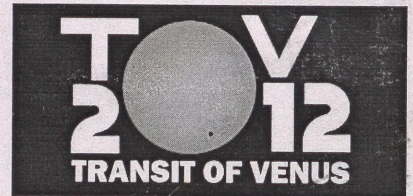


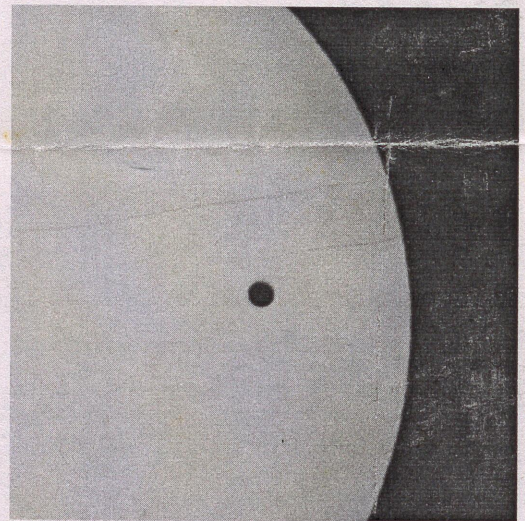
The Festival of Venus!
An opportunity of a lifetime!!
Transit of Venus. 6th June 2012



Would you like your School to become a part of a nationwide campaign? Would you like your children to become Daytime Astronomers and understand the amazing world of our Sun, Planets and Stars with simple-hands-on experiments? A unique opportunity has presented itself! An opportunity of a lifetime!! Get going and set up your own Astro Lab! A lab that needs no high-end equipment, no major expense, just enthusiasm, energy and curiosity!! Believe it or not, school children will be able to measure for themselves the distance between the Sun and the Earth, the Astronomical Unit (AU)! Measuring the AU is one of the ten greatest achievements in the history of Science! Measuring AU comes within the reach of school children because of one important assumption! Had Horrocks, the astronomer who first saw the Transit of Venus, made this assumption his name would have gone in the history of science as the first person to measure AU.

What is the Transit of Venus (TOV)?

TOV, an extremely rare astronomical event, will be occurring on the 6th of June, 2012. On this day, the Sun will rise with a little black dot, a *bindi* on its face!! This black dot, Venus, will slowly move across the face of the Sun and then move out! This unique event called the TOV will not occur again till the year 2117. It's our very last chance!! It's an event that occupies a very important place in the history of Science.

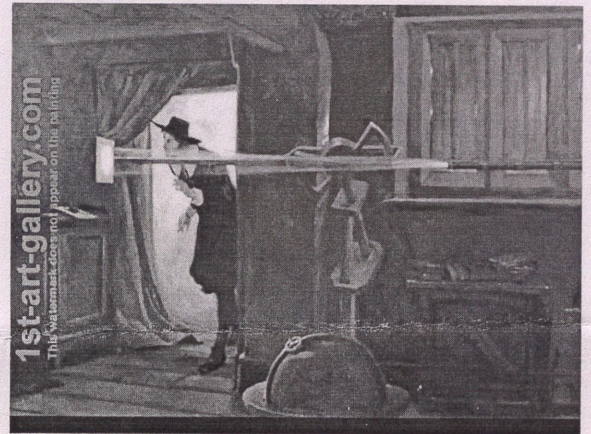


A Bit of History!

If measuring the AU is so easy that every school child can do it during the TOV, then why was it not used earlier to measure the AU? The answer could be that the TOV is a rare event. TOVs occur in pairs separated by 8 years. After a pair of TOVs, the next pair will not occur for more than a hundred years. A TOV occurred on May 23, 1526, during Copernicus lifetime. But the telescope had not been invented and perhaps, Copernicus did not know how to image the sun. The next pair of TOVs occurred in 1631 and 1639. Galileo would have known about this, but Galileo had lost his eyesight by then. The great Kepler had predicted the 1631 TOV but he did not live to see it. Gassendi observed Transit of Mercury that year but Kepler's methods were not yet accurate enough to predict that the 1631 TOV would not be visible in Europe. Newton was born in 1642, just after the pair of TOVs. No TOV occurred in his lifetime.

Contact : daytimeastronomy@gmail.com, 020-24471040, 022-25773215, 9822614682

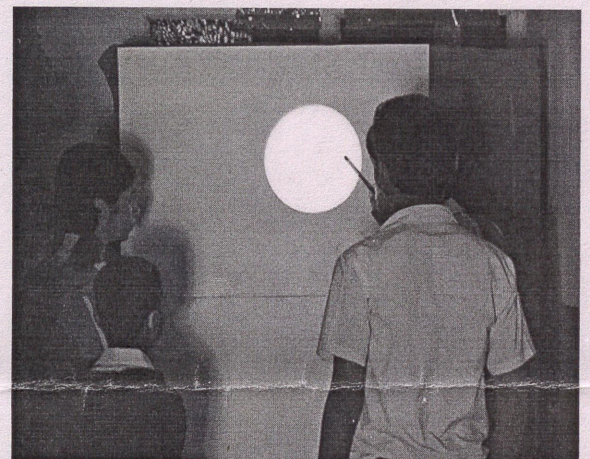
So the first person in history to have observed a TOV was Jeremiah Horrocks, who projected and observed the TOV on December 4th, 1639. Horrocks also tried to measure and calculate the distance of the Sun. But his result was incorrect. His experiment was right, his assumption was wrong. Over time, great minds applied themselves and the AU was measured.



The Great Opportunity of 6th June 2012!

Our children are fortunate to have born when TOV is occurring !

if you are ready you can yourself measure and calculate the Astronomical Unit at the time of the TOV. All you need to do is learn to project a clear image of the Sun as Venus transits it. This amazing feat can be achieved with simple equipment that can be made in every school by children. The equipment will not cost more than a few hundred rupees. What an opportunity to participate in a nation-wide Experiment, what an opportunity to learn and grow!!



DO THE EXPERIMENTS, RECORD THEM IN VIDEOS, PHOTOGRAPHS, WRITINGS, DRAWINGS

We will preserve your albums on our website and also in libraries of national science institutions. After 105 years, when people would study the TOV 2012, they will get your records!

BE A PART OF THE HISTORY OF SCIENCE!

What To Do for the 'Wow! to Why? and How?' Experience

Wow would be the experience!

Why would be the beginning of Exploration!

How would be the Learning!

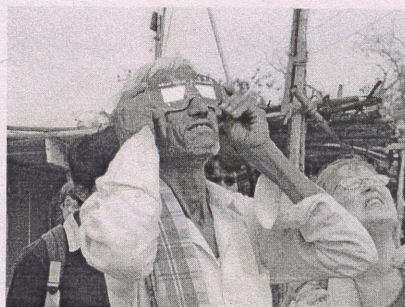
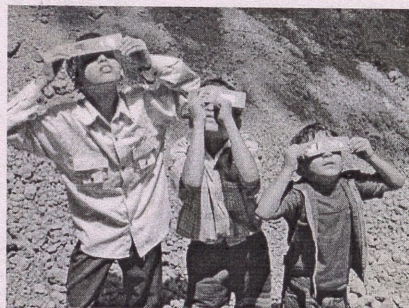
The resources are ready. Vigyan Prasar, Department of Science & Technology (GOI) has made a DVD Manual "Sooraj Zameen Par" with complete information on 17 Experiments. This DVD will be freely circulated and will also be downloadable. Navnirmiti has developed a website www.daytimeastronomy.com with all activities and guidance for Experiments for Daytime Astronomy. This has all information in English & Marathi.

Contact : daytimeastronomy@gmail.com, 020-24471040, 022-25773215, 9822614682

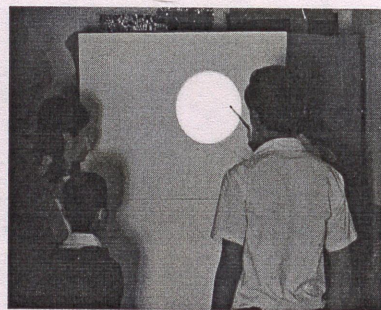
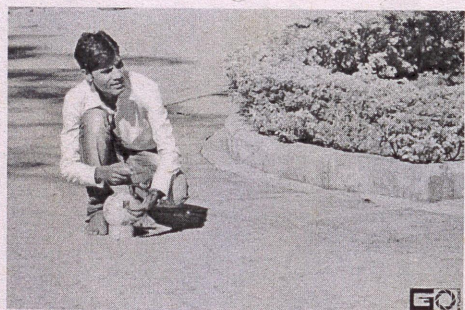
Safe Ways of Viewing TOV 2012

TOV 2012 will be visible in India on 6th June 2012 from sunrise to around 10.20 am. (If you are in eastern parts of India you will see it till 10.20 am and if you are in western parts you will see it till 10.23 am) As soon as the Sun rises you will see Venus as a dot on its surface. Sunrise is the only time when you can see it directly with your naked eye. Thereafter DO NOT look at the Sun Directly. Use the following safe viewing methods and enjoy the once-in-a-life-time event!

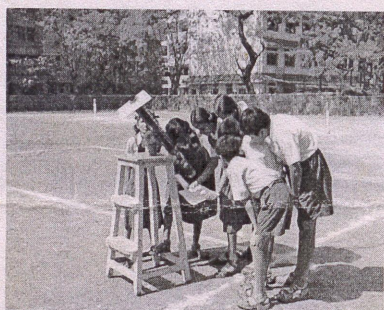
1) Use specially designed safe solar filters : (Available at Navnirmiti. You can write to daytimeastronomy@gmail.com)



2) Make your own ball mirror solar projector using a small plain mirror and a plastic ball to project Sun's image in a darkroom. (See experiments)



3) Project the Sun's image on a piece of paper with the help of a telescope.



3A) You can make your own telescope (lenses and telescope kit available at Navnirmiti)

3B) Use any other available telescope or binoculars to project the Sun.

4) Use ball mirror and Very Long Focal Length (VLFL) lens to Project the Sun (See experiments)

NEVER LOOK AT THE SUN DIRECTLY THROUGH ANY TELESCOPE.

Contact : daytimeastronomy@gmail.com, 020-24471040, 022-25773215, 9822614682