When the Stars Came Home Additional Resources

using stellarium to Learn About the sky

Level	K – 8, see specific activities for each grade level
Student Groupings	small groups or as a class demo
Length	15 – 30 minutes
Materials Needed	computer

Brief description: In the book, Ojiig misses seeing the stars and the night sky. In this activity, students are invited to learn about the night sky using a planetarium app on the computer.

Materials:

- computer and projector for the teacher
- tablets or computers for the students if they are to try to program themselves (older students)

Preamble: Stellarium is a planetarium app which allows you to simulate the sky at any time, from any location. It can be used to show the sky to the students. If they are old enough and enough computer or tablets are available, the students could also learn to use it themselves. There are two versions:





- <u>Stellarium Web</u> is the easiest way to familiarize yourself with the app since it runs directly in a browser.
- <u>Stellarium</u> this desktop app needs to be downloaded and installed on your computer. This extra step is rewarded with more options, including the possibility of showing the constellations of many different cultures such as Ojibwe. It can also show the interface in different languages.

Preparation: The teacher should take a few minutes to familiarize themselves with the app. Two tutorials are available:

- <u>Introduction to Stellarium Web</u> (https://www.youtube.com/watch?v=q41ZfxnVdQg)
- Introduction to Stellarium (https://youtu.be/-okzJbZgBEo)

Here are a few important points for both versions:

- Make sure Stellarium knows where you are located as the sky will vary from one place to another, especially at different latitudes. The location doesn't need to be super precise (a nearby city is OK), but this should be the first thing you check when accessing Stellarium.
- You can change the date and time, which allows you to simulate the sky at any time. You can also fast-forward time to see how things appear to move in the sky.
- You can see stars and planets at the position they would appear in the real sky. Planets might appear big but they are just points of light: the size indicates how bright it appears in the sky.
- You can activate constellation lines, names and drawings. In the desktop version, you can access the Options to change the Skylore.

Procedure:

Here are some ways Stellarium can be used in the classroom:

- Today's sky: Show today's sky to the students. As you move N-S-E-W, highlight familiar patterns, such as the Big Dipper and a few bright stars and planets (if any). You can also show the Moon and the phase during that day. Repeat once a week for a few weeks to notice differences.
- **The Moon**: Start a day when the Moon will be visible in the evening around first quarter is the best. Show today's sky to the students and invite them to look up after school to see the Moon no need to wait for darkness! Repeat for a few days to see how the Moon changes shape and location night after night.
- **The sky throughout the seasons:** Start by showing today's sky and have the students pay attention to the main stars and constellations. Then change the time to 3 months in the future. Have students notice how different the sky is. What





happened to the stars and constellations from before? Repeat two more times and maybe a third time to come back to the same sky as before, one year later.

- **Birthdate sky**: invite the students to look up at the sky in the evening of their birthdate, and compare it with their friends. Are there constellations and stars which are visible on both? Were there planets in the sky on that evening? Where was the Big Dipper on both dates?



