

SPACE celebrated summer solstice with students and public by measuring the Earth's circumference at India Gate



New Delhi, 21 June, 2014: SPACE the pioneer organization working towards the development of science and astronomy in India, today celebrated the day of summer solstice by measuring the circumference of the Earth with its associated students and public at India Gate under Project Paridhi. Mr CB Devgun, President, SPACE Foundation too performed the experiment at Jantar Mantar.

This project was initiated by SPACE 4 years ago **with the intention to increase awareness amongst Indians that science can be done without any complicated equipment.**

About 20 school students from participated in the activity, with an average result of 95% accuracy. 2 of our associated schools from Delhi & NCR were present, including Bal Bharati Public School - Rajendra Nagar, GD Goenka Public School – Ghaziabad.

Gaurav Madan from Bal Bharati Public School - Rajendra Nagar was our Student Scientist for the experiment and co-conducted the activity with SPACE.

This experiment, also known as the Eratosthenes Experiment, was first done by Greek Astronomer and Mathematician Eratosthenes around 240 BC, where he calculated the circumference of the Earth using knowledge of the angle of elevation of the sun at noon.

With the help of experts at SPACE the participants replicated this experiment wherein they used the shadows cast by the sun to calculate the circumference.

Through this experimentation project participants will learn how simple it is to deduce the circumference of the Earth while still being present at a given location. Simple backyard tools such as any upright object that casts a shadow and elegant concepts of geometry and trigonometry enable this calculation. Our team will help them understand the science behind the experiment and calculate the circumference with more than 90% accuracy.

Solstice is derived from the Latin words *sol* (the sun) and *sistere* (to stand still). The **summer solstice** occurs when the tilt of a planet's semi-axis, in the northern hemisphere, is most inclined toward the sun, and unofficially signals the start of summer in the Northern hemisphere.

All around the world, various cultures and countries celebrate the day in the form of various festivals, such as Midsummer or St John's Day in Christianity and Saint Jonas' Festival in Lithuania.

This project has also been accredited in a panel discussion on 'Astronomy along Highways and Public Places' held at Nehru Planetarium, Delhi in February 2013, by French Professors, Prof. Denis Savoie and Prof. Bonnet Bidaud.

Shreya Agarwal from Bal Bharati Public School said, "It was fun to measure the circumference of the Earth. The SPACE team helped us very much. I think everyone should do this once in their life."

About Project Paridhi

This project was initiated by SPACE 4 years ago **with the intention to increase awareness amongst Indians that science can be done without any complicated equipment.** Under this project the students find out the circumference of the Earth by taking measurements of the shadows made by the sun in a day, as done 2300 years back by astronomer Eratosthenes, who was able to measure it within 2% of the present accepted value. Project Paridhi can be done on any day of the year, but on days of equinox and solstices the sun is directly overhead on the equator or Tropics of Cancer/Capricorn hence making the calculation easier. This project also celebrates the days of solstice and equinox and helps participants understand seasons and motion of the earth. Gnomons (a Greek word for an object whose shadow serves as an indicator of time, especially of the hour of the day) of all sizes and shapes have been used in the past - including soft drink bottles and cricket wickets to huge gnomons such as Samrat and Ram Yantra at Jantar Mantar and sundial at Barapullah.

About SPACE

SPACE, the pioneer organization working towards the development of science and Astronomy in India, is an ISO 9001:2000 certified company which has been changing the face of Science and Astronomy awareness, education and innovation in India through path-breaking concepts, services and programmes. SPACE, has not only successfully implemented astronomy and space science curriculum in Indian education system but has also been able to provide International platforms to Indian students where they distinctively contribute in scientific discoveries at a very early age. SPACE, constantly strives to use scientific and astronomical programs to foster scientific temperament in society, especially among the youth who are the harbingers of India's future.

Our Flagship Projects

- Project Paridhi
- All India Asteroid Search Campaign- AIASC
- Sally Ride Earth KAM (Earth Knowledge Acquired by Middle school students)
- Project Dark Skies
- Kalpna Chawla Quiz Contest
- Internet Telescope
- Project Khoj
- Heliodysey
- Hydro Rocketry Design Competition

For more information please log on to:

SPACE Website: <http://space-india.com/project-paridhi-india-gate.html>

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