Partnering with the U.S. Space and Rocket Center and Austin Peay State University (Clarksville, TN) and Others

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U.S. Space and Rocket Center

- Since 1970, ~16 million people have toured
- Programs include Space Camp, Space Academy, Aviation Challenge, and Robotics Camp
- Special Request Camps for groups such as the INSPIRE Project
- In 2015, > 250,000 visitors
- Museum holds Saturn V rocket, Apollo 16 Command Module, Apollo 12 moon rock
- FY 2016:

32,054	Campers
26, 749	Children
548	Educators
1,416	Family Programs
3,341	Adult Space Camp

INSPIRE
INTERACTIVE NASA SPACE PHYSICS IONOSPHERE RADIO EXPERIMENTS

INSPIRE Project's Annual Space Academy for Educators & Students Full Scholarship Programs -- D.C. Area

Established 2008
~ 90+ Competitive Scholarship Awards
2015-16 School Year

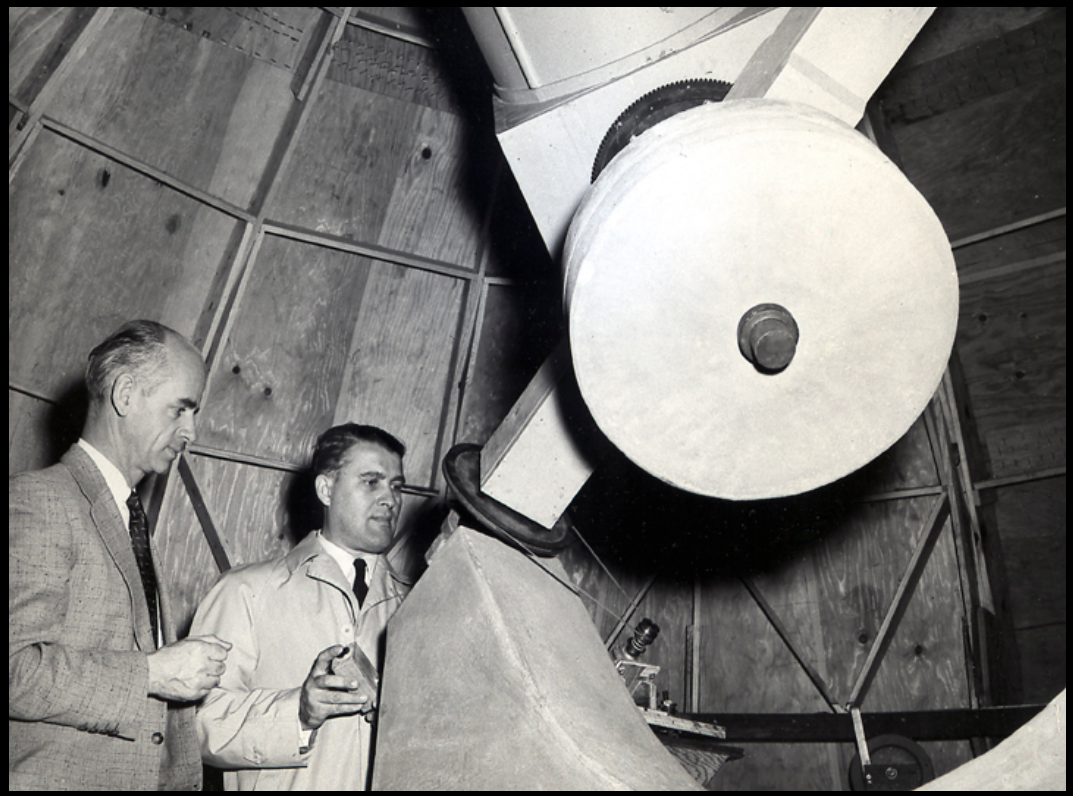

COMMANDER'S
SPACE ACADEMY
CUP
UNITED STATES
SPACE CAMP

Von Braun Astronomical Society

Two Observatories and a small planetarium

~ 150 Members

Started in 1954 by high-school student, Sam Pruitt



Solar System Ambassadors

Two VBAS Members are SSAs

The Great American Solar Eclipse

August 21, 2017

National Aeronautics and Space Administration

NASA

What is a Solar Eclipse?

A solar eclipse happens when the Moon, as it orbits Earth, fully or partially blocks the light of the Sun, thus **casting its shadow on Earth**.

Observers within the ***path of totality*** can expect to see something like the image below. Observers outside the path of totality will see the Sun partially eclipsed as a crescent Sun (with safe filters).

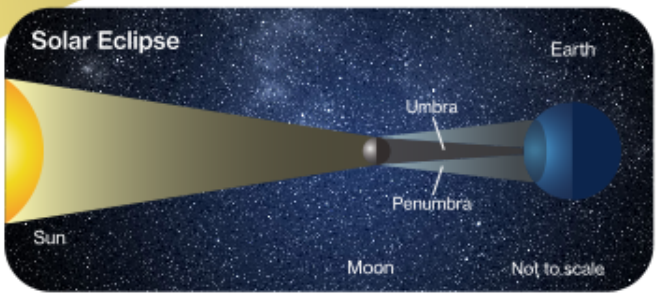
Maximum Eclipse

Time	Location
10:17am PDT	Lincoln Beach, OR
	Depoe Bay, OR
11:26am MDT	Lime, ID
1:19pm CDT	Valley View, MO
	Bloomsdale, MO
1:26pm CDT	Hopkinsville, KY
1:28pm CDT	Calistia, TN
2:47pm EDT	Bethera, SC

After the 2017 solar eclipse, the next total solar eclipse visible over the continental United States will be on April 8, 2024.

The last total solar eclipse to cover this much of the country was on June 8, 1918.

©1999 by F. Espenak, MrEclipse.com



©1999, Photos by F. Espenak used with permission. MrEclipse.com.

If the Sun is scaled to about 10 cm (3.9 in), Earth would be about 10 meters away (33 feet).

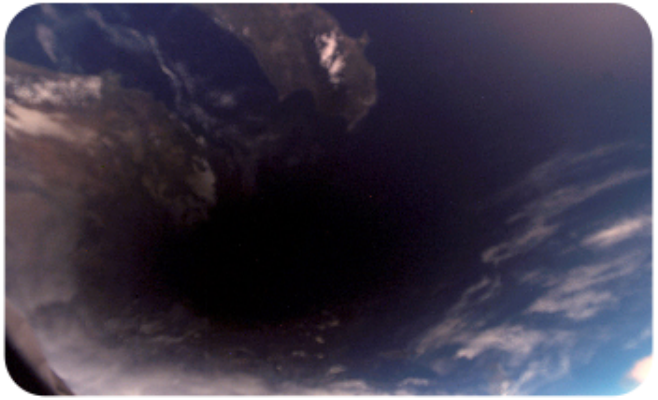
The predicted path of the August 21, 2017 solar eclipse

Duration of Greatest Eclipse:
2 min 40 sec
(18:25 UT=13:25 CDT or 1:25 p.m. CDT)

Location of Greatest Eclipse:
36 deg 58 min N; 87 deg 40 min W
(between Princeton, KY and Hopkinsville, KY)

Path Width: approximately 115 km

Eclipse predictions by Fred Espenak, GSFC, NASA Emeritus



http://mail.colonial.net/~hkaiter/index.html

The NASA image above shows the Moon's **umbral shadow** as seen from the International Space Station during the total solar eclipse on 29 March 2006.

Never look directly at the Sun unless you have filters that you know are safe.

For more information: http://eclipse/gsfc.nasa.gov/SEhelp/safety.html
For more information about solar eclipses: http://eclipse.gsfc.nasa.gov/solar.html
http://eclipsewise.com/solar
http://eclipse2017.org/

www.nasa.gov

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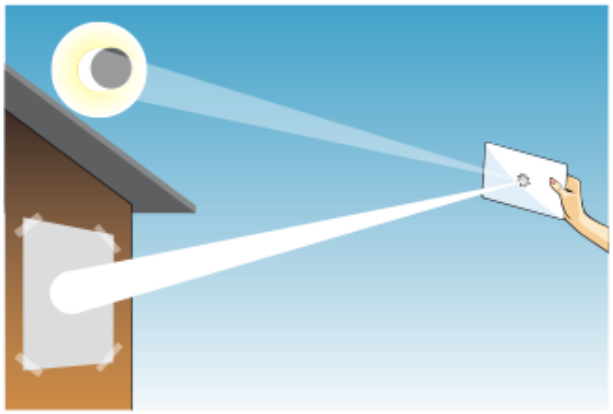
FL–2016–06–52–MSFC G–157953

Safely Observing the Sun

WARNING: Never look directly at the Sun without proper eye protection. **You can *seriously* injury your eyes.**



Mirror in an Envelope

Slide a mirror into an envelope with a ragged holde cut into the front. Point the mirror toward the Sun so that an image is reflected onto a screen at least 5 meters (about 15 feet) away. The longer the distance, the larger the image.

Do not look at the mirror, *only* at the screen.

Local Area Eclipse Details

Location	% Covered	Start (CDT)	Max (CDT)	End (CDT)
Nashville, TN	100.0%	11:58AM	1:28PM	2:54PM
Totality begins 1:27PM • Totality ends 1:29PM				
Brentwood, TN	100.0%	11:58AM	1:28PM	2:54PM
Totality begins 1:28PM • Totality ends 1:29PM				
Franklin, TN	99.9	11:58AM	1:28PM	2:54PM
Fayetteville, TN	98.2	11:59	1:30	2:56
Ardmore, AL/TN	97.3	11:59	1:29	2:55
Florence, AL	95.9	11:57	1:28	2:54
Athens, AL	96.7	11:59	1:29	2:56
Decatur, AL	96.1	11:59	1:30	2:56
Hartselle, AL	95.8	11:59	1:30	2:56
Madison, AL	96.7	11:59	1:30	2:56
USSRC	96.8	11:59	1:30	2:56
Huntsville, AL	97.0	11:59	1:30	2:56
VBAS	97.1	12:00PM	1:30	2:56
Arab, AL	96.0	12:00	1:31	2:57
Gurley, AL	97.1	12:00	1:31	2:57
Guntersville, AL	96.4	12:01	1:31	2:57
Scottsboro, AL	97.4	12:01	1:31	2:57
Bridgeport, AL	98.6	12:01	1:32	2:57

JAVA Script Solar Eclipse Explorer
http://eclipse.gsfc.nasa.gov/JSEX/JSEX-NA.html

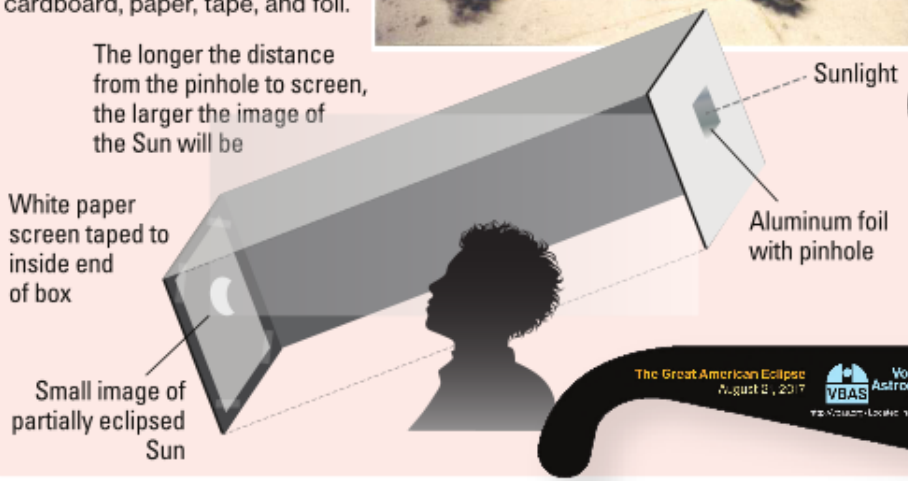
Photograph (below) Copyright © Elisa J. Israel

Strange Shadows!

Sunlight through trees produces projected crescents during partial phases.

Go Stick Your Head in a Box

You can make this simple "eclipse telescope" with some cardboard, paper, tape, and foil.



Sun Funnel

Make this device for your telescope with simple instructions at:
www.astrosociety.org/tov/Build_a_Sun_Funnel.pdf

Cool in the Shades

Visit the Von Braun Astronomical Society (or your local astronomical society) and pick up a pair of these special Eclipse Sunglasses!

www.vbas.org

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