

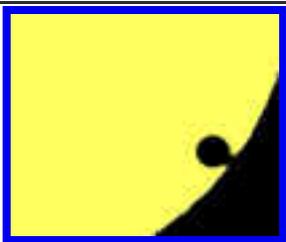
This website contains items related to the transit of Venus, with particular emphasis on the recent 2004 event and the forthcoming 2012 transit of Venus. Either click the hyperlink name below or scroll down to see a brief description of each category.

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WWW
 transitofvenus.org

	 CLICK BELOW...	 TO FIND THIS...
	2012 June 5-6	A look ahead to the transit of Venus occurring June 5-6, 2012.
	Activities	Please see the Education Resources page for the extensive collection of activities and lesson plans.
	Art Exhibit	Artists commemorated the 2004 transit of Venus with their handiwork exhibited at Glance Eyewear Gallery in South Bend, Indiana.
	Award	We thank the parties who acknowledge our efforts.



[Black Drop Effect](#)

The "black drop" effect was often a limiting factor in measuring the distance to the sun using a transit of Venus. See historic examples of this phenomenon which frustrated astronomers for centuries but is now considered an observational highlight of a transit of Venus.

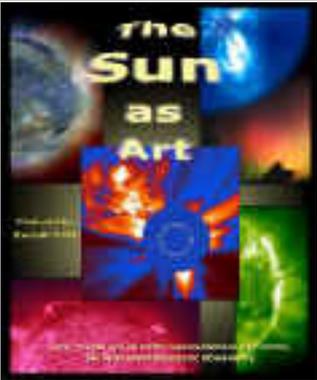
[Cicadas](#)

Acknowledging the 2004 cacophony of Brood X cicadas, Sten Odenwald correlates cicada outbreaks with transits of Venus.



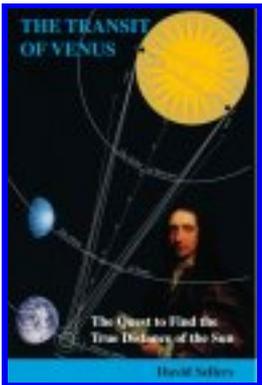
[Clouds](#)

What if the weather is cloudy during the transit? Here are some options and consolation.



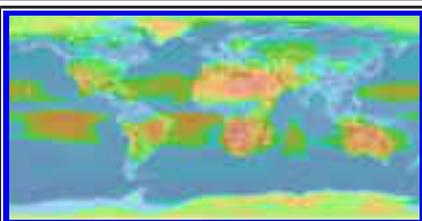
[Collection](#)

Artifacts and artwork were displayed as part of the transit of Venus celebrations in South Bend communities. Included are photos from USNO expeditions, John Philip Sousa's novel *The Transit of Venus*, and *The Sun as Art* from NASA Goddard Space Flight Center.



[Education](#)

- *Transit of Venus* Program on DVD and CD
- global student observing projects
- hands-on paper plate activities
- interactive programs
- animations, simulations and Applets
- song lyrics with lesson plans
- measuring A.U. with *Voyager II* software
- NASA's Sun-Earth Connection Education Forum lesson plans
- books about the transit of Venus



[Frequently Asked Questions \(FAQ\)](#)

Getting started with observing the transit of Venus from your region.



[Flyer](#)

Found on the [Education](#) page, this 2004 handout lists transit of Venus Q&A, shows duration of transit across North America, recalls global expeditions, illustrates black drop effect, shows sample hands-on activity relating to transit; shows solar mega-flare; and links to [Transit of Venus](#) program for educators. The flyer is biased toward U.S. observers, but the Microsoft Publisher file is editable so you can tailor the flyer to your locale (high resolution 2.2 Mb, MSPublisher).



[Gallery](#)

In 2003 the Gallery shows pictures of preparations for the 2004 transit of Venus.



[Great Lakes Planetarium Association \(GLPA\)](#)

The 2003 Annual Conference of the GLPA featured the transit of Venus at paper sessions, at a workshop, at a planetarium show, during solar viewing, and at the hospitality suite.



[Historical Observations and Global Expeditions](#)

1639 Transit of Venus

- Jeremiah Horrocks predicts and observes

1761 & 1769 Transits of Venus

- David Rittenhouse
- Le Gentil's travails
- Captain James Cook voyages
- Father Hell gets back his good name
- Mason & Dixon endure attack
- global expeditions summaries

1874 & 1882 Transits of Venus

- Original US Naval Observatory photographs of global expeditions
- newspaper headlines and excerpts
- new photographic techniques introduced
- women observers excel
- illustrations from expedition sites
- archival records
- equipment used

Extensive bibliography
Edmond Halley's call for action



[Hoole](#)

Images from Hoole, England-- where Jeremiah Horrocks first observed a transit of Venus--celebrate St. Michael's Church and its recognition of Horrock's achievement. Also listed are more transit-related destinations in England, such as Westminster Abbey.



[Issues](#)

Though the transit of Venus expeditions are celebrated for their scientific zeal, they had their own impact on different cultures. Consider these social issues related to the transit of Venus.



[Illustrated London News](#)

The Illustrated London News reported on the global efforts to time the 1874 and 1882 transits of Venus. Fine prints accompany the details.

	<p><u>Images</u></p>	<p>Images taken of the 2004 transit of Venus, including this picture of the International Space Station passing in front of the sun during the transit.</p>
	<p><u>INSAP V</u></p>	<p>Artwork inspired by transits of Venus over the centuries is featured at the <i>Inspiration for Astronomical Phenomena V</i> conference in June 2005 in Chicago, Illinois.</p>
	<p><u>June 8</u></p>	<p>Images taken of the 2004 transit of Venus celebration at Mishawaka, Indiana, USA.</p>
	<p><u>Kid Stuff</u></p>	<p>Enjoy transit of Venus activities for younger audiences, including:</p> <ul style="list-style-type: none"> • Create your own stained glass window. • Bake transit of Venus cookies. • Track the planet Venus across the sun. • Color pictures from an animated show. • Simulate a transit of Venus.
	<p><u>Lighting Issues</u> (moved to <u>www.nightwise.org</u>)</p>	<p>Light pollution awareness and abatement are addressed with an emphasis on northern Indiana.</p>
	<p><u>Links Without Thumbnails</u></p>	<p>Scores of links without thumbnail images, with emphasis on the 2004 transit of Venus.</p>
	<p><u>Mercury Transit November 8, 2006</u></p>	<p>View details and images of the transit of Mercury on November 8, 2008.</p>
	<p><u>Miscellaneous</u></p>	<ul style="list-style-type: none"> • stamps • antique instruments • modern sculpture • plays • fiction entitled <i>Transit of Venus</i> • auction items • quotes



- transits of the sun and moon by the International Space Station
- postcards
- stereoscope cards
- junk



[Monument](#)

Carving for 2004 monument by Croston Carvers to local hero Jeremiah Horrocks.



[Music](#)

Transit-related music, including from:

- John Philip Sousa
- Willow Mackey
- AstroCapella
- Matt Rumley
- The Singing Sun (Helioseismology)



[Non-English](#)

Many non-English websites addressed the 2004 transit of Venus. These links, suggested by international transit of Venus enthusiasts, are only a sampling of the material out there.



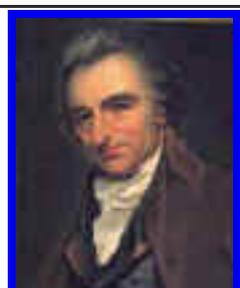
[Notre Dame](#)

- [nd1800s.htm](#)
Article details the efforts to witness the 1882 transit of Venus using the Napoleon III telescope; from Robert Havlik.
- [napoleon3.htm](#)
University of Notre Dame and the Napoleon III Telescope; from Robert Havlik.
- [nd.htm](#)
Connects Notre Dame history and staff with the transits of Venus.

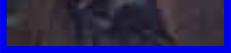
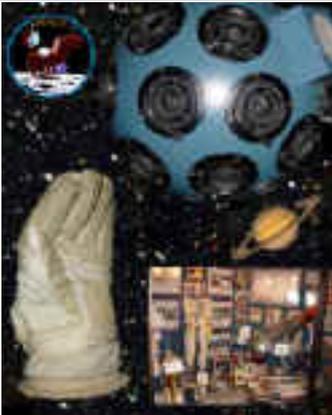
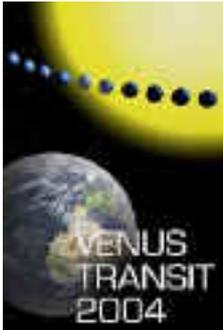
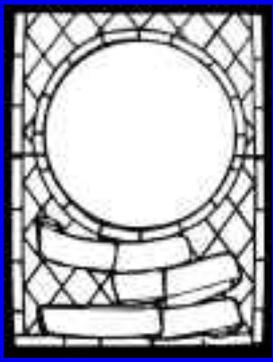


[Observing the 2004 Transit](#)

- where the 2004 transit was seen
- starting and ending times
- the path of Venus across the sun's disk
- how to view the transit safely
- international sightseeing tours



Thomas Digges, the astronomer of the Transit of Venus, on...

	Paine, Thomas	<p>Thomas Paine cites the observation of the Transit of Venus as a practical application of Kepler's laws.</p>
	Peace	<p>Solar shades were sent to support the troops and the people with whom they interact in Iraq and Afghanistan, which was the zone of maximum visibility in 2004.</p>
	PHM Planetarium & Air/Space Museum	<p>The Penn-Harris-Madison Planetarium & Air/Space Museum in Mishawaka, IN, is an avid supporter of the <i>Transit of Venus</i> program. In 2004, planetarium programs featured the transit of Venus. This was also the site of one of the best public celebrations on June 8, 2004.</p>
	Proctor, Richard	<p>Richard Proctor wrote <i>A Popular Account of Past and Coming Transits</i> around 1882. Images from the book are here, with the entire text availed online by Stanford University Libraries & Academic Information Resources.</p>
	Projects	<p>Global observing projects allow students to contribute data from their site through the Internet to international pools of data, from which the distance to the sun can be calculated.</p>
	Round	<p>Round images related to the the transit of Venus are abundant. Consider these images for the stained glass window activity shown on the Kids Stuff page.</p>
<p>'' ''</p>	Quotes	<p>Quotes related to the transit of Venus convey the significance of the event in the eyes of our predecessors and contemporaries alike.</p>
	Quilt	<p>Astronomer Don Tuttle crafts a scientifically accurate quilt entitled <i>Transit Time</i>.</p>
		<p>We encourage astronomy educators to apply for the Andrew W.</p>



[Research Opportunity](#)

Mellon Travel Fellowship Program to research historic documents, including those related to the transit of Venus.



[Road Trip](#)

Details for those who planned to make a road trip to South Bend to view the 2004 transit of Venus along a low Indiana horizon. Transit of Venus celebrations included exhibits of artifacts and new commemorative artwork; planetarium programs; live viewing of the transit; and a webcast. Twas a party.



[Round](#)

Consider all the round things related to the transit of Venus. Each is a circular candidates for the stained glass window activity at [kids.htm](#).



[Rumley, Matt](#)

Matt Rumley created three songs that are on the *Transit of Venus* program [audio CD](#) plus a few more songs on the *Paper Plate Astronomy videotape*.



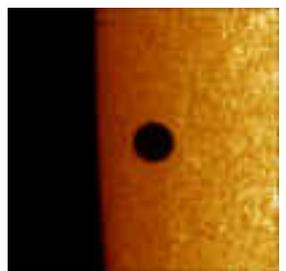
[Safety!](#)

"Do not look at the sun without proper eye protection." While that is seemingly obvious, what does it mean to the person who still wants to witness the transit of Venus? Suggested observing techniques help you to enjoy the sight without losing yours. Viewers are still responsible for their own eye safety.



[Sarah, age 6](#)

Keep it simple. Consider the transit of Venus as seen through the eyes of a 6-year old girl, who created a poster and web page for a school project.



[Science and Math](#)

- general tutorial on transits of Venus
- measuring the distance to the sun
- the infamous "black drop" effect
- the irregular period of transits
- Edmond Halley's call for action
- calculation engines for programmers
- advanced amateur program to find extra-solar planets
- background on the planet Venus, including spacecraft images
- transit geometry calculations



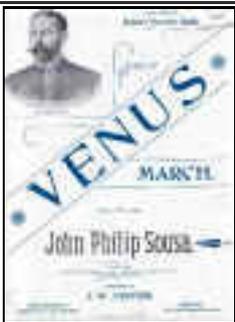
[Shop](#)

Items for sale related to the transit of Venus:

- DVD and CDs
- Clothing
- Souvenirs
- Music
- Travel and Tours



- Books and Publications
- Safe Observing Equipment



[Sousa, John Philip](#)

Bandmaster John Philip Sousa wrote the *Transit of Venus March* and authored a book *The Transit of Venus*.



[Spacecraft and the Search for Extra-Solar Planets](#)

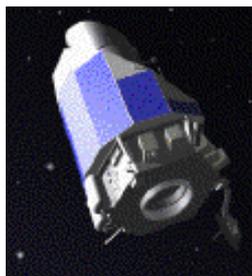
Kepler mission

- overview and summary
- images and animations
- paper model of spacecraft
- transit characteristics and properties
- mission FAQ

SOHO and *TRACE*

- Venus in field of view
- Mercury transits the sun
- free screensaver

Searching for extra-solar planets via transits; SETI and "wink" method



[Toyota TAPESTRY Grant](#)

The grant administered by the National Science Teachers Association (NSTA) funds the *Transit of Venus* program at <http://analyzer.depaul.edu/paperplate/transit.htm>.



[2004 Travel and Tours](#)

Sites with guided tours for witnessing the 2004 transit of Venus..



["Must See TV \(Transit of Venus\)" Screen](#)

At a GLPA workshop, planetarians constructed a device to view the sun safely by rear-projecting a magnified image of the sun onto a screen. The "TV Screen" allows a group to view the image concurrently while eliminating dangerous open sight lines to the sun.



[U.S. Naval Observatory](#)

The USNO led the 19th century effort to time the transit of Venus by sponsoring global expeditions. See these rare images from Kerguelen Island, Nagasaki, Patagonia, Chatham Island, and Washington, D.C.



[What's New?](#)

This website is in transition as it segues from 2004 to 2012. To find what has been added since you last visited, scroll through the list of recently uploaded original material and links.

www.transitofvenus.org

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