

Stellarium Virtual Lab

Stellarium is a program that simulates the sky for any point on Earth at a time of your choice (thus enabling us to avoid a midnight lab!). You will use it to explore the night sky that we would be able to see on February 24, 2023.

Purpose:

1. To explore the features of the night sky (planets, stars, the moon, constellations, asterisms...etc)
2. To observe the motion of the night sky

Procedure:

1. Open Stellarium-web.org.
2. At the top of the left-hand toolbar is the “Location Window.” Open it.
 - a. Change the location to Revelstoke
3. Toggle the settings in the following way to make things more visible (you will get a chance to modify the settings later):



4. Fast forward (you can click it multiple times to speed it up or use the Date and Time menu option on the far right) until 11:00 pm February 24, 2023.



5. Explore all directions of the sky (you can “look around” by clicking and dragging, and zoom in and out with scrolling)
6. Make an online Word document in order to answer the questions at the end of the lab. Copy and paste these questions onto a word document. Answer the questions and then save your document with me. Make sure the name of your word document has: Your last name, your first name- Stellarium lab.



Questions:

1. What Planets are in the night sky?
2. What constellation is the moon closest to?
3. What phase is the moon in right now? In other words, how close is it to full?
4. In what direction would you need to look to see Draco?
5. What is the “shape” of the constellation “Cygnus?”
6. What is the “type” of the star Sirius?
7. Is the constellation Libra visible today? Explain. Fast forward to April 21th, 8pm; is it visible now? Now fast forward to 11 pm, on April 8th . Explain.
8. Find Polaris (the “North Star”); it is at the end of the handle of the little dipper (Ursa Minor). If you fast forward (a bunch of times) you will notice that it stays roughly in the same place. What does this tell you about it’s direction from Earth relative to Earth’s axis of rotation?
9. Which direction do the other “celestial objects” move (clockwise or counter-clockwise)?
10. If you fast forward through 12hrs of time, what amount of the sky does a given star/constellation rotate through?
11. Observe the angle of Polaris in January, compared to the angle of Polaris in June. What do you notice?

12. Complete the following table for the given stars:

Star:	Rigel	Capella	Betelgeuse
a. Magnitude			
b. Spectral Type			
c. Distance			

13. Find a constellation that you like and take a screenshot (control command shift 4) and paste it into your lab. Ensure it is labelled.
14. Play around with the program. Find something interesting about what you can do. Describe it in your lab.

Change the settings however you choose and see what you can find (in the Location Window you can even go to different planets/moons for their perspective)!