



SPACE ACADEMY

GLOBAL / REGIONAL SCIENCE EDUCATION

DARK SKY @PAGANSDUTONS

Aotearoa / New Zealand Dark Skies

REGIONAL LEARNING EXTENSION

Learn from documented dark-sky places and sky geometry.

FOUR FOCUSED LEARNING INVESTIGATIONS

Independent free astronomy education / global Academy

Teach with local relevance.

An evidence-led learning extension connecting the Academy to officially documented Dark Sky Places, Southern Hemisphere observing geometry and useful community lighting.

GLOBAL SCIENCE, LOCAL QUESTIONS

ASTRAVYR Space Academy uses internationally relevant astronomy and Earth-science ideas. These are adaptations for discussion and educational enquiry, not claims about a particular school, reserve, island, city, telescope or research partnership.

01 Understanding recognised places

02 Viewing geometry in the south

03 Lighting as a local design question

04 Learning through evidence

A facilitator selects suitable ages, languages, accessibility, curriculum framing and local safety. All investigations have a paper/indoor version. Original Indigenous and historical cultural content requires knowledgeable local review.

Explore. Explain. Question.

01 / LEARNING QUESTION

Understanding recognised places

What distinguishes a documented Dark Sky Place from an ordinary favourite stargazing location?

ACTIVITY

Use the Academy New Zealand Dark Sky Atlas and follow a place's official designation source before comparing its recognised category with another.

LOOK FOR

A named, source-checked designation type with the relevant official source.

Reference: <https://apollonzglobal.com/astravyr/space-academy/new-zealand-dark-skies>

02 / LEARNING QUESTION

Viewing geometry in the south

How does changing observing latitude affect a reference star's modelled altitude?

ACTIVITY

Compare two latitudes in the Academy's simplified Southern Sky Explorer, using printed screenshots if needed.

LOOK FOR

Two reference-horizon sketches and a model-limit statement.

Reference: <https://apollonzglobal.com/astravyr/space-academy/southern-sky-explorer>

Learn. Adapt. Apply.

03 / LEARNING QUESTION

Lighting as a local design question

How could a hypothetical town path be lit more responsibly?

ACTIVITY

Use the Five Lighting Principles to propose shielding, useful placement, an appropriate level, controls and warm colour; review community access trade-offs.

LOOK FOR

A labelled fictional lighting diagram and professional-design boundary.

Reference: <https://darksky.org/what-we-do/advancing-responsible-outdoor-lighting/>

04 / LEARNING QUESTION

Learning through evidence

What can satellites help us investigate about changing environments?

ACTIVITY

Describe a remote-sensing measurement and a possible New Zealand environmental question without claiming that a particular dataset measures it directly.

LOOK FOR

A supported mission card and uncertainty statement.

Reference: <https://science.nasa.gov/earth/>

Make learning trustworthy.

FACILITATOR QUALITY CHECKLIST

- Check official DarkSky recognition and designation names before printing.
- Do not create or generalise Mori sky narratives without authorised knowledge holders.
- Use indoor alternatives for unsafe weather, access or night-time constraints.
- Be precise about simplified reference stars versus actual sky observation.

SHOW YOUR SCIENCE SOURCES

Understanding recognised places / <https://apollonzglobal.com/astravyr/space-academy/new-zealand-dark-skies>

Viewing geometry in the south / <https://apollonzglobal.com/astravyr/space-academy/southern-sky-explorer>

Lighting as a local design question / <https://darksky.org/what-we-do/advancing-responsible-outdoor-lighting/>

Learning through evidence / <https://science.nasa.gov/earth/>

These documents are independent ASTRAVYR teaching resources. Their source references do not imply review, affiliation, endorsement, DarkSky certification or accredited learning. No participant details need to be collected, and no organisation has been contacted through this programme.