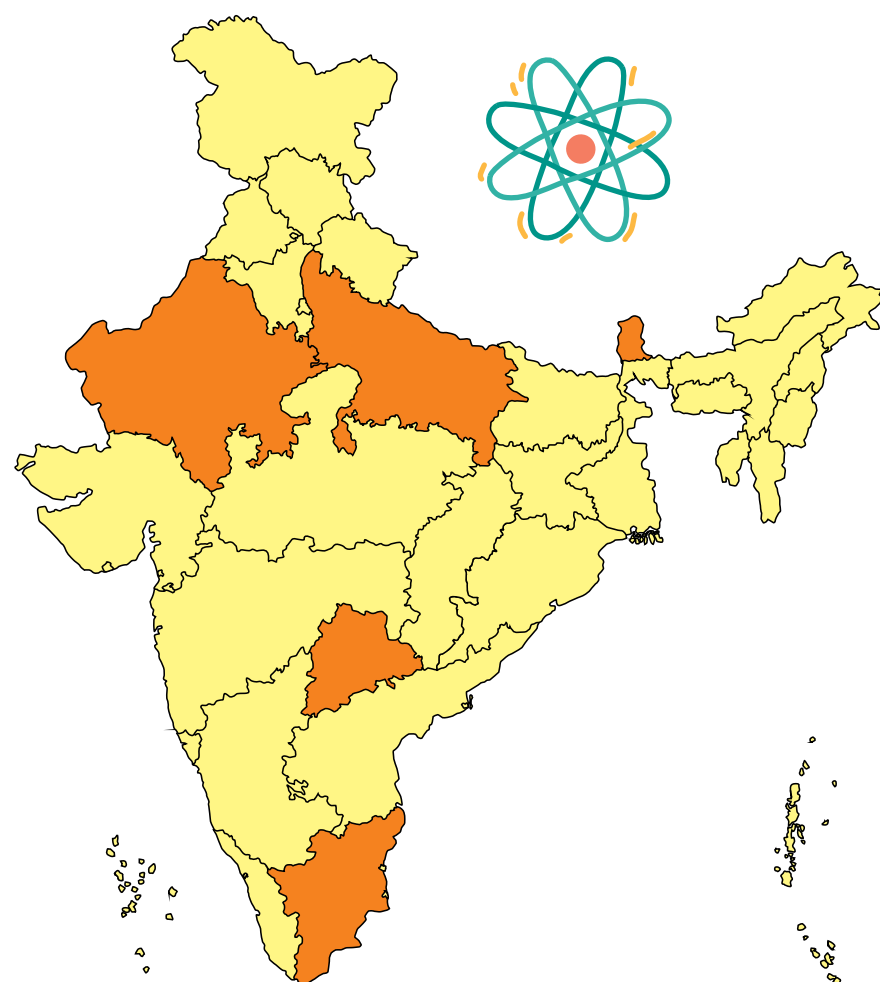


RAJASTHAN

Kavish Sharma
Diya Agarwal
Kanishka Jodha
Raghav Tiwari
Chanchal
Shuchi Jain
Karvika Lodha
Trisha Singh
Ujjwal Pratap Singh
Khushi Kumawat
Meghana Garg
Nikita Joshi
Himani Saini
Ishika Begad
Laxmi Ranjan
Irphan
Dherya Vyas
Payal Sharma
Raj Shrivastav
Chaitanya Yogesh Gavali
Kabeer Mittal
Prachi Chatur
Tosif Ali
Prashsti Arora
Lakshit Prajapati
Siddharth Tiwari
Adarsh Patidar
Shraddha Rathi
Silindra
Parth Joshi

TAMIL NADU

G.Poorvika
F.Krishton aro
Amal Manayar
Bhawin sundar G.M
A.I.Thanushiya
Srihari nagaraj.M
P.Paul sam cornelius
M.S.Athira
V.Chezhiyan
P.Sanjaysrinivas
N.Sabarivasan
D.Haswathy narendravaraman
S.R.kavinhirushika
R.K.Prahan
B.Dhivyadharshini
M.Mohamed khalith
S.Anusha
P.Vishunuvatharan
P.Rithish
E.Raj
R.Gowtham
R.Harini
S.Pavishka
D.Prakalya
S.Chandru
I.Durgalakshmi
R.Mahalakshmi
D.Sudharsan
G.Naresh
V.Monohar



TELANGANA

G. Bhagya Mounika
D Akshaya
M. Manvitha
T Sri Sai
Afshiyar Sulthana
Ishika Singh
K. Shiva Nandini
Md. Ameer
B Vamshi
J Naqendar
N Kishan Adarsh
K Sankeerthana
D. Mahitili

TRIPURA

Manik Das
Abhinaba Banik
Anurag Saha
Dipjoy Das
Deepa Sarkar
Anamika Roy
Rajan Chakma
Sneha Nath
Samadrita Bhattacharjee
Keya Barman

UTTAR PRADESH (EAST)

Anchal Vishwakarma
Aniket Kushwaha
Aryan Tripathi
Swapnil Yadav
Sakshi Rai
Arsalan Wahid
Mahek Singh Chauhan
Arun Kumar
Vaishnavi Gupta
Nilakshi Maurya
Shubham Singh

CHILD SCIENTISTS FOR 30TH NCSC

Anamika Kumari
Tarun Gupta
Sahil Raikwar
Pranshu Jha
Sneha Devi
Sanjana Devi
Saurabh Raja
Shivam Jaiswal
Shreya Rastogi
Parmeshwar

UTTAR PRADESH (WEST)

Aarti
Vaishali
Aditi Gupta
Apoorva Katiyar
Hansika Jain
Bharat Pathak, Dr. D.K. Pandey, Dr. B.K Tyagi, and Dr. Lalit Sharma participated in this session and provided their valuable inputs. The session started with greetings of the respected guests with flowers. Dr. Sahoo introduced the brainstorming session by recalling the three decades of NCSC starting from 1993 to 2023. He pointed out that NCSC has come really far starting from the “Competition” to “Celebration”. He proudly mentioned that so far 10 lakhs students have participated in NCSC.



**NATIONAL
CHILDREN'S
SCIENCE
CONGRESS**
A PROGRAM OF NCSC - DST
GOVERNMENT OF INDIA



30th January 2023



Three Decades of NCSC- A Way Forward



The contemplative brainstorming session “Three Decades of NCSC-Way Forward” was started on the very delightful day of the morning of 29th January, 2023. Dr. Narottam Sahoo, Dr. V.B. Kamble, Dr. Praveen Arora, Er. Sujeet Banerjee, Dr. Madhu Phull, Dr. Bharat Pathak, Dr. D.K. Pandey, Dr. B.K Tyagi, and Dr. Lalit Sharma participated in this session and provided their valuable inputs. The session started with greetings of the respected guests with flowers. Dr. Sahoo introduced the brainstorming session by recalling the three decades of NCSC starting from 1993 to 2023. He pointed out that NCSC has come really far starting from the “Competition” to “Celebration”. He proudly mentioned that so far 10 lakhs students have participated in NCSC.

Dr. V.B Kamble shared his joy and experience of working with child scientists for many years and the role of National Children's Science Congress in uniting the genius of young students from all over the country. He added how NCSC has always been a platform that was meant to do something original and create a rational and scientific outlook amongst the child scientists. He pointed out that NCSC was a novel idea and has portrayed it to the country that despite of the participation of diverse states with different culture and language, it has been observed that how language was never a barrier but science and technology brought them together. Reminiscing the history and journey of NCSC, Dr. Kamble added that when roughly 1 billion students started to participate, that's when the event got a massive outreach and state-wise students team was formed so that students from each state could get a chance. He further concluded with the suggestion that students from every area of life should be included and not only the students coming from science background as the primary motto of NCSC is not only to create child scientist but to develop a scientific outlook in all students for the development of society and nation.

Dr. Praveen Arora started out with how NCSC has tried to make India a self-reliant country and added just how the country has moved from “Amritkaal” to “Atmanirbhar Bharat”. However, he invoked some points to ponder and raised a question if the program prepared the young minds for forthcoming technologies such as cybersecurity, artificial intelligence, climate change etc. He also pointed out that in NCSC's way forward, a link between creativity and innovation must be developed. He said that NCSC ignites creativity in young minds that cultivates a scientific temperament and creative thinking but on its way forward, NCSC should also focus on innovation i.e. implementing these creative ideas into products and processes. Furthermore, in order to increase the outreach of this event, he suggested to build a hierarchy from regional to district to state and then national to be formed to make NCSC inclusive nationwide and if any region or city fails to participate owing to any constraints, then facility to include them virtually should be built bringing attention to the role of Information and Communication Technology for smoother execution and implementation of the event. Extending the importance of ICT, Dr. Arora also added how online suggestions from across the country should be welcomed and a database of all the students that have participated in the past should be prepared so as to include those participants as an alumnus of the event. Lastly, a valuable input he added was to conduct an “Impact study” to find out the real effect and execution of the event.



Er. Sujeet Banerjee suggested that NCSC should leave a long lasting impact on the minds of the students and on society as well. According to him, it is essential to increase the outreach of NCSC in India. He encouraged everyone to think about the ways to empower the child scientists in their career as well as life. For the participants of different regions of country, it is necessary to make new friends and increase their network. He also brought the attention of the panel and the audience towards a student of standard 6th from Rajkot who got her patent of Herbal Hand Sanitizer registered just a month ago.

Dr. Madhu Phull had joined the brainstorming session virtually. She proposed that the NCSC participation should be mandatory for every school in India up to 8th standard. Dr. Phull said, "After Standard 8th, the students should get the knowledge of various skills." She also recommended that the value of NCSC participation certificate needed to be increased in India and abroad. The research themes should be moving towards entrepreneurship. It will help the nation to fulfil the dream of "Aatmanirbhar Bharat". Dr. Phull also advocated to the importance needed to be given to the NCSC alumni. They should be respected and honoured. She also insisted that the follow up should be taken of good and promising research projects.

Dr. Bharat Pathak said, "the formation of a database of the participants should be kept for the record of innovative projects and to update their future projects". He proposed to incentivize the NCSC participation on the basis of performance to encourage the participants. He also directed towards

creating the database and then convert it into graphs to understand that which state/region has participated the most and which state/region has participated the least. He also recommended an initial workshop/training session for the teachers and coordinators who are the parts of NCSC.

Dr. K. Pandey started his explorations by stating that "NCSC is a way of National integration". Further, Dr. N.K. Sehgal was given a tribute for his idea and enthusiasm of laying the foundation of the programme. Dr. Arun Bhargav, the conceptualist of NCSC was also remembered for his incessant efforts for making this programme into being. Dr. Pandey gave many valuable suggestions like a learned resource person, a district level coordinator, a state level coordinator and an evaluator should be provided to each State for making the child scientists more instrumental and subtle in their innovations. He affirmed that NCSC's core objectives are already in consonance with the agendas of NEP. The importance of impact evaluation should not be undermined and they should be carried out periodically to constantly analyze and update. To strengthen NCSC from grassroots the problems and grievances of the mentor-teacher need to be addressed.

Dr. D.K. Tyagi agreed with Dr. Madhu Phull and Dr. Pandey by asserting that at district level the structure needs to be strengthened. He further added at state level the participation and resource allocation should be as vibrant as NCSC to attract more participation. The event at State level should be followed by exhibition, lectures, and workshops and other. He further vent away a concern of making the quota-system merit

based so that a healthy inspirational environment can be promoted. More thrust should be given to real life learning and practical learning. Idea should be evaluated by keeping the practical application in mind rather than just following the academic criteria. The distinction between the evaluations of senior and junior students should be there. The senior students should be asked to exhibit their project as a tangible prototype and should not have a book-worm ideology. Evaluation too needs to be more objective and not be sheer academic in nature. Thrive in contemporary evaluation a prototype is a perfect alternative. Such prototypes may give way to start-ups and innovations to make 'Aatmanirbhar Bharat' in its real sense.

Dr. Lalit Sharma, the Chairman of the NAC of NCSC, threw light on the constraints faced by State Coordinators especially the Railway bookings. NCSC needs to address such issues so that the state coordinators can function smoothly. NCSC witnesses many stories those are untold, such success stories need to be recognized and are to be made known to promote NCSC. Understanding the impact of ecosystem on health and well-being is the need of the day and is therefore the focal theme of 30th NCSC. He further advised to come out from the comfort zones and explore new ways to demonstrate Practical Science.

There are certain valuable suggestions further given by the honorable members and State coordinators to help NCSC achieve paradigm shift and desirable milestones.

TEACHER'S WORKSHOP Learning Sustainability

The process of learning sustainability begins with awareness and concludes with action. In order to make wise decisions in the future, it is crucial to start learning about sustainability early in life. Our speaker emphasised that the key to sustainability is striking a balance between how natural resources are used and how they affect the environment. Learning about sustainability will help you make wise decisions regarding your consumption and its effect on the environment.

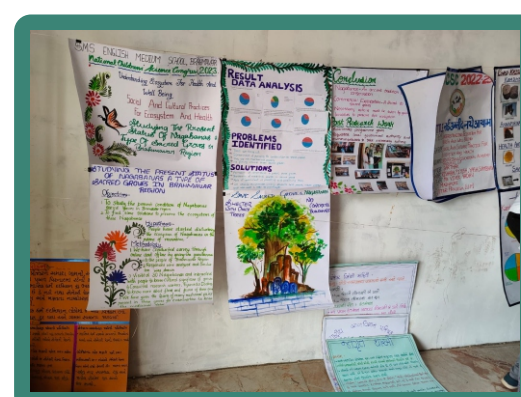
The researcher Brinder Kumar Tyagi has nearly three decades of insightful experience in the field of science communication. He works in Vigyan Prasar, an independent organisation under the Department of Science and Technology of the Government of India, as Scientist-F.

He demonstrated an understanding of the nature of systems. Students were guided about their social responsibility as future professionals and citizens. He imparted knowledge about the blueprint to achieve a better and more sustainable future for all. He addressed the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice along with the possible outcomes. Also discussed about the four pillars of sustainability; Human, Social, Economic and Environmental. Also discussed about the "three R's" of sustainability: reduce, reuse and recycle. Requested students to prevent waste and conserve natural resources by his remarkable words.

He discussed about law of nature and symmetry in nature. He further talked about conservation of energy and matter. He explained it was very it with some very good examples that made it understood in more explicit way. Sustainability can be achieved by balancing our needs and wants. He further complemented on TTK traditional technical knowledge and usefulness of the same in contemporary Engineering projects to boost sustainability with detailed discussion he motivated everyone to give detailed contribution to attain balance and sustainability.

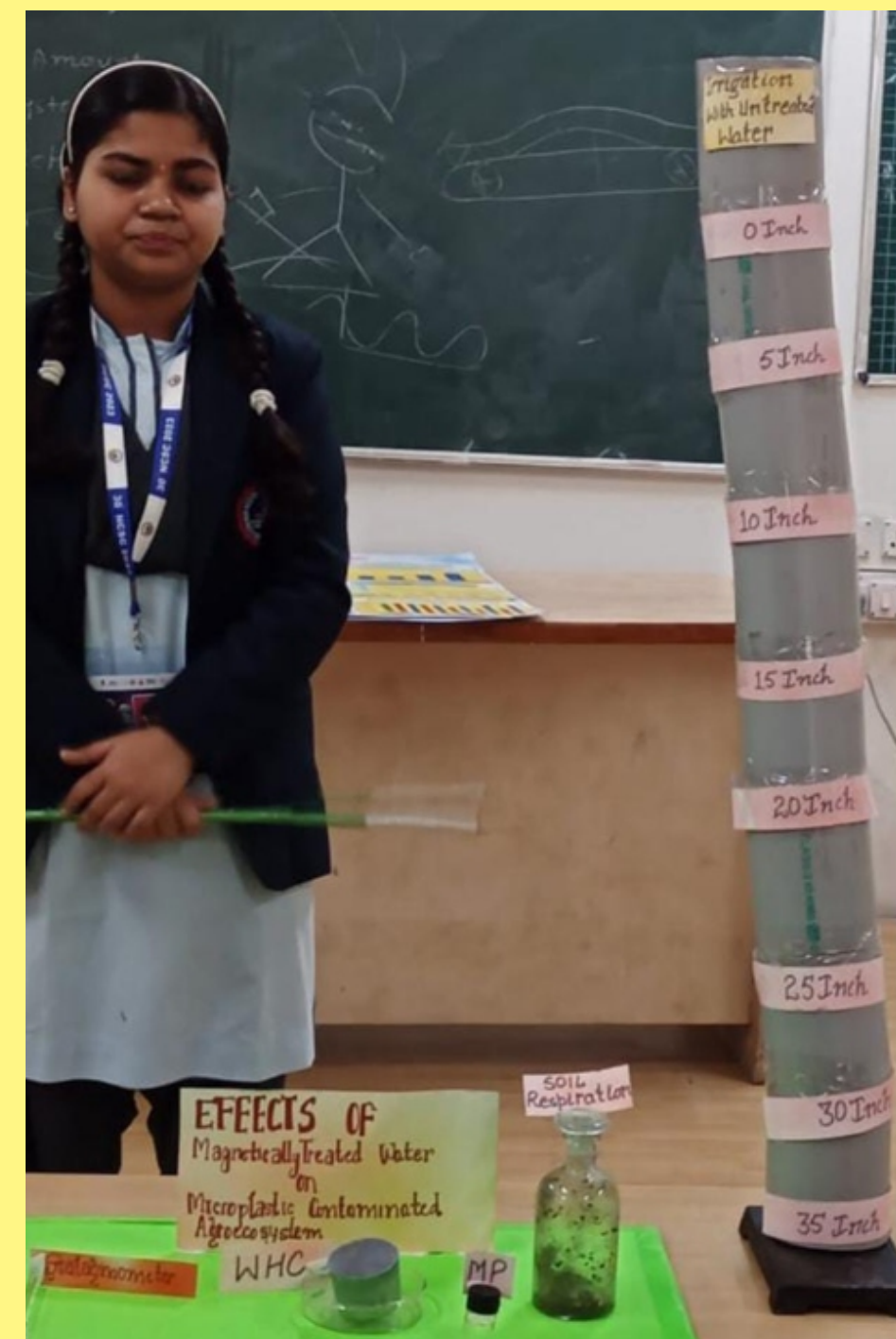
POSTER PRESENTATION

The 30th National Children's Science Congress has played an important part in developing various skills of children, so the skill development of children has been highlighted in the program. An opportunity to display art skills was very well represented in the activity of poster presentation, childrens worked hard for this activity and showed a vast spectrum of art skills. Poster presentation activity also reflects precision, hard work, critical thinking and involvement of children and their dedication towards the project. With a motto of teaching children the professional way of dealing with a particular thought and implementing them in a more productive way. The children were given the liberty to represent their ideas in their own regional language that made conveying of thoughts easier and language barrier dissipated. An amazing exposure of art and knowledge was organised and children showed remarkable response, which will be further helpful in their future fields as well. Apart from which the transfer of thoughts when children themselves saw posters of different children helps in change of ideas and skill set, implanting a thought that presentation can even be done from this perspective. An overview of poster presentation activity would be a wide range of thoughts and art skills were on display through which one can easily understand the amount of input children have made for a single representation of the project.



**Dr. B. K. Tyagi ,
Scientist-E, Vigyan Prasar**



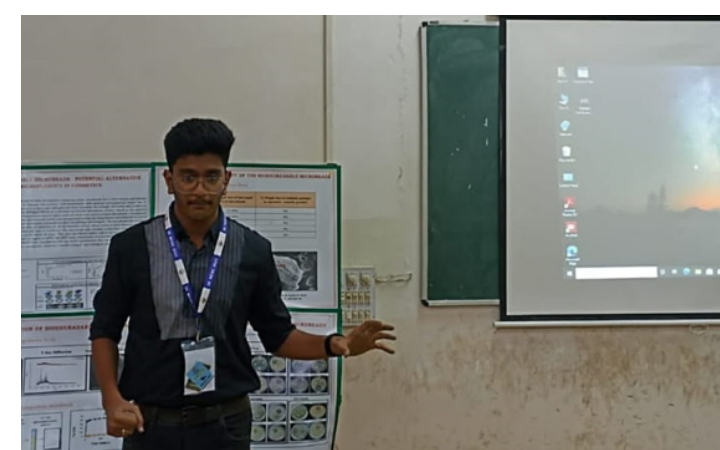


TECHNICAL SESSIONS @ 30TH NCSC

The technical session conducted at 30th NCSC showcased many interesting projects related to ecosystem and well-being. One such project was "Effects of magnetically treated water on microplastic contaminated agro ecosystem." This project gives us the idea to dispose microplastics in such a way that it does not affect the growth of crops and vegetation.

The MTW technique is used to change the accumulation of salt in layers of soil. This technique changes the physical parameters such as surface tension, viscosity, zeta. Potential solubility and diffusion. It uses a 16 ring shaped permanent magnet with 12mm centres.

So, by changing the physical parameters, it becomes easy to push microplastics at that level of soil which does not affect the root of crops. This way, we can enhance the soil fertility.



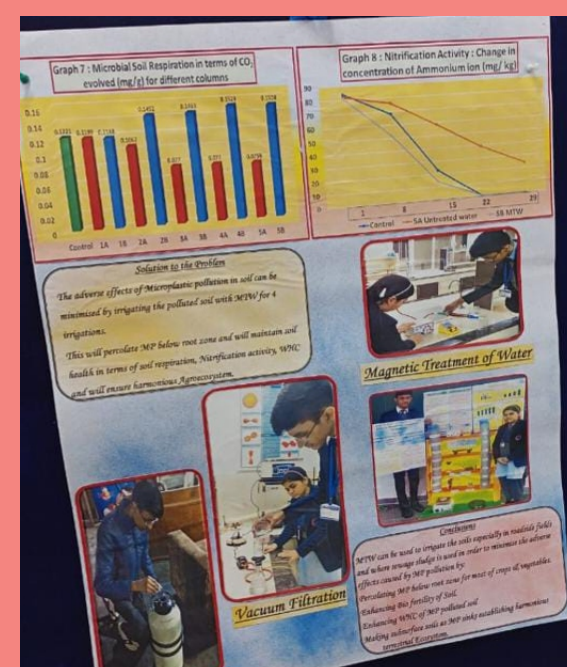
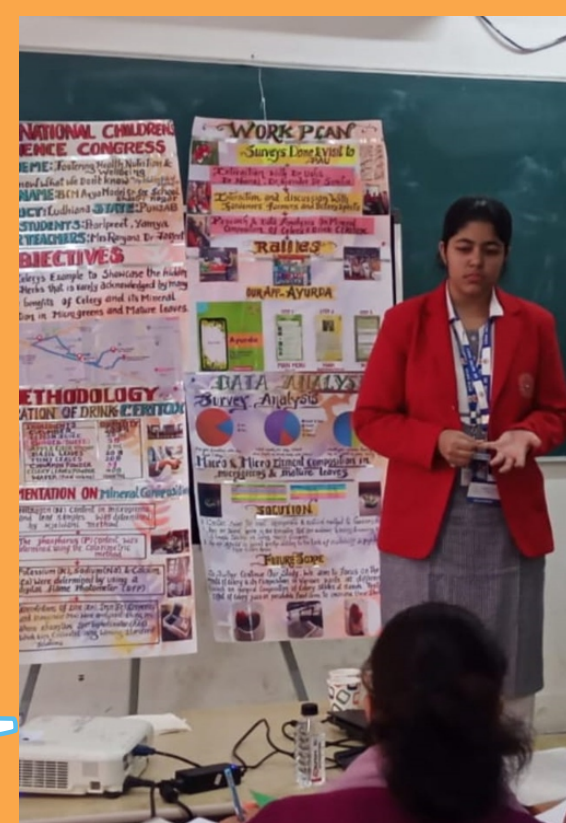
Presentations of various child scientists were organised at SAL Institute of Technology and Engineering Research parallelly in 18 different places as a part of 30th National Children's Science Congress. Basically the themes are ecosystem, fostering health, nutrition & well-being, social and cultural practices for ecosystem and health, ecosystem based approach for self reliance, technological innovation for ecosystem and health on which child scientists are projecting and showing their innovative projects.

A youth has the capability to change the world. The innovative ideas presented at this session gives us the way to improve our ecosystem.

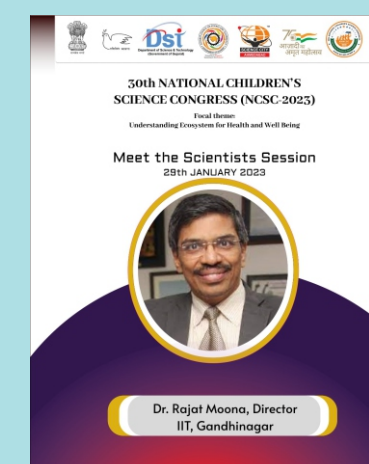
The objective of "Liquid Organic Fertilizer" by Nelly Khyndeit is to produce eco-friendly, cheap and renewable liquid organic fertilizers to yield chemical free fruits and vegetables.

The lactobacillus bacteria and charcoal are used to make this organic fertilizers. Also, much more profit can be earned by using it.

Hectic environment and unhealthy lifestyles gives rise to many internal diseases. One such disease is hypertension. It is a disease in which either the blood level increases or decreases and is very risky for our lives. Allopathy can be used as a tool to decrease the chance of these diseases and use of medicines can be lowered down.



Meet the Scientist



Dr. Rajat Moona,
Computer Scientist,

Director - IIT Gandhinagar

Dr. Rajat Moona is heading IIT Gandhinagar as Director from October 03, 2022. He was Director of IIT Bhilai and Director General of the Center for Development of Advanced Computing prior to joining IIT Gandhinagar (C-DAC). Since 1991, he has also served as a professor of computer science and engineering at IIT Kanpur. He has written 10 patents, numerous research papers, and books. Prof Moona holds a BTech in Electrical Engineering from IIT Kanpur (1981-1985) and a PhD in Computer Science from the Indian Institute of Science (IISc), Bangalore (1985-1989). His research area includes embedded computing, computer security, VLSI design and Operating Systems.

Some of the most important applications for the nation's development, including the smart card driver's licence, vehicle registration, e-passport, electronic toll collection, mobility card, etc, were defined with his help. Involved in helping to define the EVMs and VVPAT, Prof. Moona is a productive member of the Election Commission of India's technical committee on EVMs. Additionally, he helped define the national voter service portal and the national voter search.

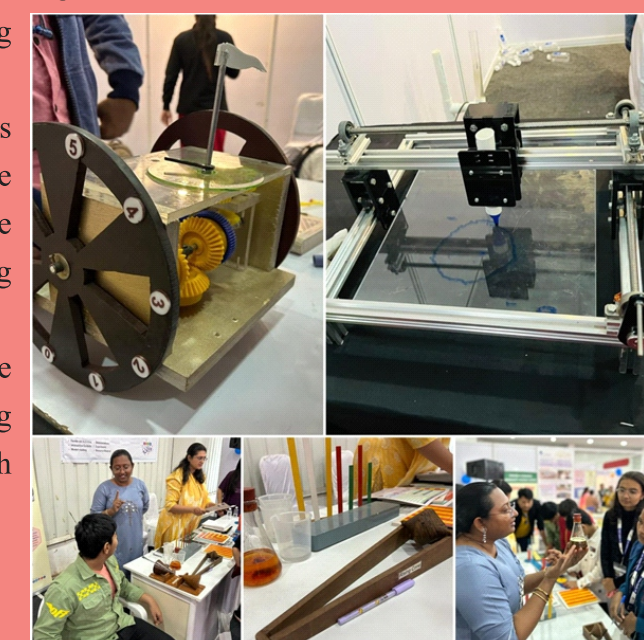
Prof Moona is the recipient of several awards and recognitions, including Indo-US Science and Technology Fellowship, Poonam and Prabhu Goel Chair Professorship, VASVIK Award for the year 2010, IESA Techno-visionary Award 2014, Fellowship of Maharashtra Academy of Sciences 2015, National award of Election Commission of India 2016 for the best electoral practices, and most recently, a Special Award for IT Initiatives by the Election Commission of India in 2022.

Science is simply the word to describe a method of organising our curiosity.

The differential gear shows the simple mechanism of the wheels of vehicle. It shows how different gears come in contact with each other and control the speed of one wheel which is free to move. The speed of the wheel decreases while turning around.

The CNC (Computerised Numerical Control) machine is a control system that controls devices running on electronic digital computers. This machine is highly used in industries which cut the pieces of glasses or Woods in required sizes and make the designs using shapes. These machines are of different types namely pick and place machine, router CNC machine, drilling CNC machine, plasma cutting CNC and many more.

Centre of mass is a hypothetical point where the entire mass of an object is assumed to be concentrated to visualise its motion. This property is shown live, taking an example of standing from the chair without leaning forward. The other interesting example is of double cone which moves from lower end of slope to the upper end because of centre of mass.



Orientation on PFMS

A training on PFMS (Project Financial Management System) was conducted by Mr. Vikas Meena, PAO, Dept. of Science and Technology, Govt. of India. Zero balance account opening and payment system, mapping of different schemes of DST on PFMS portal, vendor registration, how to make payment, digital signature and payment approval was discussed during the session.



Popular Science Talk on Science for Nation Building



Dr Deepak Sharma is a highly accomplished Scientific Officer(G) and Group Leader of the Basic Immunology, Radiation Biology & Health Sciences Division at Bhabha Atomic Research Centre, Trombay. Dr Deepak Sharma has published over 84 research papers in various journals and has contributed to advancing science. He is currently an Associate Professor at Homi Bhabha National Institute, Mumbai, and is respected within the scientific community. As nations around the world continue to develop and grow, the role of science and



technology in driving economic and societal progress has become increasingly clear. From advances



in medicine and agriculture to developments in energy and transportation, science and technology have the power to transform entire industries and improve the lives of citizens. Science and technology are vital to our nation's economic growth and global competitiveness," said Dr Deepak Sharma, Scientific Officer at Bhabha Atomic Research Centre. He added, "Additionally, investing in science and education can help create a skilled workforce and stimulate innovations. Therefore, the government and society must invest in science education and research in order to improve their nation's standard of living and prepare for future challenges. During the speech, Dr Deepak Sharma highlighted the importance of science and technology for the country's economic growth and global competitiveness.

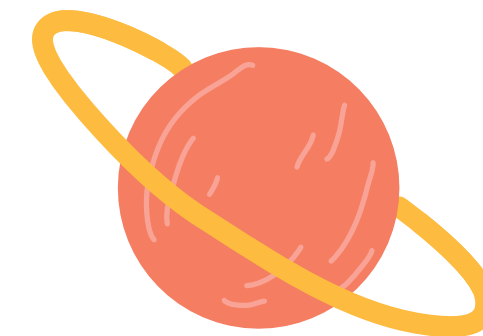
Cultural Program

The vibrant cultural programme witnessed the dances of various states that represented their folk cultures and that made the evening more colourful and dynamic. The evening started by the performance of West Bengal State. They represented their state and culture. The second performance was from Andaman & Nicobar Island. The team presented three states. The audience were amazed by their performance. The divine performance by Arunachal Pradesh was mesmerising. Bihar teams folk dance of Apna Bihar, The Chandigarh team's Performance on The vibrant rhythms of Bhangra, chattisgarh team's sua, rout nacha, karma. goa team's Performance on koti dance fascinated the spectators. Haryana team's Performance on folk dance, Jammu team's Performance on taren tuda paiyan demonstrated their culture. Kashmir and Ladakh Performed on Kashmiri Rouf, is a traditional folk dance of the Kashmir Valley in India. Jharkhand Performance was on Beauty of Jharkhand. Kerala's Thiruvathira which is celebrated in the Malayalam month of Dhanu (December-January). The dance is known for its grace and elegance, and is often accompanied by the performance of a traditional art form called "Kathakali". Maharashtra Performance Blend of lezin, Meghalaya's Ko Mei-Ramew is a traditional dance of the Khasi tribe. Mizoram's Chheih Lam is one of the most popular cultural dance forms in Mizoram, Punjab and Rajasthan performed their folk dance, and Tripura's team Performed on mayan chhalak chhalak. Uttar Pradesh (East and West) also represented their state glory. The audience was delighted as they had never seen a dance performance.



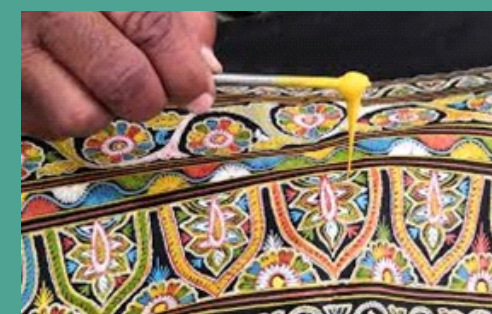
THE ACTIVITY PAGE

*Solve a real problem and the world is yours.
Coming together with Young and Bright Child Scientists.*



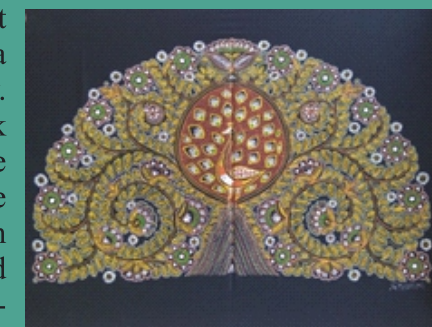
LET'S KNOW ABOUT WORLD FAMOUS ART OF GUJARAT.
DID YOU EVER HEARD ABOUT ROGAN PAINTING OF GUJARAT?

ROGAN PAINTING



You all know about the Pithora painting, Kalmkari Painting, Warli Painting, Mandla Art, Madhubani Art etc. but do you know about Rogan Painting of Gujarat. Yes, this art form is found in Gujarat. Rogan Painting is world famous painting of Gujarat, with origins in Persia, it came to Kutch around 300 years ago. This rare craft is practiced by a lone Muslim family, the Khatris of Nirona Village of Kutch, Gujarat. The art gets its name from the main component of the paint it requires:

castor oil. 'Rogan', word origin from Persian (Iran), means 'oil-based'. Some believe Rogan art originated in Persia before ending up in India. Rogan painting, is an art of cloth printing practiced all over Gujarat, Peshawar and Sindh. Rogan paint is produced by boiling castor oil for about two days and then adding vegetable pigments and a binding agent; the resulting paint is thick and shiny. The cloth that is painted or printed on is usually a dark color, which makes the intense colors stand out. The floral, geometric and calligraphic motifs were traditionally used for the art of Rogan painting. Rogan art is very well known for its "Tree of life" and happiness concept work. These motifs evoke a once-sublime culture and its understanding of beauty.



World of Scientist

G	A	B	C	D	E	F	G	H	M	I	K	L	V
A	M	N	O	V	P	Q	R	A	S	T	R	E	I
L	U	V	W	X	R	Y	L	M	M	N	A	I	K
I	A	B	C	F	U	A	M	S	M	H	M	N	R
L	A	P	V	M	K	P	M	M	B	T	A	S	A
E	R	Y	G	L	G	R	D	A	A	G	N	T	M
O	Y	O	U	D	F	O	H	M	N	H	U	E	S
Y	A	D	X	W	P	B	L	Y	Z	A	J	I	A
A	B	E	O	P	I	E	M	X	M	Q	A	N	R
S	H	N	Q	M	K	R	N	W	S	M	N	R	A
T	A	R	O	W	J	T	O	N	M	N	Q	S	B
I	T	H	S	X	I	H	B	V	P	O	T	U	H
M	T	D	P	O	M	O	P	U	W	X	Z	N	A
R	X	Y	U	M	S	O	Q	T	E	I	V	O	I
E	O	M	V	E	M	K	R	S	J	K	N	P	Z

1. Aristotle
2. Homi Bhabha
3. C.V Raman Galileo
4. Abdul Kalam
5. Einstein
6. Ramanujan
7. Aryabhatt
8. Robert Hook
9. S. N Bose
10. Vikram Sarabhai

ANSWER OF NUMBER TRACKING PUZZLE

6	5	11	16	27
2	6	8	14	22
15	10	25	35	60
5	7	12	19	31
10	6	16	22	38
10	30	40	70	110
6	2	8	10	18
4	9	13	22	35
8	3	11	14	25

Healthy Time Learning Time! Match the Healthier Pair

Sr. No	Healthy	Sr. No	Pair
1.	The World Health Day is celebrated on	A.	Living Well
2.	The word hygiene means is derived from Hygeia which means__	B.	Personal Hygiene
3.	WHO hand wash time with soap is	C.	Milk
4.	Cleanliness, physical exercise, rest and sleep are a part of__	D.	Jaw
5.	Good source of iron?	E.	7th April.
6.	protein, fat and minerals	F.	20 to 30 Seconds
7.	Strongest muscles	G.	Beet Root

Ans. 1-E , 2-A , 3-F , 4-B , 5-G , 6-C , 7-D

WAY TO GOOD FOOD GOOD LIFE.

