

The Milky Way - Exercise

Student Name: _____

Step 1.

- A. Start Stellarium. It should be in the default configuration you setup in the Using Stellarium exercise. Make sure Stellarium is in full screen mode.
- B. Use the Location Window to set your latitude to 25° . Make sure you are pointed to the southern horizon.
- C. Use the Date/Time Window to set the date to 2009/7/01 and the time to 00:00:00 Local Time and leave the Date/Time Window in the upper right hand corner of the screen. Set the FOV to about 50° .
- D. Access the TUI (text user interface) by pressing the "m" key on the keyboard. Green text will appear in the lower left corner of the screen.
- E. Use the down arrow on the keyboard to get to "6.Effects". Hit the right arrow once to get to "6.1. _____". Use the down arrow to reach "6.5. Milky Way Intensity:" and hit the right arrow. Use the up and down arrow keys to get the intensity to a value of between 1.5 and 2.0. Hit the "m" key to exit the TUI.
- F. You should now see a cloudy looking band across the sky, the **Milky Way**.
- G. Click and drag the sky position to follow the Milky Way across the sky until it again intersects with the horizon. Move it back and forth from horizon to horizon.

- **Question 1:** Does the Milky Way appear homogeneous?

- **Question 2:** Does it appear to have the same brightness everywhere?

- **Question 3:** Name three of the larger constellations which the Milky Way passes through?
_____, _____,

- **Question 4:** Does it line up with the ecliptic? _____

Step 2.

- H. Drag the view back to the southern horizon and set the FOV to about 90 - 100°.
- I. Turn the horizon off. Drag the view around to look at all of the Milky Way, looking for the portion that is both the brightest and the broadest.

- **Question 5:** Which constellation is this portion in?

- **Question 6:** Is this portion more likely to represent the center of the Milky Way, or the edge?

Step 3.

- J. Using the search tool, find HIP 86487. This is in the direction of the location of the center of the Milky Way. Set the FOV to about 50 - 55°.
- K. Notice the dark areas, especially towards the center of this portion of the Milky Way. These areas are dust and neutral atomic hydrogen (H I). These areas block the majority of the intense light from the center of the galaxy.
- L. Now, look at the current view, noticing the small gold circles. These represent deep sky objects.

- **Question 7:** Where do you notice most of the deep sky objects?

- M. Use the search tool to find the object M8 in the constellation Sagittarius. Set the FOV to about 7 - 10°.

- **Question 8:** What type of object is this? _____

- N. Zoom in to a FOV of about 4 - 5°.

- **Question 9:** What is the primary color of this object?

- O. Use the search tool to find the nearby object M20. Set the FOV to about 1°.

- **Question 10:** What type of object is this? _____

- **Question 11:** What looks different about this object from M8?
