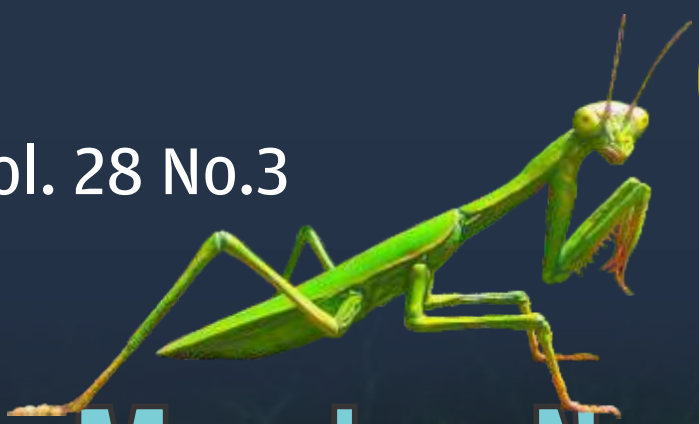
संस्कृति मंत्रालय
भारत सरकार
Ministry of Culture
Government of India
सत्यमेव जयते

नेहरु विज्ञान केन्द्र
राष्ट्रीय विज्ञान संग्रहालय परिषद् की इकाई
संस्कृति मंत्रालय, भारत सरकार
Nehru Science Centre
A Unit of National Council of Science Museums
Ministry of Culture, Government of India

बेटी बचाओ बेटी पढ़ाओ

Vol. 28 No.3



Member News

SCI-MAIL

July to September 2025

Designed & Developed by
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DIRECTOR'S DESK

Dear Science Enthusiastic,

Greetings from Nehru Science Centre, Mumbai!

We are delighted to share with you that our organisation i.e. National Council of Science Museums (NCSM) has completed 47 years of its glorious services to the nation for science popularisation, creating scientific temperament and enhancing public understanding of Science & Technology.

In order to enhance experience of our esteemed visitors including students, we opened an open Gym in children science park and a couple of new exhibits in the gallery. For enhancing outreach visitors, Nehru Science Centre, Mumbai set up one exhibition and also conducted summer workshops at Orion Mall in Panvel. Hundreds of visitors and young budding scientists were benefited by this exhibition on interactive science exhibits and specially design workshops on hands-on activities. The exhibition set-up with Get Set Learn "Dinosaurs Among Us" based on research by the American Museum of Natural History on the Evolution of Dinosaurs into Birds was also successfully organised and visited by thousands of visitors. Once again a very hectic and successful summer vacation workshops were observed by Nehru Science Centre. These workshops on latest topics namely AI, IoT, Robotics & Coding, Drones, Digital Dreamscapes along with immensely popular workshops in Astronomy, Aero-modelling, Model Rocketry, Physics, Chemistry, Maths, Biology, etc. were successfully organised. In all about 30 workshops were organised in which nearly 500 students participated and learnt about these trending topics of Science and Technology.

Nehru Science Centre (NSC) in collaboration with India STEM Foundation organised 2 days Teachers' Training Programme on Robotics for preparing teachers for World Robotic Olympiad-2025. Similarly, for school students, customised STEM based science demonstration lectures were organised on special request from the schools. NSC also collaborated with Sky Explorers for holding Cosmic Fest 2025, which was inaugurated jointly by Prof. Dipankar Banerjee, Director, Indian Institute of Space Science and Technology and Shri Gnana Gandhi, Former Scientist, ISRO. This festival had panel discussion and a special exhibition on International Space Station as well as other Space Stations with detailed information and 3D models. Another collaborative programme with Better by Design, Great Innovation Challenge was organised for the students to explore real-world challenges and develop their own innovative solutions. A total of 5 batches were organised on this Great Innovation Challenge.

We have also introduced customised workshop on request from schools of different boards and of different classes. This has got good response so far. If your school is also interested in any customised workshops on special theme / subject, you can approach us with your ideas and topics and we can conduct it to suit your requirements for the respective classes. Now schools are reopening, we are looking for your visit to NSC. Please plan your visit in advance to make most of benefits or use of your visit in the interest of students. Together, we can make Science Education more enjoyable, comprehensible and easy to learn. Sky observation, Sci-birthday and Science ke Fundays programmes for families are getting good response as these are always packed to the capacity.

Looking forwards to your visit soon to Nehru Science Centre, Mumbai. Plan, Participate and Experience Science.

Umesh Kumar Rustagi
Director, NSCM

CONTENT

EXHIBIT AT THE CENTRE

Fit Zone

A New Space for Fitness and Fun

On 17th May 2025, Nehru Science Centre, Mumbai, inaugurated its newly developed Enhanced Fit Zone in the Children's Science Park. This exciting new area is designed to promote both fitness and learning, allowing visitors to explore the Science of Exercise through hands-on experience.

Spread over 400 square meters, the Fit Zone features advanced EPDM rubber flooring. This special flooring is soft and safe, reducing the chance of injuries. It is also very strong, weather-resistant, and easy to clean, making it perfect for outdoor use. Its bright and colorful look adds charm to the space and creates a cheerful environment for all visitors.

The Fit Zone now includes 14 new outdoor fitness machines for different age groups and fitness levels. These include a Leg Press, Surf Board, Elliptical Cross Trainer, Rower, Multigym, Bony Rider, Air Walker, Abdominal Exerciser, Stand Twister, Seated Puller, Chest Press, Arm and Pedal Bike, Sit-Up Station, and Manual Treadmill. Each machine helps explain how our body works and how exercise affects our muscles, balance, and strength.

These additions enhance the park's existing attractions like the Slide, Swing as a Pendulum, Sympathetic Swing, and Interlinked Swing. Together, they offer a unique mix of play and science.

The Fit Zone is not just a place to exercise—it's a space where children, families, and school groups can learn about health, body movement, and the joy of staying fit in a fun and interactive way.

What's New?

UBIQMAP

A Breakthrough in Real-Time Indoor Mapping

Researchers at the Indian Institute of Technology (IIT) Madras have developed UbiqMap, an innovative real-time indoor mapping solution designed to operate effectively under any environmental or lighting conditions. Unlike conventional methods that often rely on fixed infrastructure or visual data, UbiqMap uses Radio Tomographic Imaging (RTI), making it particularly valuable during emergencies where traditional systems may fail.

Radio Tomographic Imaging works by analyzing variations in wireless signal strength between multiple transceivers. As signals pass through structures or encounter obstructions, their strength weakens. UbiqMap interprets this signal attenuation to accurately reconstruct the layout of indoor spaces. This allows for real-time generation of detailed indoor maps even in dark, smoky, or visually obscured environments—conditions often faced by first responders during disaster relief.

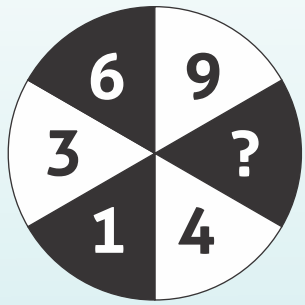
What sets UbiqMap apart is its ability to function with minimal infrastructure and its compatibility with SLAM (Simultaneous Localization and Mapping) technologies, which further enhance its mapping accuracy and adaptability.

The research was led by Dr. Ayon Chakraborty, Assistant Professor in the Department of Computer Science and Engineering at IIT Madras, along with students Amartya Basu and Kush Jajal. Their groundbreaking work has not only been published in the prestigious IEEE Transactions on Mobile Computing but is also the subject of a filed Indian patent.

UbiqMap holds immense promise for use in emergency response, security, and industrial automation, where robust, infrastructure-independent mapping is crucial. With its deployment, safer and smarter navigation in complex indoor settings is now closer to reality.

Math Puzzle

1. Which number correctly completes the sequence?



2. What comes next in the given sequence of numbers?

42 30 20 12 6 ?

Send your answers to librarian.nscm@gmail.com

CONGRATULATIONS!!

Congratulations to all the winners of our Word puzzle contest featured in Sci-Mail **Vol 28 No.2.** We received an overwhelming response from hundreds of brilliant students, and we are thrilled to announce the top three winners who impressed us by submitting the correct answers within the first week of publication.

- **Surya Chandrakant Galdhar, 9th Std.**
  P.W.S. School, Plot No.46, Sion East, Mumbai.
- **Yusuf Baig Azmat Baig, 4th Std.**
  Saint Paul Public School, Akot District, Akola Maharashtra.
- **Rasika Shamrao Bukkam, 7th Std.**
  Central Primary School, Sonurle, Tal-Shahuwadi, District - Kolhapur, Maharashtra.

Last date for Sending Answers : 31st July 2025
Best entry will be suitably awarded too.

Note : The contest is open to students up to std. X only

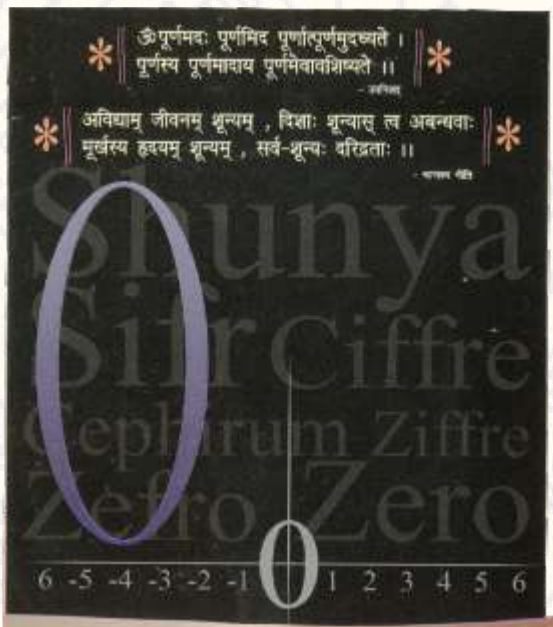
Our Science & Technology Heritage

The Mathematical Foundation of Ancient India

Ancient India had made remarkable contributions to the world of mathematics, with the invention of zero being one of its most groundbreaking achievements. This seemingly simple symbol had become the cornerstone of modern mathematics and digital electronics, where the binary system of 0s and 1s forms the basis of computing technology. This revolution has transformed society worldwide, connecting people and ideas like never before.

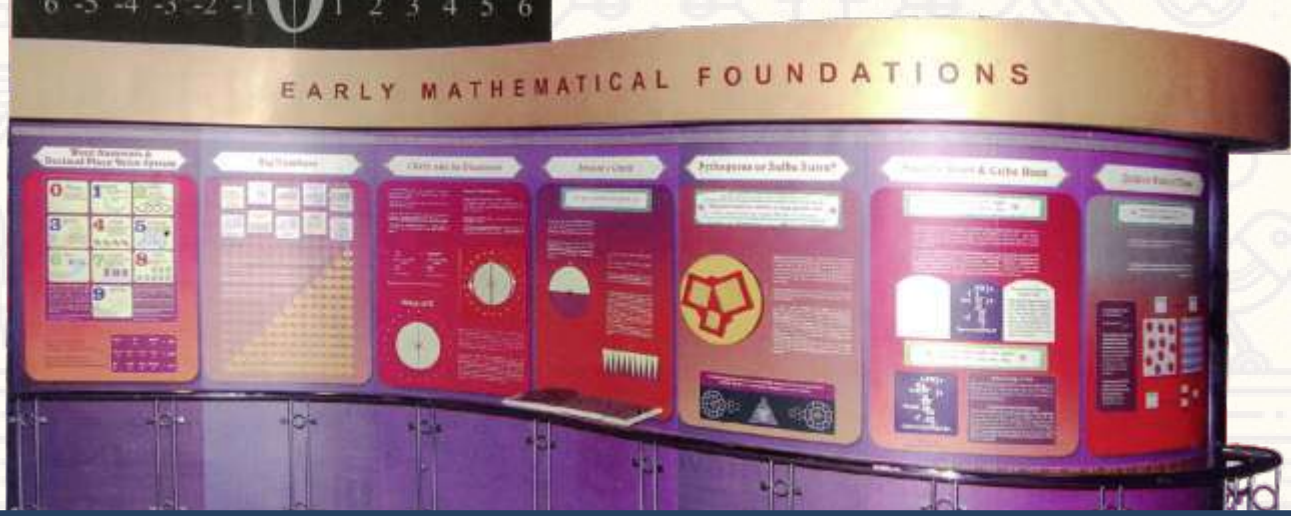
Indian mathematicians also developed a highly advanced decimal system using a place-value notation, which laid the foundation for modern arithmetic. Unlike earlier systems that lacked a positional value, the Indian method was both efficient and versatile, enabling complex calculations with ease.

In addition to zero and the decimal system, Indian scholars made significant advances in geometry and trigonometry. Long before the West recognized it, Indian texts had already described the relationship between the sides of a right-angled triangle-what is now widely known as the Pythagoras Theorem. Ancient Indian mathematicians also made early calculations of the value of (pi) and devised formulas for the area of a circle, demonstrating an impressive understanding of mathematical concepts.



These pioneering contributions not only influenced the Indian subcontinent but also spread through trade and scholarly exchanges to other parts of the world, enriching global mathematical knowledge.

To delve deeper into this fascinating journey of intellectual brilliance, we invite you to visit the 'Our Technology Heritage Gallery' at our Science Centre, where the rich mathematical legacy of ancient India is showcased through engaging exhibits and historical insights. We are sure it will make you feel proud on your Mathematical legacy and foundation.



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INDIAN SCIENTIST

Dr. Sekhar Basu

A Visionary of India's Nuclear Advancement

Dr. Sekhar Basu, a distinguished nuclear scientist and former Chairman of the Atomic Energy Commission, was born on 20 September 1952 in Kolkata. An alumnus of Ballygunge Government School and VJTI Mumbai, he began his career after training at the BARC Training School in Nuclear Science and Engineering.

Dr. Basu played a transformative role in India's nuclear journey. As Director of BARC (2012–2015) and later as Secretary of the Department of Atomic Energy (2015–2018), he led numerous critical projects. He was the architect behind India's first nuclear-powered submarine, INS Arihant, and spearheaded the development of the prototype reactor at Kalpakkam. His leadership in establishing nuclear recycling plants at Tarapur and Kalpakkam marked significant strides in nuclear sustainability.

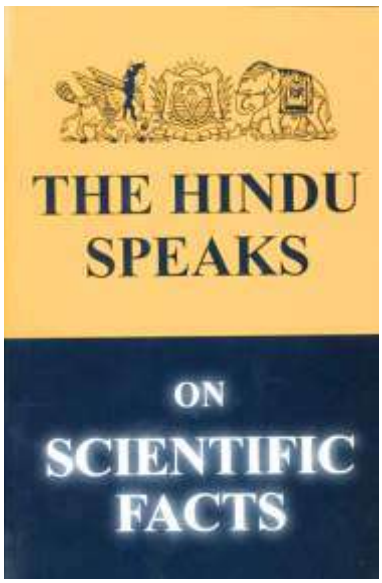
A proponent of global scientific collaboration, he advanced India's involvement in projects like CERN, LIGO-India, and ITER. He also contributed to uranium exploration, medical isotope production, and mega-science missions.

Honored with the Padma Shri in 2014, Dr. Basu is remembered as a brilliant technologist and leader who unified multidisciplinary teams for national progress. He passed away on 24 September 2020 in Kolkata due to COVID-19 and kidney complications, leaving behind a lasting legacy in India's atomic energy program.

During the inauguration of the Heads of Science Centres/Museums in December 2017, Dr. Sekhar Basu shared that his visit to BITM, NCSM had played a pivotal role in inspiring his journey towards becoming a scientist. We are honoured by his words and proudly share this moment with our valued readers.

BOOK WORTH READING IN NSC LIBRARY

The Hindu Speaks on Scientific Facts



The Hindu Speaks on Scientific Facts is a captivating and insightful collection of scientific articles originally published in The Hindu, one of India's most trusted newspapers. This book has been thoughtfully curated to inform, educate, and spark curiosity in readers of all ages - especially students and those with a general interest in science.

This book stands out for its clear, accessible language that welcomes readers of all backgrounds. Each article is concise, self-contained, and straightforward, making it ideal for anyone curious about science without diving too deep. Covering a wide range of subjects-physics, chemistry, biology, health, space, and climate change-the content is presented in a relatable way, linking scientific ideas to everyday experiences.

Designed especially for learners, educators, and curious minds, the book helps readers develop a scientific attitude and critical thinking skills. It doesn't require any technical background - just an eagerness to learn.

In a time when scientific understanding is more important than ever, the Hindu Speaks on Scientific Facts serves as a bridge between science and society. It's not just a book, but a valuable companion for students and curious readers alike. A highly recommended read for every inquisitive scientific mind!

CREATIVITY

SPIRAL SPINNER

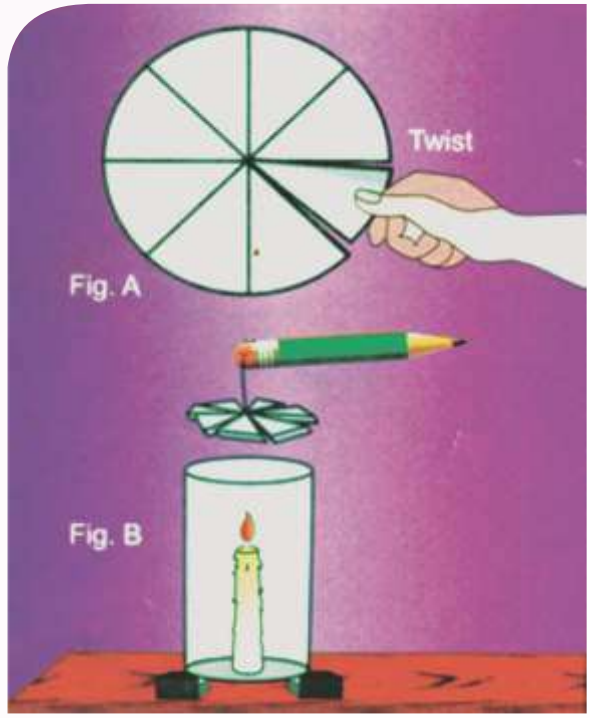
Explore how hot air rises and creates motion!

You will need

Candle, Thin aluminum foil, empty talcum powder tin (acts as a chimney), Pin or needle. Pencil with eraser, Scissors, Wooden block (optional for support)

Step 1. Make the Spinner

- Cut a circle from aluminum foil (use a bottle cap as a guide).
- From the edge, cut 6-8 spiral arms towards the center- don't cut all the way.
- Gently twist the arms upward like fan blades, as shown in Fig. A.
- Pierce the center with a pin and make the hole loose enough to spin freely.



Step 2. Set it up

- Insert the pin into a pencil eraser or block vertically.
- Place the talcum tin over the candle like a chimney.
- Hold the spinner about 2.5 cm above the tin chimney (or balance it on a support), as shown in Fig. B
- Light the candle and observe!

What happens?

Hot air rises through the tin chimney, pushing the angled foil blades. The spinner starts rotating faster as the air gets hotter!

Science behind it

Convection causes hot air to rise. This moving air transfers thermal energy and creates mechanical motion.

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Tree Treasure

LANTANA
Scientific name: Lantana camara,
Family: Verbenaceae

The vibrant and often misunderstood Lantana camara is a genus of around 150 species of perennial flowering plants, though the common garden variety is Lantana camara. Known for its striking clusters of small, brightly colored flowers that change hue as they mature, lantana is a popular choice for gardeners seeking a low-maintenance, drought-tolerant, and butterfly-attracting plant. Its blossoms, typically appearing in shades of red, orange, yellow, and pink, create a spectacular display, especially in warm climates.

Beyond its ornamental appeal, lantana possesses remarkable resilience. It thrives in full sun and well-drained soil, making it ideal for xeriscaping and coastal gardens. Its ability to withstand harsh conditions and deter deer adds to its allure for many landscapers. Furthermore, the nectar-rich flowers are a magnet for pollinators, playing a vital role in supporting local ecosystems.

Interestingly, Lantana camara also holds a place in traditional medicine across various cultures. Studies have explored its potential for a range of therapeutic uses. The leaves and roots have been traditionally employed for their anti-inflammatory, antimicrobial, and wound-healing properties. Extracts have shown activity against various ailments, including fevers, colds, coughs, headaches, skin infections, and digestive problems. Some traditional practices even use it for more serious conditions like rheumatism, malaria, and certain types of ulcers. Research indicates that lantana possesses antioxidant, anti-fungal, anti-diabetic, analgesic, and even anti-cancer properties. The plant's diverse chemical constituents, including terpenes and flavonoids, are believed to contribute to these medicinal effects.

However, lantana isn't without its controversies. In many tropical and subtropical regions, it has become an invasive species, outcompeting native vegetation and disrupting natural habitats. Its rapid growth and prolific seed production allow it to spread aggressively, posing a significant threat to biodiversity. Moreover, all parts of the lantana plant are toxic if ingested, particularly to livestock and pets, which necessitates careful placement in gardens and cautious handling in medicinal applications.

Despite these challenges, when managed responsibly, lantana can be a valuable addition to a garden, offering both aesthetic beauty and potential medicinal benefits. Its hardiness is undeniable, but an understanding of its potential for invasiveness and toxicity is crucial for responsible cultivation and safe traditional use.

How Things Work

How S- 400 defence system works?

The S-400 Triumf is one of the world's most advanced long-range air defence systems, designed to detect, track, and destroy a variety of aerial threats including fighter jets, cruise missiles, ballistic missiles, and drones. Developed by Russia and inducted by India to strengthen its defence capability, especially along the Pakistan and China borders, the S-400 operates through a multi-step process.

It begins with long-range surveillance radars that scan the skies for threats up to 600 km away. Once a potential target is detected, fire-control radars lock onto it and guide missiles with precision. The system can track up to 300 targets and engage 36 of them simultaneously, using a mix of four missile types with varying ranges- from 40 km to 400 km-depending on the nature and distance of the threat. These missiles are launched vertically from mobile trucks, allowing rapid deployment and relocation. The missiles are guided mid-flight using radar and onboard systems, ensuring a direct hit or a proximity blast.

The S-400 is also effective against stealth aircraft due to its powerful radar systems and multi-layered defence approach. In the event of a conflict with neighbouring Country, the S-400 would play a crucial role by intercepting hostile aircraft or missiles before they enter Indian airspace, acting as a strong deterrent and protective shield. Its combination of speed, accuracy, and adaptability makes it a game-changer in modern warfare. By integrating this cutting-edge technology, India has significantly enhanced its ability to defend key cities, military bases, and infrastructure from aerial attacks, showcasing how science and engineering work together to protect the nation from above.

DID YOU KNOW?

Chemistry of Garbage Smell

Wet weather often brings a stronger, unpleasant smell from garbage bins. The rainy season's moisture and humidity create the perfect conditions for faster rotting. Bacteria thrive in this environment, speeding up the breakdown of food waste, peels, and leftovers.

When garbage decomposes without oxygen - known as anaerobic decomposition - it releases smelly gases. The worst offenders are sulfur compounds like hydrogen sulfide (rotten egg smell) and dimethyl sulfide. There are also nitrogen compounds like ammonia and amines (such as putrescine and cadaverine), which smell like rotting flesh. Carboxylic acids and aldehydes add to the sour and sharp odors.

On rainy days, the damp air traps these gases, making the stink more noticeable around garbage bins. Even small amounts of these gases can smell very strong to our noses.

In short, garbage smells bad because of chemical reactions during decomposition - especially in wet, humid weather like the rainy season.

The Chemistry of Barbecue

Barbecuing is a tasty way to cook meat over a flame or hot coals. It gives the meat a special smoky flavor and aroma that many people love. This happens because of some interesting chemistry.

When meat is cooked at high heat, a process called the Maillard reaction takes place. This reaction happens between proteins and sugars in the meat, creating rich, savory flavors and a brown color.

Also, when fat from the meat drips onto the hot coals, it burns and makes smoke. This smoke contains chemicals like Guaiacol and Syringol, which stick to the meat and give it that smoky aroma.

However, too much charring or blackening of meat can create harmful chemicals called PAHs (Polycyclic Aromatic Hydrocarbon), which may increase health risks.

In short, barbecuing brings out great flavors through heat and smoke, but it's best enjoyed in moderation to stay healthy.

IN THE LAST QUARTER... APRIL 2025

NCSM Foundation Day Celebrations – April 4, 2025

- Online Quiz on History of NCSM: 136 participants showcased their knowledge of NCSM's rich legacy.
- Open House Session: 635 visitors, including students and the public, explored the inspiring journey of NCSM through exhibits and discussions.
- Science Demonstration – Science Around Us: 528 students participated in hands-on experiments that brought science alive.
- Film Screening: A science-themed film entertained and educated 528 student viewers.
- Water Rocket Demonstration: 528 students experienced the thrill of aerospace science through a live water rocket show.
- Online Painting Contest – My Favorite Science Centre: 23 students expressed their creativity, celebrating science centres through art.

STEM Teachers' Training for WRO 2025 Held at NSC Mumbai

A STEM Teachers' Training Programme was held on April 10, 2025, at Nehru Science Centre, Mumbai, in collaboration with the India STEM Foundation as part of the World Robot Olympiad 2025 preparations. 36 school teachers participated, gaining hands-on training in Arduino-based robotics and insights into the WRO framework.

Innovation Hub & SDL Inspire Young Minds at NSC Mumbai

The April–June 2025 batch of Innovation Hub sessions began on April 11 with 13 students. Three engaging sessions were held focusing on innovation, design thinking, and biomimicry.

On April 15, a Science Demonstration Lecture on "Properties of Sound" was conducted in collaboration with STEM Academy. A total of 144 students from three schools attended the interactive session, enhancing their understanding of sound through hands-on experiments.

Experimental Skill Test

An Experimental Skill Test was conducted on April 27, 2025, in collaboration with the Bombay Association for Science Teachers (TIFR). Nine students participated, performing experiments in Chemistry, Biology, or Physics. Expert evaluators provided feedback, and students scoring above 70% were awarded Certificates of Qualification.

Swachhata Pakhwada Promotes Cleanliness at NSC Mumbai

Nehru Science Centre, Mumbai observed Swachhata Pakhwada from April 16–30, 2025, with daily open house quizzes engaging 1,742 visitors. Winners were awarded to encourage awareness. A short film on Swachhata Hi Seva was screened daily, and an online quiz saw participation from 68 individuals nationwide. The campaign effectively spread the message of cleanliness and civic duty.

Vacation Creative Science Workshops

On 19 April, the Drone Unleashed workshop let 16 Grade 7–12 students learn, build and safely fly drones. The next day, Science Ke Funday welcomed eight families (32 participants) for exhibits, hands-on experiments and a dazzling Liquid Nitrogen Show. From 21–23 April, the three-day Science Sparkle camp guided Class 3–5 children through 18 creative activities exploring balance, magnetism and gravity.

Customised Workshop on Sound Engages NEXT School Students

On April 25, 2025, Nehru Science Centre, Mumbai conducted an interactive workshop on "Sound" for 51 students and 6 teachers from NEXT School, Mulund. Through engaging demos and hands-on activities, the session made learning about sound both fun and memorable.

World Earth Day 2025 Celebration

On April 22, 2025, Nehru Science Centre, Mumbai celebrated the 55th World Earth Day with a full day of educational and fun activities. Organised in collaboration with the Get Set Learn team, the event was officially registered on earthday.org and featured a range of interactive sessions promoting environmental awareness and action.

Cosmic Fest 2025: A Stellar Celebration of Astronomy, Inclusion, and Innovation

On April 25, 2025, NSC Mumbai, in collaboration with The Sky Explorers, celebrated International Astronomy Day with Cosmic Fest 2025. Over 28 schools and 8 colleges participated in activities like Space Station Making and an Art Competition, including students with special abilities.

A heartwarming moment was the victory of Victoria Memorial School for the Blind, which won 1st prize in the school category. A highlight of the event was a thought-provoking panel discussion featuring top space scientists and industry leaders, exploring the future of space exploration.

The day also featured the unveiling of "The Space Station Gallery," the launch of Mars: The Celestial Showstopper by Gourav Banerjee, and the introduction of the Teachers Awards for Excellence in Maths & Science. The event powerfully combined science, creativity, and inclusion.

Mobile Science Exhibition

In April 2025, the Mobile Science Exhibition (MSE) completed impactful outreach in Palghar and Nashik districts. The Health & Hygiene-themed bus in Palghar covered 12 sites in 25 days, engaging communities on sanitation and nutrition. Meanwhile, the science curriculum-based bus in Nashik visited 13 sites in 26 days, offering hands-on learning to rural students and teachers.

IN THE LAST QUARTER... MAY 2025

Vacation Creative Science Workshop (VCSW) 2025

Nehru Science Centre, Mumbai, conducted its annual Vacation Creative Science Workshop (VCSW) 2025 in May, hosting over 20 unique workshops and hands-on sessions that drew enthusiastic participation from children and families.

Highlights include

- **Model Rocketry & Astronomy Workshops** taught students the science behind space and flight, blending creativity with engineering.
- **Physics Frenzy, Chemistry, Mathematics**, and Electronics Workshops deepened conceptual understanding through fun, practical experiments.
- **AI, Robotics, Coding & Arduino Workshops** provided immersive STEM experiences, with students building real-world tech projects.
- **Art & Craft, Clay Modelling, and Puppet Making Workshops** sparked creativity using eco-friendly and everyday materials.
- **Drone Flying & Biotechnology Workshops** offered futuristic insights into emerging technologies and life sciences.
- **Family Day – Science Ke Funday** saw active participation from 9 families, ending with a crowd-pleasing Liquid Nitrogen Show.
- **Digital Dreamscape** introduced students to AI tools and e-book creation.

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National Technology Day Celebration (May 11, 2025)

The Nehru Science Centre, Mumbai, celebrated National Technology Day on May 11, 2025, with a series of exciting events that highlighted India's scientific progress. An online quiz on "India's Role in Science and Technology" saw 415 participants, while the DIY Tech Challenge at the Centre attracted 315 hands-on learners. Open House Quizzes across the museum engaged 212 visitors, making learning a fun and dynamic experience. A special online workshop, "Tech for All", introduced 80 participants to AI tools like ChatGPT, Canva, and Gamma AI, empowering educators, students, and professionals to explore the digital future.

International Museum Day – 18th May 2025

The Nehru Science Centre, Mumbai, celebrated International Museum Day on May 18, 2025, with interactive activities that promoted sustainability and museum appreciation. An online quiz on sustainability saw 273 participants, while 234 guests engaged in an Open House Quiz on Indian museums. A special exhibition, My Own Collection,

showcased unique personal treasures including stamps, coins, minerals, and antiques. The "Museums from My Lens" video contest inspired creative storytelling.

Popular online lecture on The Future of Museums featured a live session with paleontologist Dr. Harsha Dhiman, attracting 60 participants and offering an immersive experience through quizzes and live-streamed exhibitions.

Science Festival at Orion Mall (May 9 to May 25, 2025)

From May 9 to 25, 2025, Nehru Science Centre, Mumbai, in collaboration with Experiential Art and Marketing, hosted an engaging Science Festival at Orion Mall, Panvel. Featuring 10 interactive exhibits, daily hands-on workshops, and thrilling Liquid Nitrogen shows, the event attracted 1,200 visitors. With 243 participants in workshops like Science Sparkle and Fun Chemistry, the festival offered fun-filled learning for all ages, receiving enthusiastic appreciation from the Panvel community.

Great Innovation Challenge – May 2025

Held in May 2025, the Great Innovation Challenge engaged 98 students across three batches in a hands-on program focused on electronics, innovation, and real-world problem-solving. Through daily challenges and teamwork, participants designed creative models, boosting their technical and critical thinking skills in an inspiring and fun environment.

Science Birthday – 29th May 2025

On 29th May 2025, Nehru Science Centre hosted a Science Birthday for 30 guests, featuring thrilling 3D shows, Science on a Sphere, high voltage demos, hands-on experiments, and a liquid nitrogen show, making it a fun-filled, educational celebration.

Innovation Hub Sessions – May 2025

In May 2025, five Innovation Hub sessions were held for 13 Integrated Science Course students, covering 3D printing, experimental skills, electromagnetism, motor making, and biology, offering immersive experiences to boost practical knowledge and ignite scientific curiosity.

IN THE LAST QUARTER... JUNE 2025

VCSW 2025: Science Sparkle Workshop Ignites Young Minds:

Held from June 2–4, the three-day workshop engaged 16 students (Class 3–5) in 18 hands-on activities exploring concepts like balance, magnetism, gravity, and sound. Fun experiments and creative projects sparked curiosity and made science exciting and accessible.

World Environment Day 2025 Celebration

• Theme: 'Beat Plastic Pollution' highlighted through engaging eco-activities.

• A nature walk with 55 participants explored the biodiversity of the Centre's green campus.

• Inauguration of a vibrant Butterfly Garden by expert Shri Rajendra Ovalekar; over 120 attendees.

• Upcycling workshops turned waste into planters, seed balls & compost.

• Striking butterfly mural made from recycled bottle caps unveiled.

• Eco-philately exhibit and butterfly crafts drew visitor interest.

• 'Chalte Chalte Awareness' puppet show by Rinti Sengupta taught 3Rs through storytelling (135 attendees).

• 'Rethink & Upcycle Plastic' contest showcased student innovations; 19 participants awarded.

• 20 participants joined the eco bird nest-making workshop led by 'Nest Man of India' Rakesh Khatri.

• Pottery & fossil-making workshop connected art, nature, and history.

• 293 participants engaged in an online quiz on plastic pollution awareness.

• Day concluded with a strong message of sustainability and collective responsibility.

International Yoga Day - 21st June 2025

• **Hybrid Yoga Session** held in collaboration with The Art of Living Foundation; joined by officers, staff, students & satellite units.

• **Online Yoga Quiz** received enthusiastic participation with 287 entries from across regions.

• **Open House Quiz** at the Centre engaged around 345 visitors, promoting awareness about yoga and its benefits Innovation hub integrated science course

• **Session 1 (14.06.2025)** – Exploring Plant Anatomy

Participants explored roots and flowers through

presentations and hands-on microscopy.

Slides of hibiscus ovaries, monocot/dicot roots, and onion peel were prepared and observed.

• **Session 2 (21.06.2025)** – Experimental Skills in Heat Conduction

Dr. P. K. Joshi conducted a special hands-on session on heat conduction experiments.

8 participants explored scientific concepts and performed guided experiments.

• **Session 3 (28.06.2025)** – Basics of Microbiology

Students learned about microorganisms, lab safety, and staining techniques.

Hands-on slide prep using curd/buttermilk, observed under 10× & 100× magnification.

Gram staining, plate, and slant culture methods were demonstrated; the session ended with a test and innovation

IN THE LAST QUARTER... JUNE 2025

AI in Science Communication & Felicitation of Dr. Prabhat Ranjan – June 4, 2025

• Panel discussion on "Role of AI in Science Communication" held at Nehru Science Centre in collaboration with National Centre for Science Communicators.

• 42 participants explored how AI is reshaping science communication and public engagement.

• Dr. Prabhat Ranjan felicitated for his contributions to science, technology, and innovation.

• Dr. Ranjan emphasized the role of AI in making science more accessible and impactful.

• The event concluded with an interactive Q&A and networking session.

Teachers' Training Programme at NSC Mumbai – June 20–22, 2025

• Three-day training conducted in collaboration with BASE to enhance experimental teaching skills.

• 23 teachers participated in sessions focused on hands-on, low-cost science experiments aligned with NEP.

• Day 1 & 2: BASE experts led training on physics, chemistry, biology experiments using simple materials.

• Day 3: NSC team conducted gallery tour, live demos & hands-on workshop; kits distributed for classroom use.

• Special sessions included "Science without Props" by Shri Umesh Kumar Rustagi and "Astronomy at School" by Dr. Anindita Mondal.

• Participants praised the programme's practical approach and classroom relevance.

World Asteroid Day Celebration at NSC Mumbai – June 29–30, 2025

• Celebrations held on June 29–30 with exciting space science events.

• "Abhimanyu" from Abhimanyu Ki Alien Family delighted kids with a meet-and-greet on June 29.

• 63 participants enjoyed hands-on space activities and a special Science on a Sphere show on asteroids & exoplanets.

• On June 30, a seminar with national & international experts and a meteorite exhibition held in collaboration with Akash Ganga Centre & AAA Bombay.

• Event aimed to raise awareness on asteroids and space exploration; 25 participants attended the seminar.

Upcoming Programmes

- **World Population Day**
  11.07.2025
- **Moon Landing Day**
  20.07.2025
- **National Sports Day**
  29.08.2025
- **Teacher's Day**
  05.09.2025
- **Engineers Day**
  15.09.2025
- **World Ozone Day**
  16.09.2025
- **International Day of Scientific Culture**
  28.09.2025

NSC - A Wonderland of Science

Science Park: Full of interactive exhibits on principles of energy, mechanics, perception & relics from the past: railway engines, tram cars, aircraft, electric power generator in park spread over 8 acres in green environment with over 200 species of plants and picnic area for school groups.

Permanent Exhibitions: The main building houses galleries full of exciting, interactive & interesting exhibits on topic relevant to school curriculum and for general public to make them appreciate Science with fun.

• Reception • Science for Children • Sound & Hearing • Mirror Gallery • Machined to Think • Evolution • Human and Machine • Our Technology Heritage • Prehistoric Life • Hall of Nuclear Power • Hall of Aviation & Space

Regular Programmes / Activities

SCIENCE ODYSSEY

The Science Odyssey facility with 18m dia Spherical Dome & fish eye lens projection system set up at the Centre, is the first of its kind in this region. It provides an opportunity to learn science in an immersive ambience. special shows can be arranged on request.

Now Showing "Australia's Great Wild North" Check our website for updates: https://nehrusciencecentre.gov.in/

High Voltage Demonstration

Nehru Science Centre, Mumbai has set up the first of its kind High Voltage Demonstration facility titled 'Sparkling High Voltage Demonstration' which is now opened for the visitors.

This new facility offers some impressive demonstrations with a 200kV AC transformer, spectacular display of sparks & sounds with a Large TESLA Coil producing up to 1.50 million-volts and many more supporting equipments like Lichtenberg Tree Formation set-up, Jacob's Ladder, Arcing Horns, etc. wherein visitors can see disruptive discharges through air, sliding discharges over a glass plate, the demonstration with Faraday's cage, artificially generated lightning, etc.

Science on a Sphere

The state-of-the-art educational visualisation tool patented by the National Oceanic and Atmospheric Administration (NOAA), USA, is the first of its own kind in the western part of India. The Science On a Sphere provides real time atmospheric and climatic data that is projected on the 1.8 metre Spherical globe. The giant animated sphere appears to be floating in mid-air, and even rotating on its axis. You can see oceans & continents in their actual colours (just as our planet appears from outer space), Tropical rain forests, Currents of the oceans in motion, Moon, Jupiter and Mars. This amazing, cutting-edge technology, the SOS, was invented by NOAA to educate the audience on earth and space systems in a

3D Science Show

The visitors to the 3D Science Show will experience an out of the world immersive experience in which the near realistic visuals will appear to come out from the static screen right in front of their eyes. The shows would be conducted every hour at the Centre for the general public & school groups.

Science Show (Live Demonstration)

Exciting science demonstrations on Air, Sound, Chemistry is Fun and Fun with Physics etc. are organized regularly at the Centre thrice a day.

Sky Observation Programme

Every Saturday & Sunday after Sunset (Weather permitting)

Entry fee per visitor to Science Centre & its special facilities.

You can book online
Entry Ticket to
Nehru Science Centre
https://nscm.in/general-ticket/

Follow the Steps:

1. Book your ticket
2. Go to Cart and confirm it is of correct type
3. Go to Checkout and pay using Net Banking, Credit Card, Debit Card or UPI app

Book Online

Particulars	Amount
Entry Ticket to Science Centre Only	
• General Visitors	Rs.70/-
• Group of Visitors (15 or more)	Rs.60/-
• Students in organised group with authority letter	Rs. 20/-
• Students from Govt./Municipal Schools with authority letter	Rs. 10/-
• BPL card holders on producing the card	Rs. 5/-
Entry Ticket ONLY to Science Park - General Visitors	Rs.20/-
Special shows - Science Odyssey	
• General visitors	Rs.80/-
• Group of Visitors (15 or more)	Rs.70/-
• Students in organised group with authority letter	Rs.50/-
• Students from Govt./Municipal Schools with authority	Rs.25/-
Motion Simulator Ride	
• General visitors	Rs.50/-
• Group of Visitors (15 or more)	Rs.40/-
3D Science Show / Science on Sphere	
• General visitors	Rs.30/-
• Group of Visitors (15 or more)	Rs.25/-
• Students in organised group with authority letter	Rs.20/-
• Students from Govt./Municipal Schools with authority letter	Rs.10/-
Science Film Show / Science Demonstration Lecture (on prior booking)	Rs.10/-
Package ticket for Science Centre & Science Odyssey	
• General visitors	Rs.130/-
• Group of Visitors (15 or more)	Rs.110/-
• Students in organised group with authority letter (Non-Member Schools)	Rs.60/-
• Students in organised group with authority letter (Member Schools)	Rs.50/-
• Students from Govt./Municipal Schools with authority letter	Rs.25/-
Special Packages	
• Science Centre, 3D show & SOS show for General visitors	Rs.100/-
(Science Centre, Science Odyssey, Sparkling High Voltage, 3D show & SOS show)	
• Students in organised group with authority letter (Non-Member Schools)	Rs.90/-
• Students in organised group with authority letter (Member Schools)	Rs.75/-
• Students from Govt./Municipal Schools with authority letter	Rs.40/-
Family Packages	
Science Centre, Science Odyssey, Sparkling High Voltage, 3D show, SOS show & Motion Simulator Ride.	
• Family of 4 members	Rs.600/-
• Family of 6 members	Rs.900/-
(Buy Family Ticket to Save & have lot of FUN)	
Parking Charges	
2 Wheeler	Rs.30/-
4 Wheeler	Rs.50/-

Timing

Nehru Science Centre is open to public every day including Sundays and public holidays throughout the year

Opening hours:
09.30 AM to 06.00 PM

Ticket Counter Timing:
09.30 AM to 05.30 PM

Closed on Holi & Diwali.

Free Entry only to Science Centre :
Children up to 3.4 feet (102 cm) of height
Defense & Paramilitary forces in uniform
Physically challenged persons and ICOM members
For other facilities visitors have to pay specified fee as per the category.

"Climbing to the top demands strength, whether it is to the top of Mount Everest or to the top of your career."

- Dr A P J Kalam

Designed & Developed by

NEHRU SCIENCE CENTRE

A Unit of National Council of Science Museums, Ministry of Culture, Govt. of India

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