The Darkest Sky: NYSSLS Alignment

Teacher guide for the one-page student worksheet at mrsajdak.com/maps/dark-sky. Environmental Science or Earth Science, grades 9 to 12. The worksheet is low-write: tick boxes, short blanks and one or two written lines. The answer key is kept off the website; write to rsajdak@buffaloschools.org for it. © 2026 Ryan Sajdak. Free to use, share and change under CC BY-NC-SA 4.0 (creativecommons.org/licenses/by-nc-sa/4.0): give credit, do not sell it, share your version the same way.

What it is

A map of night-sky brightness across the Adirondack Park, from David Lorenz's Light Pollution Atlas 2025 (satellite measurements of light run through a model of how it scatters in the air). The unit is magnitudes per square arcsecond. A higher number is a darker sky; 22.0 is a natural sky and a city core is 17 to 18. Clicking anywhere reads the sky there, and the star marks the darkest spot.

Objectives

Printed on the worksheet, each with a box to tick.

I can	Questions
I can read sky brightness from a map and tell where the sky is darkest.	1 and 2
I can explain what causes light pollution, and ask a question the map does not answer.	3 to 5

Standards

Core idea touched: ESS3.C Human impacts on Earth systems (light as a pollutant). The sheet does not assess a performance expectation by itself.

The science and engineering practices and crosscutting concepts below are named in New York State P-12 Science Learning Standards language, and each one is printed on the worksheet at the part where students use it.

Part by part

Part	Practice (SEP)	Concept (CCC)	What students do
1. Read the map	SEP 4 Analyzing and interpreting data		Read the sky brightness at four places and decide where the most stars would show.
2. Cause and effect		Cause and Effect	Find the source of the brightest spot in the park, then explain why the darkest spot is dark.
3. Ask a question	SEP 1 Asking questions and defining problems		Write a question about light at night that the map cannot answer.

Running it

About 15 minutes. The scale runs backwards from what students expect, so say it out loud before they start: a bigger number is a darker sky. Good student questions for Part 3 ask about things the model leaves out: the Moon, clouds, the season, or what the light does to animals.