GOVERNMENT OF NATIONAL CAPITAL TERRITORY OF DELHI
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F.No. DE.40(6)/Sc.Br./Misc./2024-25/ 14-19 **Date:** 03/04/25

CIRCULAR

Subject: One Day as a Scientist Initiative - reg.

Please find enclosed herewith the letter D.O. No. 10-9/2025- NCERT dated 19.03.2025 regarding One Day as a Scientist Initiative received from Department of School Education & Literacy, Ministry of Education, Govt. of India.

In this regard, all the DDEs (District) of Directorate of Education, GNCT of Delhi are requested to disseminate the above information to all the Govt./Govt. Aided/Pvt. Unaided recognized Schools under their jurisdiction for maximum participation of the schools.

This issues with the prior approval of the competent authority.

(Dr. C.S. Verma)
Dy. Director of Education (Science Branch)

Enclosed: As above.

F.No. DE.40(6)/Sc.Br./Misc./2024-25/ 14-19 **Date:** 03/04/25

Copy for information and necessary action to:-

1- PS to Secretary (Education), Govt. of NCT of Delhi
2- PS to Director, Directorate of Education, GNCT of Delhi.
3- PS to Joint Secretary, Ministry of Education, DoSE&L, Govt. of India.
4- All DDEs (District/Zone)- to ensure the compliance please.
5- HoSs of all Govt./Govt. Aided/Private Unaided recognized Schools of DoE, GNCTD.
6- OS (IT) with the request to upload the circular on the official website of Department of Education and in Public Circulars section.

(Dr. C.S. Verma)
Dy. Director of Education (Science Branch)

संजय कुमार, भा.प्र.से
सचिव

Sanjay Kumar, IAS
Secretary

1828/JE
24/3/25

सत्यमेव जयते

स्कूल शिक्षा और साक्षरता विभाग
शिक्षा मंत्रालय
भारत सरकार
Department of School Education & Literacy
Ministry of Education
Government of India

D.O. No.10-9/2025-NCERT

19th March, 2025

Dear Colleagues,

I am writing to you with great enthusiasm regarding the **"One Day as a Scientist"** initiative, as envisioned by Hon'ble Prime Minister Shri Narendra Modi in his 119th "Mann ki Baat" address. This initiative holds immense potential for fostering scientific curiosity, critical thinking, and innovation among our young students, an integral component of the National Education Policy-2020 and the subsequent NCF-SE 2023.

2. A Concept Note on the matter has been prepared (enclosed), which details the programmatic aims to provide students with first hand exposure to scientific environments, encouraging them to visit research institutions, laboratories, and space centers of institutes of higher learning, located in the local academic ecosystem.

3. The benefits of such experiences are manifold and include: Sparking interest in STEAM fields, enhancing learning experiences, providing direct exposure to research and innovation, fostering interaction with the scientific community, promoting hands-on learning, and career awareness.

4. In light of the National Education Policy 2020, this initiative aligns perfectly with the emphasis on experiential learning, inquiry-based education, and interdisciplinary approaches.

5. Therefore, I request you to encourage schools to plan comprehensive strategies to organize

(a) age appropriate visits/ tours to the laboratories viz. medical, chemistry, biochemistry, physics, agriculture, pharma, etc by coordinating with DRDO, ISRO, IISC, IITs, university labs, engineering institute labs, prestigious corporate research labs in pharmaceutical sector, etc.;

(b) talks with scientists, researchers, etc; could be arranged in physical or virtual mode.

(c) practical hands-on experience, in collaboration with SCERTs and DIETs. The States/UTs may also seek technical guidance on this initiative through RIEs (Regional Institute of Education) at Ajmer, Bhopal, Mysore, Bhubaneswar and Shillong and CIET (Central Institute of Education & Training), NCERT.

Best Wishes

Yours sincerely,

19/3/2025
(Sanjay Kumar)

Encl: As above

21/SE/GAI
24/03/2025

To

1. **Additional Chief Secretary/Principal Secretary/Secretary (School Education), All States and UTs.**
2. **Chairman, CBSE, Shiksha Kendra, 2, Community Centre,Preet Vihar, Delhi - 110092**
3. **Commissioner, Navodaya Vidyalaya Samiti, B-15, Institutional Area, Sector 62, Noida, Uttar Pradesh 201307**
4. **Commissioner, Kendriya Vidyalaya Sangathan, 18, Institutional Area Shaheed Jeet Singh Marg, New Delhi – 110016**

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केन्द्रीय माध्यमिक शिक्षा बोर्ड
(शिक्षा मंत्रालय, भारत सरकार के अधीन एक स्वायत्त संगठन)
CENTRAL BOARD OF SECONDARY EDUCATION
(An Autonomous Organisation Under the Ministry of Education, Govt. of India)
आज़ादी का अमृत महोत्सव

Concept Note

One Day as a Scientist': Theme on National Science Day 2025

Reference:

Hon'ble PM's '*Mann Ki Baat*' on 23.02.2025, wherein it was envisaged that the children and youth should be motivated to spend a day as Scientist, in which they should spend the day at any research lab, planetarium or space centre and deepen their connect with science. This will increase the interest, passion and curiosity of students towards science and research.

Recommendations of the National Education Policy (NEP) 2020 and National Curriculum Framework for School Education (NCFSE) 2023:

As per NEP 2020, para 17.7, "*India has a long historical tradition of research and knowledge creation, in disciplines ranging from science and mathematics to art and literature to phonetics and languages to medicine and agriculture. This needs to be further strengthened to make India lead research and innovation in the 21st century, as a strong and enlightened knowledge society and one of the three largest economies in the world.*" Hence, there is need to motivate students towards scientific research and innovation. This may be done at school level by encouraging them to actively participate in National Science Day and also to make them spend a day as a Scientist, where they may spend the day at any research lab, planetarium or space centre and deepen their connect with science.

The NCFSE 2023 in Para 1.6.3 states that 'Science Education gives equal emphasis to acquiring capacities for scientific inquiry and conceptual understanding of theories, laws, and principles in science.' Further, at Page 48, it clearly mentions that *in Science, the capacities and skills of observation and experimentation are central to building descriptive scientific knowledge.*

At Page 315, the NCFSE 2023 points that one of the key aim of sci education is the **Capacities for scientific inquiry.** It is further elaborated that, 'The abilities to put forth hypotheses, arguments, predictions, and analyses, and to test hypotheses, evaluate situations, and draw logical conclusions, are fundamental to the learning of Science.'

The skill of **scientific inquiry** is crucial for as it forms the foundation for how students understand and engage with the world through a scientific lens. Exposure to these capacities through meaningful interaction with scientists and experts helps students develop a deeper, more meaningful understanding of science, beyond memorizing facts and theories.

Suggested Activity for Schools/ students:

'A Day as a Scientist': Theme of National Science Day 2025

Schools may be requested to celebrate National Science Day on 28th February in schools with the theme *'One Day as a Scientist'* with following suggestive activities:

1. The schools may plan to visit any research lab, planetarium or space centre as far as possible and feasible. The students may spend *A Day as a Scientist*, during their visit as they interact with experts and scientists and observe the way research labs, planetarium or space centre function.
2. Organize expert speech/ lecture/ talk shows by inviting renowned experts and researchers in the field of Science.
3. Organize quiz, debates, poster making, science model making competition, etc.
4. Encourage students to watch science movies/ documentaries.

The schools may also be requested to submit a brief report of the above activities and few photographs (geo-tagged) in a google form.

Expected Benefits of time spent / interactions with scientists/ experts:

Relevant Curricular Goals and Competencies Addressed:
(Middle Stage)

CG-6: Explores the nature and processes of Science through engaging with the evolution of scientific knowledge and conducting scientific inquiry

C-6.1 Illustrates how scientific knowledge and ideas have changed over time (description of motion of objects and planets, spontaneous generation of life, number of planets) and identifies the scientific values that are inherent and

common across the evolution of scientific knowledge (scientific temper, Science as a collective endeavour, conserving biodiversity and ecosystems)

C-6.2 Formulates questions using scientific terminology (to identify possible causes for an event, patterns, or behaviour of objects) and collects data as evidence (through observation of the natural environment, design of simple experiments, or use of simple scientific instruments)

CG-5: Understands the interface of Science, Technology, and Society

C-5.1 Illustrates how Science and Technology can help to improve the quality of human life (health care, communication, transportation, food security, mitigation of climate change, judicious consumption of resources, applications of artificial satellites) as well as some of the harmful uses of science in history

C-5.2 Shares views on news and articles related to the impact that Science/Technology and society have on each other

(NCFSE, 2023 Pg 320)

Implementation in Schools:

The NEP 2020 stresses on experiential learning, as mentioned in para 4.6 ". . . *To close the gap in achievement of learning outcomes, classroom transactions will shift, towards competency-based learning and education.*" The suggested activity where students visit any local research lab, planetarium or space centre on the National Science Day can be an effective hands on experiential learning opportunity for students. Interactions with Scientists, and experts working in research labs, leading health centres, planetariums etc. will expose students with the process of science including observations, questioning, framing hypothesis, experimentation, data collection, analysis and drawing conclusions. This real world application of the scientific processes will help students connect the theoretical knowledge with real-world applications.

Guidelines for the exploratory visit:

Pre-Visit Preparation by the teacher/ students

- Identify a local research lab/ planetarium/ space centre for the visit.

- Clearly define the purpose of the visit for the students- explain the key areas of learning (e.g., space science, experiments, lab safety, etc.).
- Provide students with introductory materials about the science lab or space centre that they will visit.
- Encourage them to do a little background reading about relevant topics.
- Ask students to prepare few curiosity-driven queries.

Safety and Behaviour Expectations

- If visiting a science lab, ensure that students are familiar with the lab safety rules (no eating or drinking, wearing appropriate attire; no touching of equipment or chemicals; following instructions etc.)
- Discuss appropriate behaviour within a space centre (respect for exhibits, interactive stations, and other visitors)

During the Visit

- Students should listen carefully to the staff's explanations and follow their instructions at all times.
- Encourage students to take notes on interesting facts, observations, or experiments.
- Encourage students to actively participate in interactive exhibits or demonstrations.
- Students should be encouraged to ask questions during guided tours or when interacting with experts.

Post-Visit Activities (Reflections)

- After the visit, organize a debriefing session where students get an opportunity to share their experiences, observations, and what they learned.
- Encourage students to ask further follow-up questions, engage them in discussion about how the visit connects to what they are been learning in the Science curriculum.
- Ask students to write a report based on what they learned. This may include aspects such as specific experiments, technologies in space exploration, or important figures in space science etc.

Note for the Teacher:

An exposure visit to a science lab and meeting real scientists provides students with a rare opportunity to learn beyond textbooks and classrooms. It ignites their curiosity, develops their critical thinking, and fosters a deep appreciation for how science impacts our lives. Students are likely to return from such visits inspired, motivated, and with a better understanding of how science is done — and even considering a future in the field themselves.

In order to motivate the students further, this activity may be counted in the subject enrichment activities for Science and may also be made part of internal assessment component/ portfolio of the students.

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Concept Note by NCERT

Concept Note

One Day as a Scientist

Good Science education plays a key role in fostering curiosity, critical thinking, imagination and innovation among students. To provide students with first-hand exposure to scientific environments, Hon'ble Prime Minister Shri Narendra Modi introduced the idea of ***"One Day as a Scientist"*** in his 119th *Mann ki Baat*address. This initiative may encourage students across the country to visit research institutions, laboratories, planetariums, and space centres, where they can interact with scientists and experience the real-world applications of scientific knowledge. This will help in cultivating a positive scientific attitude in school children. NCERT presents this concept note as a roadmap to guide schools in facilitating such visits and ensuring meaningful engagement for students. The objectives of Hon'ble Prime Minister's initiative with encouraging and motivating vision are:

1. To spark curiosity and interest in STEM (Science, Technology, Engineering, and Mathematics) fields.
2. To enhance the scope of learning experiences of learners.
3. To provide students with direct exposure to scientific research and innovation.
4. To imagine new and innovative ideas in the field of Science and technology.
5. To encourage interaction between students and scientists to foster mentorship and inspiration.
6. To promote hands-on learning experiences beyond the classroom.
7. To imbibe inspiration to select a scientific career.
8. To build awareness about various career opportunities in science.

In view of National Education Policy 2020, the initiatives would definitely have following *Pedagogical implications*

- The learners will involuntarily have experiential learning by engaging themselves directly with scientific deliberations and experiments. That would help enhance their scientific temperament.
- The learners would instinctively be engaged in Inquiry by asking questions, explore ideas, and think critically.

- "The learners would have exposure to interdisciplinary knowledge that would help them explore how different branches of science may be connected to the solutions of real-world problems, sparking curiosity and inspiring future learning."
- The learners would be facilitated to Collaborative Learning by Promoting teamwork, communication, and exposure to scientific communities.
- The learners would spontaneously get an insight for strengthening the link between classroom learnings with practical implementation in the real-world applications.
- This way each and every learner would have an opportunity and orientation towards an innovative mind-set.

There are some exemplar/suggestive methodologies to be followed for implementation of vision and mission of Hon'ble Prime Minister.

1. **Encouraging Visits to nearby Scientific Institutions:** Schools may facilitate and encourage learners to visit research institutions, laboratories, planetariums, and space centres. Such visits can be arranged individually by students, in groups, or through school-organized trips.
2. **Collaboration with Scientific Bodies:** Schools and local education authorities can reach out to nearby research organizations and universities to arrange structured visits.
3. **Structured Engagement:** A suggested framework for a productive visit includes:
    - **Orientation Session:** Briefing about the institution and its work.
    - **Hands-on Activities:** Participation in experiments, demonstrations, and observations.
    - **Interaction with Scientists:** Discussions about ongoing research and career guidance. (Schools are expected to organise periodic sessions in schools on certain days dedicated to Science related topics and issues like National Science Day, World Environment Day, World Wild Life Day, World AIDS Day etc.)
    - **Exploratory Learning:** Students observe live experiments, innovative technologies, and research methodologies.
    - **Reflection & Presentation:** After the visit, students share their experiences through discussions, presentations, or reports.
4. **Encouraging Self-Initiative:** Students can be encouraged to independently explore and visit institutions during vacations or special science events.
5. **Use of Digital Resources:** Schools may supplement such visits with virtual tours and online interactions with scientists where physical visits are not feasible. (This can be done either through pedagogical interventions in schools besides visit to the specialised Science Centres showcasing new and upcoming digital resources including AR/VR)

Expected Outcomes

- Increased enthusiasm and engagement in science learning.
- Improved conceptual understanding through real-world exposure.
- Strengthened interest in pursuing careers in STEM fields.
- Greater interaction between students and scientific communities.
- A culture of scientific inquiry and innovation among young learners.

Implementation Strategy

- Schools and local education departments will promote and facilitate visits to scientific research institutions.
- Awareness campaigns through educational platforms, social media, and school networks will encourage participation.
- Teachers and parents will be encouraged to support students in exploring scientific environments.
- Institutions may organize open days, science exhibitions, and mentorship programs to engage students.