

A Day in the Life of an Astronomy Camper

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Your alarm goes off and you roll out of bed hoping that all the warm water for your shower has not been used up yet. The Sun has long since risen and you quickly get ready for another busy day. So far no two days or nights have been the same and as you walk to the gym for the morning session you look at your schedule to see what today will hold.

You notice the session this morning will be about stars. The lecture will be given by a past astronomy camper, Elizabeth Waterhouse, who is now an undergraduate student at Harvard -- could that be me someday you wonder? She talks about stars in a way that seems complicated, but you seem to understand every word. You are a little tired by the end of the talk, but she ends by asking your group to head up to the 60" telescope to make some observations of the Sun, our closest star.

You've never seen the Sun through a telescope before -- teachers have always said, don't look at the Sun, it can blind you...but Don has set up some really cool ways to observe the sun safely. One of the graduate students has set up a telescope through which you can actually look through the eyepiece of the telescope at the sun through a hydrogen-alpha filter -- you see a bunch of dark spots on the sun and some flary things coming off it on the surface. The student explains what you are looking at and you make notes in your observing log about what you have learned. You then move on to learn about polarization.

There are a bunch of different objects to play with, called polarizers. You find it exciting to be able to actually try things out for yourself since in your normal science classes you are not allowed to "touch anything unless told since you'll probably break it." You qualitatively access that if you take two of these polarizers and turn them in relation to each other you can see different amounts of light coming through. Another graduate student explains the details of how the polarizer works.

Although you had breakfast just a little while ago you head back to the Minnesota building for lunch. Jeff, a high school teacher helping with astronomy camp, has set up a demonstration on the moon for after lunch. He gives you a styrofoam ball and places you and your friends in a circle around a really bright light in the center. You notice that depending on how you are standing and where the ball is in relation to the light the shadow on the ball changes. Jeff explains how this represents the phases of the moon work.

When Jeff is finished Don gets everyone together outside and hands out "the planets" and cards to go with them. You are going to be part of a scale model of the solar system. You notice that the sun is a big yellow ball and everything else is very small in comparison. You are given the planet Jupiter -- not quite as big as you had always imagined. The Sun is put in place and you begin to walk down the path, by the time you reach the place where Jupiter is you can hardly see the Sun anymore -- this is a long ways away you ponder. By the time you reach Pluto's spot, the Sun is long gone. You hike to a look-out point from where you can see Mt. Graham, Mt. Hopkins, Mt. Bigelow and Kitt Peak around you. So many telescopes in one area, now wonder Arizona is a huge place for astronomy. Maybe I'll consider applying to the UA when I get ready to go to college. At the lookout Don has airline tickets to the nearest stars -- Iceland, one of the closest stars on this scale -- such a long ways away.

You return to the Minnesota building and are given a snack before learning about Space Art from a well-known space artist, Kim Poor. I never realized astronomy had so many applications. Dinner is soon to come, then you all crowd into your vans to head to Mt. Bigelow for an evening of observing. Tonight David Levy will speak -- how exciting to meet a famous astronomer.

David talks about the heavens, tells a little about his observing comets and his discoveries and then he opens the dome of the telescope and trains it on a really interesting planetary nebula. You record its name in your observing journal and look through the eyepiece in awe. There are a bunch of activities you have available for tonight, you can stay here and observe with the big scope or go learn about CCD's, look for asteroids with the Schmidt telescope, learn about small telescopes and how to find things in the sky with amateur astronomer Chris Vedeler or even see what is going on with Don's research projects that a couple undergraduates are working on with the NICMOS Camera of the Hubble Space Telescope. Some other undergraduates from Arizona State University have a station set up with projects on Mars.

At 8:30 Don brings everyone outside to look for the bright satellite pass of TRMM. He explains why we are able to see the pass -- how the sun reflects off of the panels and causes the satellite to be illuminated. It moves across the sky slowly, brightly to begin with and fading in time until you can no longer see it -- amazing. You get tired as the night goes on, but there is so much to do, you move from one activity to another. Soon Jupiter is rising above the trees and when you look through the big scope you can see detail in the atmosphere of Jupiter and the four Galilean satellites.

By now you have learned how to operate the 61" telescope, how to use a CCD camera, how to work with HST images and you are beginning to understand how things move around in the sky. Saturn should be visible with the telescope soon. Before you know it, the sun is close to coming up again and it is time for you to go to sleep. It has been a long day, but so much fun. Only a few more days of camp, maybe Mom and Dad will let me come to the advanced camp next year...