellation and **Stellar Properties:**

* Name
* Apparent Magnitude o Absolute Magnitude o R.A. and Dec. o Distances from the Sun o Spectral Class (Red Giant, blue giant?)
* Size Compared to the Sun (from calculations) o Scale Model (*procedure will be shown*) o Color (to be *displayed* also)
* Temperature

# APPLICATION OF STELLAR PROPERTIES

 **H‐R Diagram** of Ten Brightest Stars (**display** with correct **color** and **size vs. the Sun**) o Star Names o Temperature

* Spectral Class *Look at an example to see how all of this*
* Absolute Magnitude Scale *information is incorporated into one diagram.* o Luminosity Class – What kind of star is it?

# DEEP SKY OBJECTS

 **MINIMUM OF 5 Deep Sky Objects** found in constellation

o Images

o Location in constellation (use connections/links – see example) o MINIMUM OF 4-5 sentences of information for each object

# A CLOSER LOOK

 Choose one Deep Sky Object or planet (if applicable) to analyze and explain in detail.

*For example: In the constellation Taurus the Bull is The Crab Nebula. This object is the result of a supernova explosion in 1054 AD. Explain super giant stars and their end state and how the Crab got to the state we see today.*

Use diagrams and Hubble Space Telescope images to display the topic. Make it thorough and visually stunning!

# OTHER

 List of sources

 *Remember: Plagiarism is not tolerated!*

**Resources**

* PowerPoint (or any other presentation program)
* The Sky software
* Websites:

http://www.astro.uiuc.edu/~kaler/sow/sow.html http://www.astro.wisc.edu/~dolan/constellations/constellations.html http://www.seds.org/messier/

 http://antwrp.gsfc.nasa.gov/cgi‐bin/apod/apod\_search

 http://www.daviddarling.info/encyclopedia/C/constell.html

 (Good constellation boundary source!)

 http://einstein.stcloudstate.edu/Dome/constellns/constlist.html

 http://nedwww.ipac.caltech.edu/

 http://www.intint.com/andy/gallery.html

 http://hubblesite.org/newscenter

 http://www.ccs.k12.in.us/chsES/Turner/adopt\_a\_constellation\_final\_project.htm

 http://www.dibonsmith.com/menu.htm

 http://www.allthesky.com/constellations/const.html

 http://www.hawastsoc.org/deepsky/lists.html

 http://members.nova.org/~sol/chview/chv5.htm

* Star Maps
* Textbook

**List of Constellations: Circle yours!**

1. Orion
2. Taurus
3. Leo
4. Hercules
5. Scorpius
6. Gemini
7. Virgo
8. Cygnus
9. Aquila
10. Ursa Major
11. Bootes and Serpens
12. Lyra
13. Pegasus
14. Sagittarius
15. Andromeda
16. Ophiuchus
17. Auriga
18. Cassiopeia
19. Cetus
20. Cepheus
21. Canis Major
22. Draco
23. Ursa Minor
24. Carina
25. Aquarius
26. Perseus
27. Pisces
28. Eridanus
29. Centarus
30. Vela
31. Hydra
32. Libra
33. Camelopardilis and Lynx
34. Canes Venatici and Coma Bernices
35. Corvus and Crater