

# Constellation Planetarium Project

Each student will have one constellation that he or she is responsible to become an expert on. You can work in a small group (at most three people) or individually. Each person will know when that constellation will be visible, where in the sky one would look for it and what the three dimensional layout of the constellation is. You will use the planetarium as you share information about your constellation with the rest of the class.

For the next several class periods, we will work on this project as well as on some other things related to these constellations. Learning how to operate the planetarium requires you to work independently and hold up your end of the work. Be a responsible student during the independent learning time and be contributing group member during the group learning time.

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## **Presentation**

Your constellation project will utilize the planetarium. Your project will have four parts. Each person in a group should participate in the oral presentation in the planetarium.

Part 1 – You will present information about your constellation in the planetarium. Your presentation should include the following components:

1. You will point out your constellation in the planetarium with the remote.
2. You will explain what kind of stars the major stars of your constellation are (type of star, temperature, color, distance from earth, etc).
3. You will turn on your constellation image with the remote – both constellation lines and constellation name
4. You will explain what time of year the constellation is visible. (season)
5. You will explain where in the sky you should look to find it. (direction)
6. You will make and present a 3 dimensional model of the stars in your constellation

Part 2 – You will share the Greek or Roman myth associated with your constellation as well as one other culture's mythology associated with that part of the sky using the planetarium.

1. You should be able to describe the Greek/Roman myth
2. You should be able to turn on the constellation artwork (related to myth)
3. You should be able to describe one other culture's mythology that is associated with that area of the sky.

Part 3 - You will show us two deep sky objects that lay in the boundaries of your constellation using the planetarium.

1. You should be able to show the boundaries in the sky for your constellation in the planetarium
2. You should be able to show the image in the planetarium of two deep sky objects that are within the boundaries of your constellation.
3. You should be able to explain in depth, what these objects are. For example if you have a planetary nebula you should be able to explain what a planetary nebula is and talk about yours in particular. You can include information about distance, redshift, magnitude, etc. You might have to get additional pictures to include in your program.

## **Reflection**

Part 4 – Each person should type their own reflection (individual reflections, not a group reflection) that is due the class period after your presentation.

You must have a reflection for the entire project. A reflection is your thoughts on the project you have completed. It allows me to get a glimpse of your opinions and beliefs about the project you created and how you think it relates to the objectives.

**When writing reflections . . .**

Look at your work and write about the finished product AND how you went about completing the project. Your reflection should include answers to the following questions:

Think about ...

- a. Did your project meet the stated objectives? How do you know?
- b. How did you go about completing this project? (Did you learn anything new about yourself as a learner? How did your group work together? How did you manage by yourself?)
- c. What do you better understand about astronomy as a result of working on this project?
- d. What new questions do you have as a result of this project?

You might want to begin your reflections with one of the following phrases:

This is my favorite piece because ... I'll remember this piece 20 years from now because ...  
 If I could do this piece over again, I would ... This piece will surprise many people because ...  
 This piece surprised me because ... My parent(s) liked this piece because ...  
 This piece was my greatest challenge because ... This piece related to my life because ...  
 I choose this item because ... If my parents/friends saw this they would think ...  
 This piece helped my to comprehend ... This piece was not my best work because ...  
 The strength of this item is ...

You should have one (1) **typed** reflection to hand in the class after your presentation.

**Constellations**

Fall Constellations	Winter Constellations	Spring Constellations	Summer Constellations
Aquarius 5	Vela 9	Cancer 3	Scorpius 4
Pisces 9	Gemini 2	Leo 5	Sagittarius 15
Canis Major 5	Orion 12	Virgo 11	Ophiuchus 7
Pegasus 5	Perseus 2	Cetus 7	Monoceros 8
Lyra 2	Cassiopeia 13	Hydra 9	Hercules 2
Cygnus 4	Auriga 3	Usra Major 7	Draco 6
Taurus 3	Sculptor 6	Coma Berenices 8	Vulpecula 5
Andromeda 3	Serpens Cauda 3	Canes Venatici 5	Eridanus 4

Deep Sky Objects – The numbers of each constellation are deep sky objects. Each object is identified by either a Messier or NGC (New General Catalog) number – Examples: m101 or ngc6367. These may or may not be part of the software program in the planetarium. If not, you will have to have an image in jpg format ready to show.