**An Introduction to**



**Celestia**

As this course comes to a close, you will be using the program called Celestia to create a fictitious solar system based on everything you have learned about our own system of planets. In order to get you started, today's exercise will familiarize you with the program and some of its features, as well as introducing some basic ideas about the components of the solar system.

**Part I**

**Download and Install**

The first order of business will be to install a copy of the program on your own machine. Go to the home page of Celestia at <https://celestiaproject.net/index.html> Download the proper version for your operating system, P.C. or Mac. There are instructions for installation if you are not familiar with the process. My hope is that members of the class will be able to help each other with technical support. At the Celestia website, you will also download the Celestia users manual, which will be an essential guide to the program. Also useful is the keychart, found [here](http://www.celestiamotherlode.net/creators/leserg/KEYCHART_EN_v1.6.0.png), which is a great summary of what each key does.

 **Part II**

**Learn the Controls**

[**Here's a brief video to get you started.**](https://youtu.be/2C-nUj9hVVE)

When you have everything ready, open the program. It will start on Earth. Let's travel to the planet Mercury first. You do this by pressing the N key. You will then see a dialog pop up at the bottom of the screen. Here, type the word Mercury, then hit N again to close the dialog. Now, pressing the g key will make you 'go' to the chosen object. When you arrive at Mercury, make sure the information shows up in the upper left part of the screen. If it doesn't, press the v key once or twice so that all of the pertinent info on the object is seen.

**Part III**

**Investigate the Orbits**

Use the M key to zoom out so that you can see pretty much the entire solar system. It will be useful to hit the p key so that all of the planets are labeled. That way you can be sure to have reached the farthest extent of the solar system.

Now press the o key to show the orbits of objects in the solar system.

**Part IV**

**The Questions**

Finally, there are questions to be answered, using your newfound skills with Celestia. Consider this as an astronomical scavenger hunt. Be true to the intent of this exercise and use Celestia exclusively to answer these questions. You will answer these questions in a separate document that will then be uploaded to CranNet to complete your assignment.

When you upload, you must name your document in this manner:

*first initial last name celestiaintro*

jkeplercelestiaintro.docx

(that would be how Johannes Kepler would name his document)

Please answer in complete sentences in each case.

1. What is the radius of Mars?

2. Which moon orbits closest to Jupiter?

3. Insert a screenshot, for this particular question, of Saturn which includes its system of rings.

 (hint: look in the file pull-down menu)

4. Between the orbits of which two planets do we find the asteroid called Pallas.

5. Find comet Borelly. How long does it take Borelly to rotate once?

6. What is the radius of the largest moon of Pluto?

7. What is the dark gap between Saturn's A ring and B ring called?

8. Insert a screenshot of the planet Venus without its clouds here.