

SCHEDULE

BEGINNING ASTRONOMY CAMP

June 13-19, 2024

"We cannot solve problems with the same level of thinking we used when we created them."
Albert Einstein

JUNE 13 (Thursday)

Welcome to Camp!
Mercury is at perihelion
Sidereal time at midnight: 17:08:45

"Imagination is more important than knowledge."
(Einstein)

2 pm	Opening (Aloft Hotel: Tactic Room) welcome and introductions provide water bottles "Question of the Day"
3	Drive to Mt. Lemmon quick driving tour of the site
5	Move into dorms dorm orientation dress warmly for the night
6-6:30	Dinner
7	Walk as a group to observe sunset prepare telescopes for observing
7:30	Watch and record sunset
8	Dark adaption at the 32" telescope "Music of the Night" (Phantom of the Opera) -- Andrew Lloyd Webber
8:15	Observing Each research team and counselors observe constellations and sky motions. naked eye, binoculars, 8", 24", 32" telescopes practice AZ/EL coordinates and satellite observing observe with 8, 24, 32" telescopes
9:09	End of astronomical twilight
10:30 or later	Sleep be sure Campers know when/where to meet in morning
00:43	Moonset
3:38	Start of astronomical twilight
5:18	Sunrise

JUNE 14 (Friday)

"Seeing" the Universe Around Us

First Quarter Moon

Moon at apogee

Mercury at superior conjunction

Sidereal time at midnight: 17:12:41

"Anyone who has never made a mistake has never tried anything new."

(Einstein)

5:18 am	Sunrise	
8	Wakeup	
8:30	Breakfast and cleanup (in the Learning Center)	
	bring sunscreen	
9:15	Daily briefing	
	mountain safety; Camp learning style, ...	
	technologies: Internet, Chromebooks, cell phones, email	(Austin)
	journals	(Kailey)
	Discuss Camp projects	
	Camp Team Project: "Relating to the Stars in our Sky"	(Kailey & Austin)
	"Observing Challenge"	(Olivia)
	"Questions of the Day"	(Don)
10	Walking tour of the mountain	(Don)
	Two projects en route: Measure angle of your fist; solar observing	
12 pm	Lunch and cleanup	
	staff meeting	
1	The Earth-Moon system: Scale Modeling & Light Units	(Don)
	teams: Build a scale model	
	make eclipses with your model	
2	"Orienting to the Night Sky"	
	construct your personal planisphere	
	"dark adapt" your flashlight	
	"Stellarium" planetarium program on Chromebooks	(Austin)
3	Rotate in pairs of teams	
	the nighttime sky (planetarium experience)	(Don, Wayne)
	begin Camp Team Project	(team leaders)
5	Free time	
	option to revisit the planetarium	
	dress <u>warmly</u> for an evening of observing	

6	Dinner and cleanup
7	Walk as a group to observe sunset prepare telescopes
7:30	Watch sunset
8	Dark adaption at the 32" telescope (Kailey, Wayne)
8:30	Observing in research teams (rotate in pairs of teams every hour) 8, 24, 32" telescopes naked eye, binoculars, planispheres, portable telescopes (Observing Challenge) team project indoors
9:22	End of astronomical twilight
11:30	Snack and journaling carefully write down, and draw, what you noticed and learned about the sky
12 am	Sleep be sure Campers know when/where to meet in morning
1:07 am	Moonset
....	Sleep
3:38	Start of astronomical twilight
5:18	Sunrise

JUNE 15 (Saturday)

The Sun is a Mass of Incandescent Gas

Sidereal time at midnight: 17:16:38

***"The important thing is not to stop questioning. Curiosity has its own reason for existing."
(Einstein)***

5:18 am	Sunrise
8:30	Wakeup
9	Breakfast and cleanup
9:45	Daily briefing
10	"Light & Spectra" related activities
11	Teams work on Camp Project
12 pm	lunch & cleanup staff meeting
1	"Phases of the Moon and Planets" (gym) related activities act out Orrey to show where/when planets are
2:30	To be determined: revisit the planetarium act out an "orrery" of today's planetary positions familiarize with <i>"Turn Left at Orion"</i> observing guide "Mapping Planetary Surfaces" activity: Venus topography box
4	"Newton's Laws" activity: Newton's Cars
5:30	Free time

	dress for the evening
6	Dinner & cleanup
7	Walk as a group to observe sunset prepare telescopes
8	Dark adaption
8:30	Observing rotation in the 4 teams naked eye, binoculars, planispheres, 8" telescopes (Observing Challenge) team projects indoors
1:32 am	Watch moonset Sleep
	be sure Campers know when/where to meet in morning
3:38	Start of astronomical twilight
5:18	Sunrise

JUNE 16 (Sunday)

Navigating the Solar System

Moon passes 1.2 degrees north of Spica

Sidereal time at midnight: 16:57:52

***"The most beautiful thing we can experience is the mysterious."
(Einstein)***

5:18 am	Sunrise	
11	Wakeup	
11:30	Brunch & cleanup	
12:15 pm	Daily briefing	
12:30	"Stars are like People" related activities	
2	Free time	
3	Snack Teams work on Camp Project	
4	"Stars Have Lives, Too!" "classification" techniques the H-R Diagram	(Don)
5	Free time dress <u>warmly</u> for an evening of observing	
6	Dinner and cleanup	
7	Walk as a group to observe sunset prepare telescopes	
7:31	Watch sunset	
7:45	Travel to 61" (Kuiper) telescope at Mt. Bigelow and observe with David Levy	
8:30	Observing with 8" and 61" telescopes	
9:11	End of astronomical twilight	
11:30	Snack	

1:59 am	Moonset
	Sleep
	be sure Campers know when/where to meet in morning
3:39	Start of astronomical twilight
5:18	Sunrise

JUNE 17 (Monday)

Galaxies, Sky Islands

Sidereal time at midnight: 17:24:31

***"The whole of science is nothing more than a refinement of everyday thinking."
(Einstein)***

5:18 am	Sunrise
11	Wakeup
11:30	Brunch & cleanup
12:15 pm	Daily briefing
12:30	Solar observing activities
1:30	"Galaxies" and/or "Cosmology"
	related activities
3	Teams work on Camp Project
	Snack
4	"The Great Solar System Explorer" (everyone)
	hike the Solar System, and nearby stars, to scale around Lookout loop
5:30	Dress <u>warmly</u> for an evening of observing
6	Dinner and cleanup
7	Walk as a group to observe sunset
	prepare telescopes
7:31	Watch sunset
8	Dark adaption
8:30	Observing rotation in the 4 teams
	naked eye, binoculars, planispheres, 8" telescopes (Observing Challenge)
	team projects indoors
9:11	End of astronomical twilight
2:29 am	Moonset

	Sleep
	be sure Campers know when/where to meet in morning
3:39	End of astronomical twilight
5:18	Sunrise

JUNE 18 (Tuesday)

"Starlight Nights"

Sidereal time at midnight: 17:05:45

"Everything should be made as simple as possible, but not simpler."
(Einstein)

5:18 am	Sunrise
11	Wakeup
11:30	Brunch & cleanup
12:15 pm	Daily briefing
12:30	Teams finish Camp Project
1:30	Team presentations of Camp Project
2:30	Free time
	submit personal journals
	handout T-shirts
	pack belongings and clean rooms
3:30	Launch LN2 cannon
5	Free time
6	Dinner & cleanup
7	Walk as a group to observe sunset
	prepare telescopes
7:31	Watch sunset
8	Dark adaption at the 32" telescope
8:30	Observing in research teams
	naked eye, binoculars, planispheres, 8" telescopes (Observing Challenge)
9:11	End of astronomical twilight
10	LN2 dessert & celebration
11	Sleep
3:04	Moonset
3:39	End of astronomical twilight
5:18	Sunrise
7	Wakeup

JUNE 19 (Wednesday)

Way Up There and Way Back Then

Sidereal time at midnight: 17:28:28

"I have no special talents. I am only passionately curious."

(Einstein)

5:18 am Sunrise

7 Wakeup

FINISH CLEANING & PACKING UP EVERYTHING!!!

You must have a counselor check you out of your room.

participate in hummingbird banding research (Brandy Dunn; Susan Wethington)

8 Breakfast and cleanup

9 **MUST** leave for Tucson

** 11 Graduation ceremony (Aloft Hotel: Tactic room)

graduation is open to all families.

12 pm Leave for homes and Tucson airport