UA Science
SKY SCHOOL

Sky Island Survey

[Sample Itinerary]

Program Overview

Sky School's **Sky Island Survey** is a 3-day, 2-night inquiry-based program introducing students to investigative scientific research in the Sky Island region. Participants work in small groups to conduct their own research on a problem of their choosing. Each group is supported by a graduate student Instructor from the University of Arizona, who will guide them through the process of identifying a problem, and using authentic scientific tools and methods to investigate it. Participants explore multiple elevation sites along the Mt Lemmon Scenic Byway, and stay overnight at the Mt Lemmon SkyCenter Observatory, where they have the opportunity for guided observing through University of Arizona telescopes. Dormitory stays and catered meals from Sky School's in-house chef are provided.

Program Focus	Introduction to scientific research in the Sky Islands
Suggested Audience	Grades 5-9
Field Trip Locations	Mt. Lemmon Scenic Byway Mt. Lemmon SkyCenter Observatory
Highlights	• Multiple stops on Mt Lemmon • Student-led inquiry projects • Introduction to field work • Catalina Sky Survey tour • Telescope viewing • Night hike

Sample Itinerary

***Note**: This is a sample itinerary of what a typical **Sky Island Survey** program might look like. Sky School reserves the right to make changes to the itinerary, and in some cases may have a responsibility to do so. Activities, sequence, and topics covered may vary depending on school interests, time, weather, or other factors related to program delivery.*

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Day 1

Morning – Gordon Hirabayashi Campground

The Sky Island Survey gives students the opportunity to investigate changing environments at different elevations in the Catalina Mountains. The first day we will ascend over 7,000 ft and through seven distinct life zones – that's the ecological equivalent of traveling from Mexico to Canada in a day!

The first stop is Gordon Hirabayashi Campground, in the grasslands life zone around 5,000 ft of elevation. Here, students are arranged in small groups of 5-7, and each group is paired with an Instructor (U of A graduate scientists). Instructors lead their groups through exploration activities that encourage them to observe the surrounding environment and develop a sense of curiosity for the changing ecosystems they will encounter. By the end of the morning, each group will formulate a scientific problem that they wish to investigate over the next couple days, which can be any topic of their choosing. Once a topic is identified, Instructors guide students through the process of designing a methodology to investigate it.

Early Afternoon – Middle Bear Picnic Area

Next, we'll travel to the Middle Bear Picnic Area in the Bear Canyon area of Mt Lemmon. At about 6,000 ft of elevation in the oak pine woodland life zone, Middle Bear offers plenty of shade, picnic tables for lunch, and space to explore. Following lunch, Instructors facilitate the large-group game "Predator-Prey", where students must imitate tactics used by natural predators and prey in the wild to survive. This educational game involves lots of movement and strategy that makes it a favorite of many Sky School participants. After the game, students rejoin their small groups and continue data collection in the oak pine woodland for their inquiry projects.

Late Afternoon – Mt Lemmon SkyCenter Observatory

In the late afternoon, the group will arrive at the Mt Lemmon SkyCenter Observatory (9,000 ft) and check into their dorms. After settling in and taking some rest time to acclimate, we'll tour the Observatory to learn about its storied history, first as a Cold War-era air force base, prior to becoming a world-renowned research facility for astronomy. After the tour we'll enjoy a catered dinner by our on-site chef, then head to the telescopes for guided observing with university astronomers.

Early Evening – Catalina Sky Survey Tour

Sky School's campus is located at an active research facility for University of Arizona astronomers. Often, students have the opportunity to visit with on-site researchers. Catalina Sky Survey–a NASA funded project tasked with identifying asteroids and other objects in space that may pose a threat to impact Earth–frequently welcome Sky School groups to tour their telescope (the largest on Mt Lemmon) and learn about their critical role in defending the planet. Catalina Sky Survey is the most successful group on the planet at identifying near-Earth objects, and it is truly fascinating to meet the observers and see them in action!

Later Evening – Telescope Viewing

One of the most unique and exciting parts of Sky School programs is having access to University of Arizona telescopes. Sky School participants will look through one of the world's largest telescopes dedicated to public outreach, where they'll travel through time and space across our solar system, the Milky Way, and into the cosmos beyond. University of Arizona astronomers provide guided information about objects we're observing and answer student questions. This is a truly special experience that students and chaperones alike will remember for years to come!

Day 2

Morning – Summit Hike

Located at the highest point in the Catalina Mountains, Sky School is surrounded by an abundance of summit hiking trails. After breakfast, we'll gear up and head out on a moderate, 2-mile hike around the Meadow Loop Trail. Along the hike, Instructors will give a guided tour of the region's natural history and current challenges: Sky Island geology, water, wildfires and forest resilience, and how the region is adapting to a changing climate. We'll also take in breathtaking views of the Tucson basin below, and other Sky Island ranges visible in the distance.

Afternoon – Inquiry Project Data Collection & Analysis

Students rejoin their project groups and set out for their last round of data collection on the summit. Together with their Instructor, groups can explore different areas relevant to their project:

forests and meadows, burned and unburned areas, creeks and riparian habitats, and many others. Once the final set of data is collected, they'll return to the Learning Center to analyze their data and prepare their presentations for the Research Symposium later that night. Following presentation prep, we'll have a rest break before dinner.

Early Evening – Research Symposium

Following dinner comes the culmination of the project portion of the program: the Research Symposium! Here, each group will have the opportunity to present their project findings with their peers. Groups are encouraged to get creative with how they present; some may opt for a slide presentation, whereas others may use art, theater, or even music to share their findings. The goal is for students to practice science communication in a way that is both effective and engages their creativity.

Later Evening – Campfire OR Night Hike

To cap off the night, groups will have the option of either a campfire and s'mores under the stars, or a short (quarter mile) night hike to view the Tucson city lights and learn about light pollution and efforts to protect communities and wildlife from it. Then it's back to the dorms to wind down and rest!

Day 3

Morning – Closing Activities

In the morning the group will check out of the dorms and enjoy one more breakfast together with their Sky School Instructors. Instructors will lead a Closing Activity to reflect on all that we have learned and experienced, and look forward to how we will take what we've learned and build off of it once we return home.