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| **A107 – The Art of Astronomy - Fall 2016** | **NAME:** | Click here to enter text. |
| **Exploration 8: Stellarium 1 (Oct. 12-14)** | **SECTION:** | Click here to enter text. |

**Due by 9 AM on Oct. 15** (submit this form via the Canvas assignment tool)

**Learning Goals:** Students should be able to use technology to explore the sky

* Use the Stellarium software to display a simulation of the night sky over any location on Earth at any time.
* Control the display of the simulation to account for daylight and light pollution.
* Find important night sky objects with the Stellarium software.

**Getting Started***:* The *Stellarium* planetarium program is available on the computers in SW130, and you can download and install the appropriate version for your own computer from the website: *http://www.stellarium.org/.* (It’s FREE for Windows, Macs, and Linux!) *Stellarium* is also available for a small fee from Google Play and the Apple Store.

*Stellarium’s* program controls appear when you move the mouse to the lower left corner. The User's Guide provides a good walk-through for the preliminaries like controls, features, and 'setting home location.'



Set the geographic location (home) to Bloomington, Indiana. The top icon on the left toolbar (the compass-thing) opens the location window. Find and select Bloomington, or put the coordinates in manually and save them as the default location. (Bloomington: latitude 39 09’ 21’’ north, longitude 86 30’ 06” west).

Write a brief description of what each of these Stellarium icons does.

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| datetime.jpg | Click here to enter text. |
| daynight.jpg | Click here to enter text. |
| ground.jpg | Click here to enter text. |
| Planetnames.jpg | Click here to enter text. |

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| constellationnames.jpgconstellationfigures.jpgconstellationlines.jpg | Click here to enter text. |

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| Options.jpg | Click here to enter text. |
| Close.jpg | Click here to enter text. |

Play with the Sky and Viewing Options Tool to select your favorite view.

View the sky at the “home” location with daylight off and on, “ground” off and on, and light pollution off and on, and comment briefly on the differences that you see. Light pollution is controlled in the Sky and Viewing Options tool. Light pollution can take values from 1 (no light pollution) to 9 (severe light pollution, such as downtown Indianapolis, New York City, or even Bloomington). The default starting value for light pollution is 3.

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| Daylight off/on | Click here to enter text. |
| Ground off/on | Click here to enter text. |
| Light Pollution off/on | Click here to enter text. |

With daylight “off,” drag the field of view up and down and left and right to look at different regions of sky Check that you have found each of the following objects as you explore the sky with *Stellarium*. To search for an object, click the Search Window button on the left menu. If an object is below the horizon, turn off the ground or flow the time backward or forward until the object is visible. If you have trouble finding an object, check with your neighbors!

Which of the following planets will be up in the evening sky tonight?

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| Mercury | Choose an item. |
| Venus | Choose an item. |
| Mars | Choose an item. |
| Jupiter | Choose an item. |

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| In which constellation can the Sun currently be found? | Click here to enter text. |
| What is the brightest star in the constellation Canus Major? | Click here to enter text. |
| In which constellation can Altair be found? | Click here to enter text. |
| In which constellation can Deneb be found? | Click here to enter text. |
| In which constellation can Vega be found? | Click here to enter text. |
| In which constellation can Polaris be found? | Click here to enter text. |
| In which constellation can Arcturus be found? | Click here to enter text. |
| In which constellation can Regulus be found? | Click here to enter text. |

You may need to adjust the time that *Stellarium* is displaying, using the Date/Time icon, or use the arrow buttons on the bottom popup menu to set time moving forward (change the rate that time flows using the double arrows - additional clicks speed up the time). The down arrow in the menu steps the flow backward.

**Reflection**: In 2-3 sentences describe how the Stellarium program can help you locate objects in the night sky. If your project involves obtaining new images of the sky, describe how Stellarium can be useful for your project.

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