



शिक्षा मंत्रालय  
MINISTRY OF  
EDUCATION

सत्यमेव जयते

# सपनों की उड़ान



Commemorative issue  
on  
National Space Day  
23 August 2024

Quarterly E-Magazine : August 2024

## EDITORIAL COMMITTEE

### Chairperson

Jyotsna Tiwari, *Head*, Department of Education in Arts & Aesthetics, NCERT

### Members

Anup K Rajput, *Head*, Publication Division, NCERT

Jagannath Maithani, *Consultant*, NCERT

P. Deva Kumar, *Joint Commissioner* (Personal),

Kendriya Vidyalaya Sangathan

Praggya M. Singh, *Director* (Academic), CBSE

Sameer Pandey, *Joint Commissioner* (Administration), Navodaya Vidyalaya Samiti and

Yuvraj Malik, *Director*, National Book Trust

### Editorial Support

Al Hilal Ahmed, *Joint Secretary* (Academic), CBSE

Anjali Chhabra, *Joint Secretary* (Academic), CBSE

Anshu Kumari, *Principal Chief Consultant*, Ministry of Education

Deenbandhu Jha, *PGT* (Hindi), Kendriya Vidyalaya, JNU

Jyotsna Varma, *HoD* (English), Mayoor School, Noida

Kanchan Wanchoo Sharma, *Editor*, National Book Trust

Pushpita Mitra, *JPF*, NCERT

Ritu Pallavi, *Assistant Commissioner* (Training), Kendriya Vidyalaya Sangathan

Sangeeta Jaiswal, *Assistant Commissioner* (Academic-IV), Navodaya Vidyalaya Samiti

Shiksha Kaushik, *HoD* (Hindi), Queen Mary's School, New Delhi

Soumma Chandra, *Editor*, NCERT

Tanavi Behera, *JPF*, NCERT

Vishnu Prasad Kaniyali, *Consultant*, NCERT

## CREDITS

In the process of bringing this magazine, the support of different organisations and their heads is praiseworthy without whose facilitation it would not have been possible to bring out *Sapno Ki Udaan* in such a short span of time. We are highly indebted to Prof. Dinesh Prasad Saklani, *Director*, NCERT, Shri Sanjay Kumar, *Secretary*, Department of School Education and Literacy, Ms. Prachi Pandey, *Joint Secretary*, Department of School Education and Literacy, Ministry of Education, Shri Rahul Singh, *Chairman*, Central Board of Secondary Education, Shri Vinayak Garg, *Commissioner*, Navodaya Vidyalaya Samiti, Smt Nidhi Pandey, *Commissioner*, Kendriya Vidyalaya Sangathan, Ms. Anu Jain, *Joint Director*, Department of School Education and Literacy, Ministry of Education and Shri Bijnan Sutar, *Chief Editor*, NCERT.

### Design & Layout

Arihant Jain, SYKEWAVE, Delhi

Madiha Fraz, SYKEWAVE, Delhi

### Cover Illustration

Harshita, XI

PM SHRI Jawahar Navodaya Vidyalaya, Banawara II

### Please send your suggestions and views to

Jyotsna Tiwari,

Email ID: e-magazine.moe@ncert.nic.in

धर्मेन्द्र प्रधान  
धर्मेश्वर पुष्पा  
Dharmendra Pradhan



75  
आज़ादी का  
अमृत महोत्सव

शिक्षा मंत्री  
भारत सरकार  
Minister of Education  
Government of India



### संदेश

मैं इस "सपनों की उड़ान" ई-पत्रिका के अनावरण पर आप सभी को हार्दिक शुभकामनाएँ देता हूँ। यह एक ऐसा महत्वपूर्ण कदम है, जो हमारे शैक्षिक परिदृश्य को नए आयाम देने में सहायक होगा। इस ई-पत्रिका के माध्यम से हम शिक्षा के क्षेत्र में नवाचार, उत्कृष्टता और समावेशिता को बढ़ावा देने के लिए प्रतिबद्ध हैं।

चंद्रयान-3 की सफलता भारत के लिए एक ऐतिहासिक उपलब्धि है जिसने भारत को अंतर्राष्ट्रीय परिदृश्य में एक नई पहचान दिलाई है। चंद्रयान-3 की सफल लैंडिंग के बाद जब देश एक अनूठे आत्मविश्वास और गर्व से ओत-प्रोत था तब माननीय प्रधान मंत्री श्री नरेन्द्र मोदी जी ने उस भावना को खूबसूरती से व्यक्त करते हुए कहा था कि "चंदा मामा अब दूर के नहीं, बस एक टूर के हैं।" - जो केवल चंद्रमा को देखने से लेकर उस पर भ्रमण करने की आकांक्षा तक एक गहन बदलाव का प्रतीक है।

अंतरिक्ष दिवस पर, जब हम चंद्रयान-3 की सफलता का उत्सव मना रहे हैं, यह ई-पत्रिका हमें याद दिलाती है कि हमारे बच्चों के सपने भी उतने ही ऊँचे और अनंत हैं जितना कि हमारा अंतरिक्ष। इस ई-पत्रिका में सम्मिलित लेख, कविताएँ और अन्य रचनाएँ न केवल बच्चों की कल्पनाशीलता और वैज्ञानिक चिंतन को दर्शाती हैं अपितु चुनौतीपूर्ण परिस्थितियों में भी धैर्य के साथ हमारे वैज्ञानिकों की लक्ष्य के प्रति कटिबद्धता को परिलक्षित करती हैं। हमारा उद्देश्य छात्रों को वैश्विक स्तर पर प्रतिस्पर्धी बनाना है, ताकि वे अपने सपनों को पूरा कर सकें और 'विकसित भारत' की दिशा में अपना योगदान दे सकें।

मैं इस ई-पत्रिका से जुड़े सभी लोगों और संस्थानों की मेहनत और समर्पण हेतु तथा सभी विद्यार्थियों को उनके योगदान के लिए आभार व्यक्त करता हूँ। मुझे विश्वास है कि यह ई-पत्रिका हमारे शैक्षिक परिदृश्य को समृद्ध बनाएगी।

धन्यवाद!

(धर्मेन्द्र प्रधान)

सबको शिदा, अच्छी शिदा

MOE - Room No. 301, 'C' Wing, 3<sup>rd</sup> Floor, Shastri Bhavan, New Delhi-110 061, Phone : 91-11-23782387, Fax : 91-11-23382365  
E-mail : minister.sm@gov.in

सपनों की उड़ान | August 2024



जयन्त चौधरी  
JAYANT CHAUDHARY



व्यौशल विकास और उद्यमशीलता  
राज्य मंत्री (स्वतंत्र प्रभार) एवं  
शिक्षा राज्य मंत्री  
भारत सरकार  
Minister of State (Independent Charge) for  
Skill Development and Entrepreneurship  
and Minister of State for Education  
Government Of India



### संदेश

यह अत्यंत गर्व की बात है कि अंतरिक्ष दिवस के अवसर पर "सपनों की उड़ान" ई-पत्रिका का अनावरण हो रहा है। यह ई-पत्रिका हमारे विद्यार्थियों की वैज्ञानिक सोच का एक उत्कृष्ट उदाहरण है।

चंद्रयान-3 ने 23 अगस्त 2023 को चंद्रमा की सतह पर सफलतापूर्वक लैंडिंग की, जो हमारे देश के लिए एक ऐतिहासिक क्षण था। चंद्रयान-3 की सफलता ने हमें यह सिखाया है कि कोई भी सपना बहुत बड़ा नहीं होता। इस अभियान ने न केवल हमारे वैज्ञानिकों की मेहनत और समर्पण को दर्शाया है, बल्कि हमारे विद्यार्थियों को भी प्रेरित किया है कि वे भी बड़े सपने देख सकते हैं और उन्हें साकार कर सकते हैं।

मैं सभी विद्यार्थियों एवं सभी सहयोगकर्ताओं को उनके उत्कृष्ट योगदान के लिए हार्दिक शुभकामनाएँ देता हूँ और शिक्षकों और अभिभावकों को उनके समर्थन के लिए धन्यवाद देता हूँ। इस पत्रिका में सम्मिलित करने के लिए अच्छी संख्या में रचनाएँ प्राप्त हुईं। यह हमारे विद्यार्थियों की रचनात्मकता को दर्शाती है। यदि किसी बच्चे की रचना को स्थान नहीं मिला तो उन्हें निराश नहीं होना चाहिए और प्रयास करते रहना चाहिए।

आइए, हम सब मिलकर अपने बच्चों के उज्ज्वल भविष्य की दिशा में एक और कदम बढ़ाएँ। हमारे बच्चों के स्वप्न ही हमारे देश का भविष्य हैं, और मैं आशावान हूँ कि इन्हें साकार करने में हर संभव सहायता मिलती रहेगी।

धन्यवाद।

(जयन्त चौधरी)

Office: Room No. 104-A, 'C' Wing, Shastri Bhawan, New Delhi-110 601  
Phone : +91-11-23364327, 23381582, E-mail: mcoedu-jr@gov.in

August 2024 | सपनों की उड़ान





## FROM THE EDITOR'S DESK

We are celebrating India's National Space Day on August 23 marking the historic landing of Chandrayaan-3 on the lunar South Pole. This launch edition of the e-magazine gives exclusive insights into Chandrayaan-3, its cutting-edge technology, and the brilliant minds behind its success. On this Indian Space Day, we honour the dedication and innovation of our space pioneers and look forward to many more milestones in India's space journey.

आकाशो स्थितम् विश्वम्, विश्वम्  
भ्रमति भ्रमते स्थितम्।

This profound Sanskrit quote beautifully captures the paradoxical essence of our universe, where celestial bodies are in perpetual motion, yet the cosmos remains steadfast and unchanging. Our journey to unravel the mysteries of the cosmos and the universe is an ever-continuing adventure.

In this issue, you'll find captivating articles, breathtaking images, and thought-provoking essays, creative

poems and many more. From the Lunar landing of Chandrayaan-3 to the mysteries of the cosmos, we've assembled a stellar collection that will ignite your curiosity and inspire your imagination.

We have received a heart warming response from the education fraternity including numerous entries in both Hindi and English from students and teachers across the schools of Central Board of Secondary Education, Kendriya Vidyalaya Sangathan, Navodaya Vidyalaya Samiti, etc., and here are some selected creative pieces.

We extend our gratitude to all the young minds and teachers who have contributed to this e-magazine. Your passion and creativity fuel our mission to reach for the stars. Very soon we will be coming back with more exciting features in the next issue of the e-magazine on another vibrant theme.

***Your passion and creativity fuel our mission to reach for the stars***

# CONTENTS

## Learning and Education

Chandrayaan-3: A Journey to the Moon	1
ब्रह्मांड और विज्ञान	3
My Adventures at Science City, Jalandhar	4
चंद्रयान की यात्रा	6
राष्ट्रीय अंतरिक्ष दिवस	7
Reaching for the Stars: Igniting My Scientific Dreams	8
Embracing Perservance: Lessons from Chandrayaan-3	10

## Fiction and Verses

Secrets of South Pole of Our Natural Satellite	13
Me as a 'Naut'	14
The Quantum - A Gateway to Space	15
मेरा सपना महाकाश!	17
My Friends in the Universe	18
The Library's Lunar Connection	20
Voyages Beyond the World: Chandrayaan-3	20
The Boy Who Conquered the Sky	23
The Moonlight Adventure	26

## Fun and Games

Puzzle	30
--------	----

## Science and Discovery

The Father of Indian Space Program	31
Journey of Chandrayaan-3	32
राष्ट्रीय अंतरिक्ष दिवस - चंद्रयान-3 की चाँद पर लैंडिंग	37

## Teachers' Corner

From Earth to Moon: India's Epic Voyage	40
Lessons for the Next Generation	43
प्रगति पथ	43

## Fun and Games

Puzzle	44
--------	----

## Voices and Opinions

Do you want to be an Amateur Astronomer?	45
Parent's Perspective	46
A Journey Through Sky: My Life-long Fascination with Space	47
चंद्रयान भारत की शान	49
Moon Fall	50



# LEARNING AND EDUCATION

## Chandrayaan-3: A Journey to the Moon



In a quiet room in India, a 12-year-old boy, Ayansh, sat eagerly in front of a tablet screen. He was about to witness history in the making—the landing of Chandrayaan-3 on the Moon. This moment was not just about watching a spacecraft land; it was about understanding the science, technology, and dedication behind one of India's most significant space achievements.

### ***A Dream Takes Flight***

The journey began years earlier, with a dream to explore the moon and uncover its secrets. Indian Space Research Organisation (ISRO) had already made significant strides with Chandrayaan-1 and Chandrayaan-2. Chandrayaan-1, launched in 2008, was a trailblazer, discovering water molecules on the Moon—a finding

that changed our understanding of the lunar surface.

Chandrayaan-2 followed in 2019, aiming to explore the Moon's South Pole, a region believed to hold vast scientific treasures. Although the lander, Vikram, encountered challenges during its descent, the mission was far from a failure. The orbiter continued to send valuable data, and the team at ISRO learned invaluable lessons that would fuel their determination to try again.

As Ayansh learned about these missions, he realised the importance of perseverance and resilience in scientific endeavours. Setbacks are not failures, but they are the stepping stones to success.

### ***Preparing for the Mission***

The planning and preparation for Chandrayaan-3 involved countless hours of hard work and innovation. Engineers and scientists worked tirelessly, designing new systems to ensure a successful landing. He tested and retested every component, leaving no room for error. Ayansh in the room marvelled at the complexity and precision required to send a



spacecraft to the Moon.

During this phase, Ayansh had been learning about the principles of physics and engineering that make space travel possible. He explored concepts like rocket propulsion, gravity, and the challenges of landing on a celestial body. The excitement in the room was palpable as he realised the real-world applications of the lessons he had learned.

### **Launch Day**

**A Nation Holds Its Breath.** The day of the launch arrived, and excitement buzzed through the air. On 14 July, 2023, the LVM M4 rocket stood tall on the launch pad, ready to propel Chandrayaan-3 into space. Millions of eyes were glued to screens across the country, watching as the rocket roared to life and ascended towards the sky. In the room, his heart was racing with anticipation. He learned about the teamwork and coordination required to execute such a complex mission. The launch was a success, and the spacecraft began its journey to the Moon, carrying the hopes and dreams of a nation.



### **The Descent: A Moment of Triumph**

As Chandrayaan-3 approached the moon, the tension was palpable. Ayansh could hardly contain his excitement as he watched the live broadcast of the descent. The lander, equipped with advanced navigation and landing systems, began its careful descent to the lunar surface.

In those tense moments, the room erupted into cheers as Chandrayaan-3 touched down safely on the Moon on 23 August, 2023. India had become the fourth country to achieve a soft landing on the Moon, a testament to the dedication and hard work of everyone involved in the mission.

With the successful landing, Chandrayaan-3 began its scientific exploration of the moon. Ayansh followed the journey, eagerly learning about the mission's objectives and the discoveries it made.

### **Inspiring the Next Generation**

As the mission unfolded, Ayansh was inspired by the dedication and innovation of the scientists and engineers behind Chandrayaan-3. He saw firsthand how teamwork, perseverance, and a passion for discovery could lead to extraordinary achievements.

The success of Chandrayaan-3 not only showcased India's capabilities in space exploration but also served as a catalyst for educational inspiration. Students across the country were



Deepak Rao, Class- VIII, PM SHRI Jawahar Navodaya Vidyalaya, Mirzapur

encouraged to pursue careers in science, technology, engineering, and mathematics, driven by the possibilities of exploring the unknown.

### **Looking at the Future**

Chandrayaan-3 is just the beginning of India's ambitions in space exploration. The mission paves the way for future endeavours, including further lunar exploration, missions to Mars, and the potential for asteroid mining.

In his room, Ayansh is already dreaming about the future. He imagines being part of missions that push the boundaries of human knowledge, exploring new worlds, and unlocking the mysteries of the universe.

### **A Story of Discovery and Inspiration**

The story of Chandrayaan-3 is a testament to human ingenuity and the relentless pursuit of knowledge. For the students who watched this journey unfold, it was a lesson in the power of dreams and hard work.

**Yogesh Mishra , Teacher**  
**Viraj International School, Tarapur**

## **ब्रह्मांड और विज्ञान**

चंद्रयान की टीम ने देखो,  
कैसा अद्भुत काम किया,  
युगों युगों से सूत कातते,  
मामा को आराम दिया।  
हम हो गए कामयाब,  
हम हो गए कामयाब,  
हो हो हो रंग दिया विश्वास।  
रंग दिया विश्वास,  
रोवर चलेगा चारों ओर,  
सैम्पल लेगा चारों ओर,  
चाँद ने बोला हमें नमस्ते,  
कैसे पहुँचे मेरे रस्ते।  
सफल हो गए आज के दिन,  
रंग दिया विश्वास,  
ब्रह्मांड में गूँज उठे हम,  
चंद्रयान का गान लिए,  
चाँद तिरंगे के रंग में रंगा,  
एक नई पहचान लिए,  
आज हम चाँद पर पहुँचे,  
एक नई उड़ान लिए।  
याद करो वो दिन तुम,  
चौदह अगस्त था वह दिन,  
आगे भी हम श्रम करेंगे,  
संकल्प हम सबने लिया,  
चंद्रयान की टीम ने देखो  
कैसा अद्भुत काम किया।

नेतिक सैनी, VII

पी एम श्री जवाहर नवोदय विद्यालय, पौड़ी गढ़वाल

## My Adventures at Science City, Jalandhar

On a bright summer morning, I set out to explore Science City in Jalandhar. Located on the outskirts, the Science City promised a day of discovery and learning, and it did not disappoint.

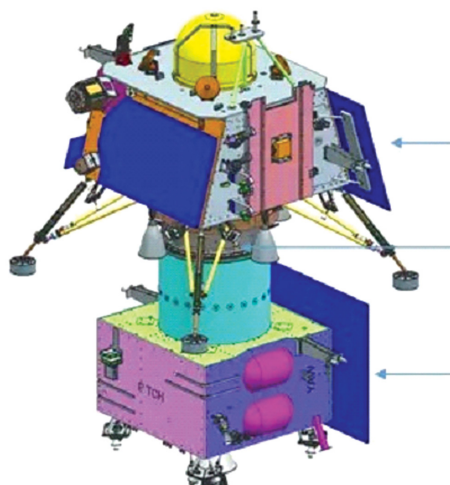
As I arrived, I was awestruck by the entrance, featuring towering sculptures of famous scientists. My exploration began at the Interactive Science Museum, where hands-on exhibits made complex scientific concepts come alive. From experimenting with the Laws of Physics to navigating through a virtual solar system, I was captivated. The museum's interactive displays were designed to be both informative and fun, allowing visitors to explore topics like electricity, magnetism and spaces all with a sense of wonder.

Next I went to the Planetarium. As I settled down, the lights dimmed, and a mesmerizing show about the universe began. The projection of stars and planets on the domed ceiling created a breathtaking experience, making me feel as though I was floating among the celestial bodies. The detailed narration further enriched our understanding of the cosmos. Outside, I discovered the Science Park, an area filled with engaging outdoor exhibits. One of my favourites was the giant pendulum, which vividly demonstrated the

principles of motion and gravity. The park also featured interactive water displays and optical illusions that entertained and educated at the same time.

The Robotics and Technology pavilion was another highlight of my visit. I watched with fascination as the Robots performed tasks with impeccable precision. The demonstrations showcased the latest advancements in technology and left me in awe of what modern Robotics can achieve.

After a delightful lunch at the science city cafeteria, I attended a workshop on renewable energy. The workshop offered practical insights into solar and wind energy technologies, reinforcing the importance of sustainability. Hands-on activities allowed me to experiment with these concepts,





deepening my appreciation for environmental science.

As the day came to an end, I took a leisurely stroll through the picturesque

grounds of Science City.

Reflecting on my visit, I felt a sense of fulfilment and inspiration.

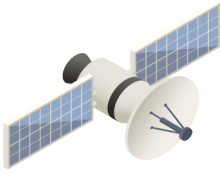
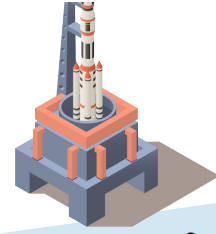
It was a memorable day indeed.

**Nowshad Sideeq, X  
Jawahar Navodaya  
Vidyalaya, Bandipora**



# चंद्रयान की यात्रा

चंद्रयान-1 को 22 अक्टूबर 2008 के दिन 11 उपकरणों के साथ लॉन्च किया गया। चंद्रमा की सतह पर पहुँचते – पहुँचते अगस्त 2009 में इसका संपर्क हमसे टूट गया लेकिन फिर भी इस यान ने एक महत्वपूर्ण सूचना हम तक पहुँचाई कि चांद की सतह पर पानी के अणुओं की मौजूदगी है।



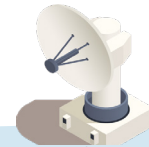
फिर 22 जुलाई 2019 को फिर से चंद्रयान-2 को लॉन्च किया। इसमें मुख्य रूप से तीन घटक थे, एक आर्बिटर, दूसरा लैंडर 'विक्रम', और तीसरा रोवर 'प्रज्ञान'। जब यह चंद्रमा की कक्षा में पहुँच रहा था, उस समय इसका संपर्क हमसे टूट गया लेकिन आर्बिटर ने मूल्यवान डाटा भेजना जारी रखा।

हमारे चंद्रयान-1 और चंद्रयान-2 दोनों का संपर्क हमसे टूटा।



भारतीय वैज्ञानिकों ने हार नहीं मानी और चंद्रयान-3 को 14 जुलाई 2023 के दिन लॉन्च किया गया। इसे हमारे महान वैज्ञानिक, श्रीमान सतीश धवन के नाम से जो अंतरिक्ष केंद्र है – सतीश धवन अंतरिक्ष केंद्र हरिकोटा, वहाँ से लांच किया गया।

5 अगस्त 2023 को इसने चंद्रमा की कक्षा में प्रवेश किया।



23 अगस्त 2023 को शाम 6:04 बजे हमारे चंद्रयान-3 ने लैंड किया और उसके बाद रोवर प्रज्ञान ने लैंडर विक्रम से 100 मीटर से अधिक की दूरी तय की। चंद्रयान-3 चंद्रमा के दक्षिणी ध्रुव पर उतारा गया है। दक्षिण ध्रुव पर किसी यान को भेजने वाला प्रथम देश हमारा भारत है। इससे पहले तीन देशों ने अपने-अपने चंद्रयान भेजे हैं, जो संयुक्त राज्य अमेरिका, रूस और चीन हैं किंतु इन सभी देशों ने अपने यान उत्तरी ध्रुव पर भेजे हैं। जबकि हमारा चंद्रयान-3 दक्षिण ध्रुव पर पहुँचा है, जो कि वहाँ से विभिन्न प्रकार की जानकारीयाँ 'इसरो' तक प्रेषित करेगा।

उमाशंकर पंवार, पीजीटी (हिंदी)  
पी एम श्री केंद्रीय विद्यालय रघुनाथपुरा, नारनौल

## राष्ट्रीय अंतरिक्ष दिवस

लहरा दिया तिरंगा,  
अंजान भूमि पर,  
मनवा लिया लोहा अपना,  
दुनिया की धुरी पर।  
किया न जा सका जो अब तक,  
पहुँच गया भारत वहाँ तक,  
चन्द्रमा के दक्षिण ध्रुव पर,  
रखे थे कदम विक्रम ने ऊपर।  
लगा दिया मुकुट भारत माँ के शीश पर,  
भारतवासी हुए गदगद,  
इस स्वर्णिम इतिहास पर।  
उम्मीद टूटी थी हौसला साथ था,  
चाँद पर जाने का यह सफल प्रयास था।

दिव्या, IX  
पी एम श्री जवाहर नवोदय विद्यालय, उत्तरकाशी





## Reaching for the Stars: Igniting My Scientific Dreams



The successful landing of Chandryaan-3 on the Moon's South Pole wasn't just a triumph for India – it was a pivotal moment in my life. As I watched the live broadcast of the landing with my classmates at Aditya Birla Public School, I felt a surge of excitement and pride. At that instant, my dream of becoming a scientist crystallized into a firm resolve.

I've always been fascinated by science, especially space exploration. But seeing Indian scientists achieve what no other country had done before made me realize that these dreams aren't just fantasies – they can become reality with hard work and determination.

The Chandryaan-3 mission showed me that science isn't just about textbooks and exams. It's about solving real-world problems, pushing the boundaries of human knowledge, and even changing how we see our

place in the universe. The scientists at ISRO who made this mission possible became my new heroes.

Inspired by their achievement, I've taken several steps to nurture my dream of becoming a scientist.

**1. Deepening My Knowledge:** I've started reading beyond my school textbooks. I've borrowed books on space science, physics, and astronomy from our school library. Websites like NASA's Space Place and ISRO's student portal have become my go-to resources for the latest in space exploration.

**2. Hands-on Experiments:** With help from my science teacher, I've set up a small 'lab' at home where I conduct simple experiments. Recently, I built a model of the solar system to understand planetary movements better.

**3. Joining Science Clubs:** I've become an active member of our school's science club. We meet weekly to discuss scientific concepts, conduct experiments, and even work on small projects. Currently, we're building a weather station to collect local climate data.

**4. Participating in Competitions:** Inspired by Chandryaan-3, I participated in the Inter School and District level science fair. My project on water conservation won

appreciation, boosting my confidence in my scientific abilities.

**5. Stargazing Nights:** I've started organizing stargazing nights in my neighbourhood. With a small telescope borrowed from school, I've been showing my friends and neighbors the wonders of the night sky, just like the Moon that Chandrayaan-3 explored.

**6. Following Space News:** I now regularly follow news about space missions, not just from India but around the world. Learning about these missions helps me understand the global effort in space exploration.

**7. Improving My Math Skills:** Realizing the importance of mathematics in science, I've been putting extra effort into improving my math skills. I solve additional problems beyond my school curriculum and have joined an online math club.

**8. Writing About Science:** I've started a small blog where I write about scientific concepts and news in simple language. This helps me understand the topics better and improves my communication skills – an important ability for any scientist.

**9. Virtual Tours and Workshops:** I've participated in virtual tours of facilities like ISRO's space center and attended online workshops on topics like rocket science and satellite technology.

**10. Dreaming Big:** Most importantly, I've learned to dream big. If India can

land a spacecraft on the Moon's South Pole, why can't a boy from Jodhpur become a leading scientist one day?

The success of Chandrayaan-3 has taught me valuable lessons about perseverance, innovation, and the power of dreams. The mission faced setbacks, like the unsuccessful landing of Chandrayaan-2, but the scientists didn't give up. They learned from their mistakes and came back stronger.

Living in Jodhpur, far from India's space centers, I used to think that becoming a space scientist was an impossible dream. But Chandrayaan-3 has shown me that with the right education, dedication, and hard work, even someone from a small town can reach for the stars.



Nabamallika Gogoi, B.Ed  
NERIE, NCERT Shillong

As I continue my studies at Aditya Birla Public School, I'm more motivated than ever to excel in my academics, especially in science and mathematics. I know the path to becoming a scientist is long and challenging, but the excitement of potentially contributing to missions like Chandrayaan-3 in the future keeps me going.

The Moon has always fascinated humanity, inspiring countless stories, songs, and dreams. Now, thanks to Chandrayaan-3, it has also inspired a young boy in Jodhpur to pursue a career in science. As I look up at the

Moon each night, I no longer just see a celestial body – I see a future full of possibilities, discoveries, and adventures.

Chandrayaan-3 has shown that India can achieve greatness in space exploration. As a young Indian, I'm determined to be part of this exciting journey. Who knows? Maybe one day, I'll be part of the team sending the first Indian astronaut to the Moon. Until then, I'll keep learning, exploring, and dreaming – for in science, as in life, the sky is not the limit; it's just the beginning.

**Atharv Anand Shah, VIII**  
**Aditya Birla Public School, Jodhpur**

## Embracing Perseverance: Lessons from Chandrayaan-3

As we commemorate the monumental success of Chandrayaan-3, we are reminded of a powerful lesson in perseverance and dedication. Chandrayaan-2, launched in 2019, expanded our understanding of the moon despite facing significant challenges during its landing phase. The man behind this mission, Dr. K. Sivan, did not lose hope despite the setbacks. Encouraged by our honorable Prime Minister, who reinforced the nation's commitment to space exploration, Dr. Sivan and his team continued their efforts. If he had given up, we might not be celebrating the triumphant landing

of Chandrayaan-3 today, a mission that further cemented India's place in space history under the outstanding achievement of ISRO Chairman S Somanath.

As the school principal, I want to underscore that moments of demotivation, exhaustion, and feeling lost are not the end of the road but pivotal points in our journey. These challenging times test our resolve and offer opportunities for growth. Every setback is a lesson in disguise, providing a chance to reassess, adapt, and emerge stronger.

Consider the legendary inventor Thomas Edison, who famously



encountered countless failures before inventing the practical electric light bulb. His words, "I have not failed. I've just found 10,000 ways that won't work," illustrate how persistence transforms failures into groundbreaking success. Similarly, Michael Jordan, cut from his high school basketball team, used this setback as motivation to become one of the greatest basketball players in history.

These stories serve as a profound reminder that we should not be deterred by failures. As Dr. APJ Abdul Kalam wisely said, "Don't read success stories, you will only get a message. Read failure stories, you will get some ideas to get success." Failures teach us resilience, offer insights, and help refine our strategies.

In the realm of cinema, films like *The*

*Pursuit of Happiness* and *Mission Mangal* offer powerful narratives of overcoming adversity. *Mission Mangal* dramatizes the true story of India's Mars Orbiter Mission, reflecting the spirit of perseverance in the face of challenges. *Rocketry: The Nambi Effect* depicts the journey of Dr. Nambi Narayanan, whose contributions to India's space program were marked by personal trials and resilience. These movies serve as poignant reminders that there are no limits to the rewards awaiting those who truly deserve them.

As educators, we have a pivotal role in identifying and nurturing the potential of future scientists, doctors, and innovators who may be right in our classrooms. Our role extends beyond teaching academic content;



it involves guiding, inspiring, and supporting students to realize their full potential. Creating an inclusive environment that recognizes diverse talents and promotes collaboration, helps students from different backgrounds discover their strengths and interests.

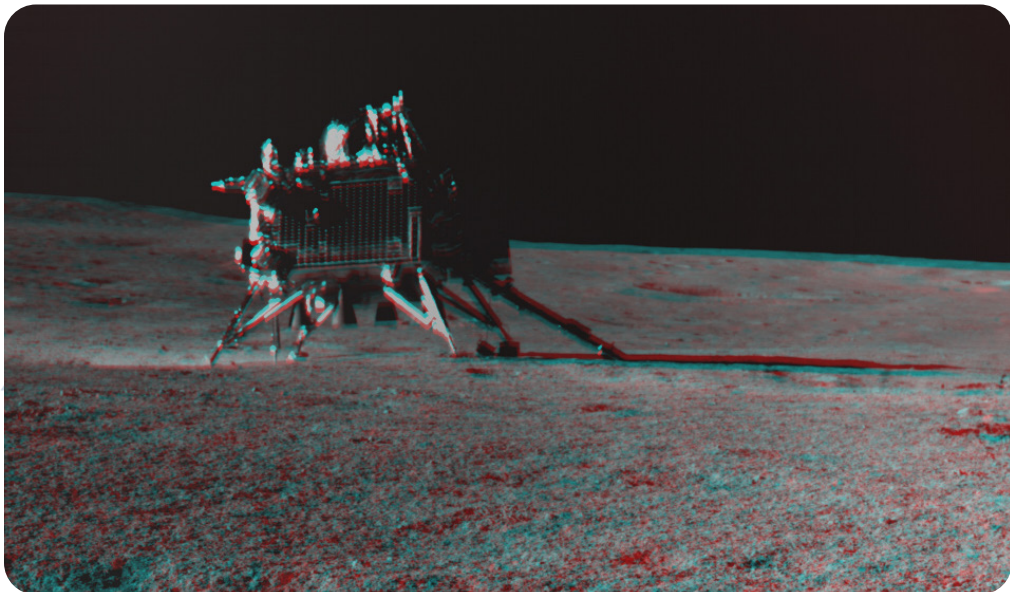
In our institution, many students initially struggled and lost hope in their academic journey. However, with a little encouragement and support from their teachers, these students were able to overcome their challenges and achieve remarkable success. This highlights the profound impact that a supportive educator can have in helping students

rediscover their potential and reach new heights.

Reflecting on Gandhi's philosophy, "The best way to find yourself is to lose yourself in the service of others," we see how our service as educators involves helping students uncover and develop their unique talents. By recognizing and nurturing these potentials, we are not only shaping their futures but also contributing to a brighter and more innovative world.

Let the success of Chandrayaan-3 and the stories of perseverance we share be a source of inspiration for us all. Embrace challenges, persist through difficulties, and continue to strive toward your goals.

**Alka Sahni, *Principal***  
**Maharaja Agarsain Public School, Delhi**





# FICTION AND VERSES

## Secrets of South Pole of Our Natural Satellite

My Personal Views – Harnessing the Unharnessed Energy

The South pole of the moon has always been hidden from our eyes. So are the secrets that dwell there. I feel that there exists a ray of hope – a warmth that can counter the coldness with which human beings neglect our planet, our future generation and exploit our precious resources.

I envisage a special lunar energy that is present somewhere on the dark side of the moon. This energy, which could be in the form of anything has the capability to fulfil our energy requirements. I believe that if we could harness it and then, find a way to cleverly utilize it, we would be able to save our earth from all the disasters that our current methods of utilization of non-renewable resources are going to cause. The fossil fuel, crude oil, water etc. that are being excessively and greedily used by human beings could be saved. We would be not so dependent on our

mother earth for everything that we do. You may wonder that- Will this not cost too much?

I don't think so.

Moon's gravitational pull causes tides on Earth and we make tidal power plants to utilize tidal energy. It does not cost us at all (minus the setting up of the tidal power plants). So if this "Special Hidden Energy" present on the south pole of the moon can be utilized in a somewhat similar way, it will be very cost effective.

Since the Moon revolves around the earth, we will be able to re-charge our resources or fulfil our energy needs with that Special Energy without leaving any region or country out. Every night, we shall be able to replenish our fuels and thus, sustainably develop.

I am eagerly waiting for this energy to be unveiled. Hope you are too.

Chandrayaan-3's prints on the moon dust are India's signature on the treaty of success.

***Chandrayaan-3's prints on the moon dust are India's signature on the treaty of success.***

Anvita Singh Bhadauria, X  
PM SHRI Kendriya Vidyalaya,  
ITBP Karera



## Me as a 'Naut,

Oh god! Oh god!  
Make me a Vyomnaut,  
I wanna travel in Gaganyaan  
On board.

Watching the Earth.  
with a terrific sight,  
Oh! If I can do  
a unique space flight!  
Maybe, Its only a dream,  
But if it can happen  
Then I would make a  
Child's scream.

Lets see our India  
As a "Vaccum Master",  
And for that,  
Go and study faster.

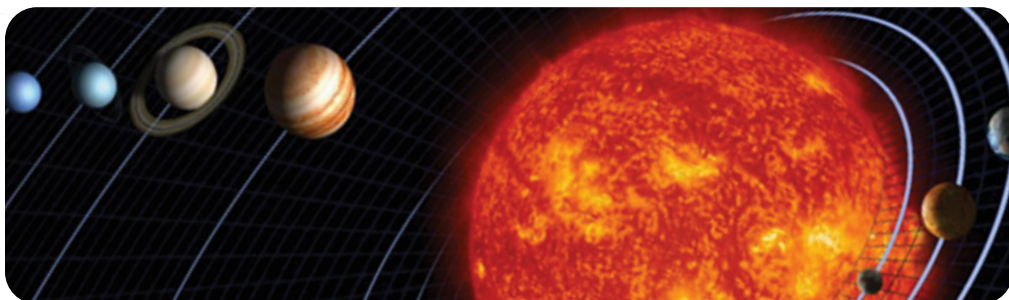
Anuj Bhatt, VII  
PM SHRI Jawahar Navodaya  
Vidyalaya, Pauri Garhwal



Naitik Saini, Class VII, PM SHRI Jawahar  
Navodaya Vidyalaya, Pauri Garwal



## The Quantum - A Gateway to Space



In the year 2100, humanity had discovered how to travel using quantum technology. The stars were no longer far away; they were gateways to other worlds. The Quantum Mirage, a sleek spaceship powered by quantum particles, moved through space and time like a knife through butter. Captain Adhya stood on the bridge, watching the swirling vortex ahead. Her crew, made up of different species and backgrounds, worked together smoothly, their neural interfaces connecting them. They were explorers, pioneers, and dreamers. Their mission: to explore unknown galaxies, find strange phenomena, and solve the mysteries of the universe.

The Quantum Mirage arrived near a binary star system, where two giant stars danced around each other. Adhya adjusted her holo-goggles and scanned the data. An anomaly appeared on her display: a rogue planet, shimmering with colors. It

didn't follow the laws of physics, orbiting no star but still full of energy. "Commander Zara," Adhya said to her second-in-command, "get a landing party ready. We're going down."

Zara nodded, her reptilian eyes narrowing. "Captain, this planet—it's like nothing we've seen. It feels like reality itself is playing tricks."

The landing party descended in shining pods, their boots touching the alien soil. The air tasted like stardust, and the horizon wavered like a mirage. Adhya stepped out, her suit sensors detecting quantum fluctuations. She felt both here and elsewhere, her molecules shifting between dimensions.

The planet revealed its secrets. Ancient ruins stood half-buried, with inscriptions they couldn't read. Adhya traced her fingers over the symbols, feeling whispers of lost civilizations. The walls pulsed with energy, showing glimpses of other realities: cities of light, oceans of fire, and beings with strange shapes.

Dr. Thal, the ship's xenobiologist, approached. His insect-like exoskeleton clicked as he examined a crystal artifact. "Captain, this isn't just a planet. It's a cosmic crossroads—a meeting point of possibilities."

Adhya's mind raced. "A hub for parallel universes?"

"Exactly," Thal said. "Each reality meets here. Imagine the choices we make—the paths not taken. They come together, separate, and dance." As night fell, the Quantum Mirage's crew gathered around a campfire. They shared stories of a warrior who chose peace, a scientist who embraced chaos, a lover who defied fate. The flames flickered, casting shadows that whispered forgotten names.

Adhya stared at the binary stars above. "What if we could step into those other lives? Experience every choice we never made?"

Zara leaned closer. "Captain, we're explorers. We seek knowledge."

Adhya nodded. "We'll build a bridge—a quantum bridge. We'll step into other realities, learn their wisdom, and return."

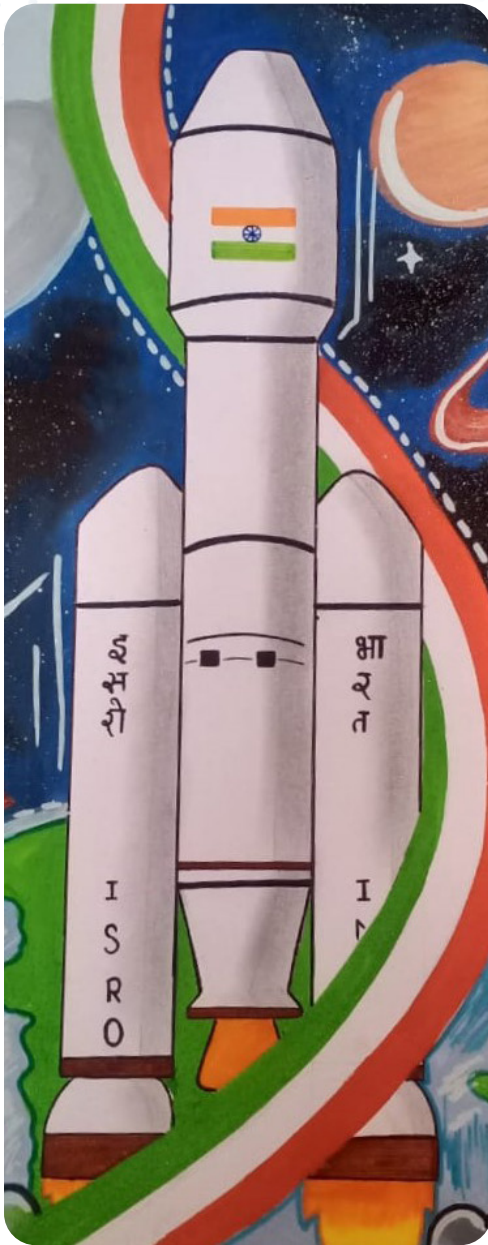
And so, they worked. The Quantum Mirage's engines hummed, connecting the threads of reality. Adhya stepped onto the bridge, her heart racing. The vortex opened before her—a gateway to infinity.

"Captain," Zara said, "are you ready?"

Adhya smiled. "We're not just explorers anymore. We're navigators of existence." She stepped through, and the universe unfolded. She was a queen, a beggar, a starship captain, and a dreamer. She danced with alternate selves, each step echoing across dimensions. Back on the alien planet, Thal watched the vortex close. "Will she return?" Zara clasped her hands. "She will. But she'll be more—a tapestry of lives, woven by choice." And so, Captain Adhya became a legend—a shimmering figure who walked between worlds. The Quantum Mirage sailed on, seeking new horizons, guided by the echoes of a thousand lives. And in the heart of the cosmic crossroads, the binary stars whispered: "Choose."

Anmol, Student  
Bhartiya Vidya Mandir Senior Sec. School, Ludhiana





Harshita, XI,  
PM SHRI Jawahar Navodaya  
Vidyalaya, Banawara II

## मेरा सपना महाकाश!

बहुत बड़ा है आकाश, ज्ञान का है ये प्रकाश  
इसमें हैं बहुत सितारे, आलोकित हो रहा  
आकाश।

कभी-कभी देखती हूँ आकाश की ओर से,  
चमकता प्रकाश भूमि की ओर।  
माँ भारती की गोद में गिर रहा सितारा,  
जो सबकी आँखों को लगता प्यारा।  
कोई न ढूँढ़ पाया महाकाश का अंत  
हैं मेरे मन में, प्रश्न भी अनंत।

इस अनंत आकाश का रहस्य किसी ने जाना है?  
महान हैं वो लोग जिन्होंने थोड़ा-सा पहचाना है।  
उस अनोखे रहस्य की, करनी है मुझको खोज,  
छुपा हुआ जो अनंत व्योम में है ये मेरी सोच।

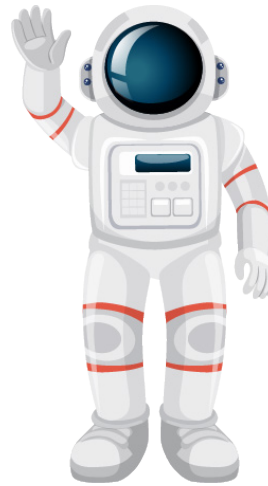
तमन्ना इकबाल, VII,  
पी एम श्री जवाहर नवोदय विद्यालय, गोपालपुर

# My Friends in the Universe

The sky was a canvas of dreams, and the stars seemed to wink at me with secrets untold. As I lay on my bed, eyes heavy with sleep, I felt a strange sensation, as if gravity was losing its grip on me. The next moment, I was no longer in my room but floating through the vast expanse of space, headed towards a gleaming spacecraft. It was none other than Chandrayaan-3, India's pride and joy. The spacecraft beckoned, and I floated inside, weightless. The lunar surface came into view, a magnificent expanse of grey and white, dotted with craters and shadowed valleys. My heart raced as we descended, the lunar module making its slow, careful approach.

Stepping out onto the moon's surface was like walking into a dream. The ground beneath my feet was soft and powdery, and with each step, I left behind a perfect imprint of my boot. The Earth hung in the sky, a beautiful blue marble, distant yet familiar. Suddenly, I caught a movement from the corner of my eye. Intrigued, I made my way towards my curiosity leading me over rocky terrain and around massive boulders.

To my astonishment, I stumbled upon a group of beings that could only be described as aliens. They were unlike anything I had ever seen, with shimmering, translucent skin that




glowed in a rainbow of colours. Their eyes were large and expressive, and they moved with a grace that was almost ethereal.

The aliens greeted me warmly, their voices a melodic hum that resonated in the thin lunar air. Through gestures and smiles, they communicated their joy and excitement. They knew about Chandrayaan-3 and were celebrating its success as much as we were. It seemed that our achievements had reached far beyond our own planet, touching the hearts of these extra-terrestrial beings.

Together, we marked the National Space Day on the moon. The aliens brought out instruments that produced the most enchanting music, and we danced under the starlit sky. They showed me their way of celebrating through song, dance, and storytelling. One of the aliens, whom I





began to think of as a friend, took me to a spot where the ground seemed to sparkle. They pressed a button on a small device, and a holographic display appeared, showing the history of their own space explorations and their encounters with other civilizations.

Hours seemed to pass in a blur of joy and wonder. The aliens gifted me a small crystal, a token of our newfound friendship. It glowed with a soft, warm light, and I tucked it safely into my pocket. We bid each other farewell, and I made my way back to the lunar module, feeling a sense of fulfillment and contentment I had never known before.

The journey back to the Earth was smooth, and before I knew it, I was back in my bed, the weight of gravity pulling me down once more.

I opened my eyes, and reality came rushing back. The familiar sight of my room greeted me, and I felt a pang of disappointment. I sat up, the memories of my lunar adventure still vivid in my mind. The thought of meeting aliens and celebrating with them felt surreal. It had all been a dream, a beautiful, wondrous dream. The crystal was no longer in my pocket, and the moon was just a distant orb in the sky once again.

I glanced at the clock and realized

with a start that I had an exam to take. With a sigh, I got out of my bed and began to get ready for school. The weight of the day ahead felt heavy on my shoulders. As I gathered my books and notes, I was sad. The dream was so vivid, so real, that waking up to the ordinary felt like a let-down.

However, as I walked to the school, I remembered the lessons I learnt from my dream. The aliens had celebrated our success with us, showing that our achievements had the power to inspire and unite across the cosmos. It reminded me that even the smallest of our efforts could have a profound impact.

I entered the exam hall with a renewed sense of purpose. The questions on the paper seemed less daunting, and I tackled them with a newfound confidence. The dream had instilled in me a sense of pride in my own capabilities and the belief that I could achieve great things.

And so, as I drifted off to sleep that night, onto the hope that one day, I might truly reach for the stars. Perhaps I wouldn't land on the moon or meet aliens, but I could still celebrate the wonders of the universe and the achievements of humankind. For now, my dreams would fuel my journey, guiding me towards a future where anything is possible.

**Richa Kumar, Academic Director,  
Sanskriti World School,  
Boisar East**

## The Library's Lunar Connection

A young mind entered my domain,  
Seeking knowledge, with a curious strain.  
They scanned the shelves with eyes so bright,  
Searching for news of Chandrayaan's delight.  
I watched them read with a happy smile,  
Their excitement was worth my while.  
They felt proud of their country's feat,  
And celebrated with a happy tweet.  
For in my library, knowledge is key,  
To unlock dreams and set the heart free.  
And I'm grateful to be a part,  
Of this young mind's journey, a joyful start.

**Rishi Kumar Sarki,**  
*Semi Professional Assistant, NERIE, NCERT*

## Voyages Beyond the World — Chandrayaan-3

A wild thrill consumed me and adrenaline coursed through my veins as I boarded the Chandrayaan-3 rocket. My legs felt like noodles, and I felt a pounding sensation in my head. Everybody would be watching me board the aircraft through their televisions. I will make history. As the ISRO scientists signaled me to buckle up, my heart skipped a beat. This would be my first time in space. I was absolutely exhilarated.

Energy coursed through my veins like electricity - setting my body on fire. As the countdown started, I waited with bated breath. After a few seconds, the roar of the rocket engines reached my ears. We were lifting off. The rocket shook violently, and with a surge of force, I felt it ascending. The force of the thrust propelled the rocket upward, pushing against the gravity of the Earth with unabated determination. The sound was a

roaring symphony, and I looked out of the launch window at the beautiful expanse of the green and blue that we were slowly leaving behind. As we gradually went higher and higher into the space, I looked down to see the Earth in all its glory—A beautiful blue and green orb, covered with pellucid white clouds swirling around it in a beautiful dance. I can't explain it in words—it was absolutely breathtaking. The stark contrast of our home planet against the black backdrop of the cosmos was a marvellous sight. These are the times when I wish I had a photographic memory. We went higher and higher up, and soon enough I could see about half of the earth. Have you seen those beautiful pictures of the Earth taken from space? Well, those photos are nothing compared to seeing it in person. It was a whole new experience for me, and I was ecstatic about it.

A little while later, one of the ISRO



scientists on board came up to me (or rather, floated up to me) to tell me that I could unbuckle my belt and float around in the spacecraft if I wished to. As soon as I unbuckled my belt, and felt my feet lift off the spaceship floor. It was like swimming, but in the air. It was definitely a unique experience, and I felt this thrilling sort of freedom. My body glided effortlessly, and the Earth's gravity didn't pull me down. It felt like a gentle, buoyant suspension, as if I was floating in a dream.

After a while of exploring the spaceship, another ISRO scientist came up to me to hand me some food. Obviously, you can't eat normal food in space, so, all the food was freeze-dried, and the drinks were to be had through a straw. I had some freeze-dried fruits and a lot of water. I wasn't particularly hungry, probably from all the excitement of being in space for the first time. As the spacecraft entered the orbit, the intensity of the rocket's engine finally settled down. From there, I could see that we were approaching the moon, a beautiful white, marble-like orb in the vast background of the galaxy dotted with stars. A strange feeling somewhat like nostalgia washed over me, watching the Earth become smaller and smaller, as we went farther away from it. A while later, I could see the moon approaching through the launch window. Its surface glowed

with a gentle silver light, craters and scars visible on the beautiful lunar surface. Soon enough, we were preparing for the landing. The scientists immediately got busy with the landing process, and I assisted them with the navigation. The rocket was closer to the moon's surface than ever, and we prepared for the landing. The descent started with a gentle, deliberate approach, and as the landing site came into view, I saw all the beautiful marks and craters lining the surface of the moon stunningly. We landed the rocket on the landing site. The final moments of touchdown were one of extreme calibration and technique, as the landing gear made a soft, gentle, imperceptible thud on the moon's surface that kicked up a pale cloud of lunar dust. We all let out a collective breath of relief and joy as we celebrated the successful landing. As we exited the spaceship, I felt that exhilarating thrill all over again: As I set my right foot onto the lunar land where very few humans had walked before, each of my step was a sort of gentle bounce because the gravity there was only a fraction of that on earth and I felt complete.

**Eshal P S, Student,  
Al Ameen International Public School, Kerala**





# The Boy Who Conquered the Sky

In the days of yore, a boy named Kabir was born into the heart of a sprawling and chaotic slum. Before he could even blink, his mom was gone, taken away by the cruel hand of fate. He could experience just three fleeting years of his father's embrace, when his dad who was suffering from cerebral haemorrhage was snatched away from him too.

Kabir was a survivor, they said. But inside he was a withered flower - petals torn and roots severed. One of his relatives dropped him in a dilapidated orphanage. It was owned by an eighty-year-old man named Dr Pal, a retired Physics Professor. The orphanage's peeling paint, broken windows and copious cobwebs mirrored his life within.

Kabir found it difficult to adjust in the new environment. There was a small dusty library in a corner of the orphanage. The bookshelves were fully stocked with all kinds of books. During his growing up years, he used to confine himself into that small space and read for hours. His passion for reading about physics and astronomy remained an echo in the corridors of his mind, unheard and unspoken. He had developed interest in astronomy from the day when one night he was restless and unable to sleep, one of the caretakers at the orphanage



**Vaishnavi, Class- IX A, PM SHRI Jawahar Navodaya Vidyalaya, Barabanki**

lovingly told him, 'My dear Boy, look at the vast sky; its immense darkness and the twinkling stars. Your Maa and Papa are eagerly watching you from the sky above! They may be gone, but their spirits watch you from the starry sky above.' In the days to follow, Kabir studied and learnt more about the laws of physics and the mysteries of the science of the universe from the books in the library.

After many dusks and dawns, one fine day Kabir was sitting beside Dr Pal, watching television. The news reporter was enthusiastically mentioning about ISRO's Chandrayaan-3 Mission. The reporter said, 'ISRO scientists are jubilant as the mission progresses smoothly. Recent images captured by the spacecraft have provided invaluable data about the lunar terrain, aiding in the precision landing. The landing is scheduled for 23rd August 2023 and the entire country is



united in its support for the mission.' Dr Pal was surprised to see Kabir taking down notes with determination and genuine curiosity. Kabir was keen to write down each and every detail. His gaze was as bright as a summer sky! Dr Pal decided to meticulously observe the young lad's daily routine for a few days. His initial perception of Kabir as a shy, indifferent boy changed as he saw a young aspiring scientist in front of him.

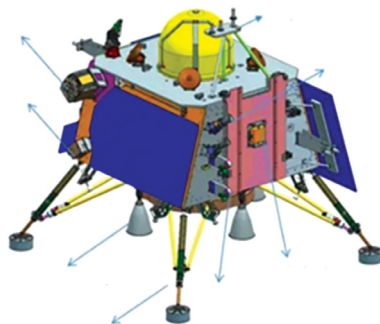
August 23 dawned bright and clear. Throughout the day, Kabir stuck close to the television and was all ears for any updates. Every inch of the page of his notebook was densely filled.

Then came the moment of truth. The nation held its breath. Seconds stretched into eternities as Chandrayaan-3 hurtled towards its celestial destination. Would it descend gracefully, a triumph of human ingenuity? Or would it be a heart-wrenching descent into the lunar abyss? The world watched as history hung in the balance.

And the next moment, a collective gasp rippled through the control room. Chandrayaan-3 had touched down. The southern lunar surface, once an unattainable dream, was now conquered. A thunderous applause erupted, drowning out the world. India had etched its name in the annals of space exploration.

Overwhelmed with happiness, Kabir's face was masked with blissful tears. He ran outside towards the balcony and looked up at the sky. His glistening eyes were fixed on the moon. At that moment, Dr Pal entered and ruffled Kabir's hair gently. He said, "Don't let the distance fool you, Kabir. Your dreams are closer than you think. All it takes is patience and a die hard approach to achieve immense faith in yourself."

Dr Pal continued, "Don't let anyone dim your shine. It's time for you to chase your dreams." A seed of inspiration was planted in Kabir, and



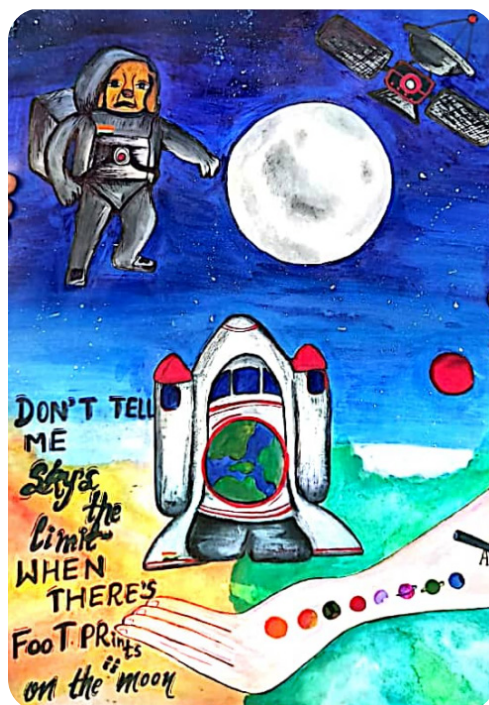
he knew that his journey to the stars had just begun. 15 years later. The interview studio was bathed in soft lights. Kabir, now a seasoned ISRO scientist, sat composed, his eyes reflecting sheer determination. He was about to embark on an eminent mission that could create history.

“Kabir, you’ve come a long way. From a town boy to being at the forefront of India’s space program. What ignited this passion?” The inquisitive interviewer sat there asking questions to Kabir. It was a great honour for him. Kabir smiled and his eyes softened as he drifted back in time. “It all started with a spark, the day when Chandrayaan-3 successfully landed. I was a kid then, mesmerized by the nation’s triumph. Dr Pal, a wise physics professor, saw the fire in my eyes. He told me, ‘If you can dream it, you can achieve it.’ Those words became my mantra. He paused; his gaze distant, and then continued, ‘I had firmly decided to put blood, sweat and tears. I always felt that intense desire to go an extra mile to achieve my ambition. Books were my saviours, and the universe was my canvas. I painted questions about each celestial body. ISRO became my ultimate goal, a dream I dared to chase. And here I am today, on the cusp of another giant leap. Chandrayaan-3 wasn’t just a mission; it was a game changer for me. It showed me that with dedication and perseverance,

even the most ambitious dreams can become reality.’ He beamed with pride.

Before leaving, with much anticipation he added, “I feel as if I am returning to my actual home and not a physical place. I hope to see Maa and Papa there.”

**Mridula Mohan Nekar, Student,  
Bhavan’s Vidya Mandir, Shri Krishna Nagar,  
Maharashtra**



**Vikisha Rawat, XII, PM SHRI Jawahar  
Navodaya Vidyalaya, Pauri Garwal**

# The Moonlight Adventure



**Ankit Kumar, IX, PM SHRI Jawahar Navodaya Vidyalaya, Mirzapur**

On the night of Chandryaan-3's historic lunar landing, Arjun and Meera, two friends with a shared passion for space exploration, were glued to the TV in Arjun's living room. The spacecraft was making its final descent to the Moon, and the excitement in the room was palpable. The broadcast showed Chandryaan-3's successful landing on the lunar surface, a moment met with cheers and jubilation. But just as the mission's success was confirmed, a sudden blinding flash of light erupted from the TV screen. The friends were engulfed by the brilliance and fell unconscious.

When they regained consciousness, they were no longer in Arjun's living room. Instead, they found themselves on the Moon's surface. The scene before them was mesmerizing: the stark gray lunar landscape beneath a pitch-black sky, with Earth shining brightly in the distance. Right in front of them was Chandryaan-3, its

landing legs firmly set on the lunar dust.

"Arjun, look!" Meera exclaimed, her eyes wide with wonder. "It's Chandryaan-3!

We're really here!"

"I can't believe it," Arjun replied, equally astonished. "This is incredible!" Their amazement was soon interrupted by an unusual sight. Beyond Chandryaan-3, partially obscured by a lunar ridge, was a mysterious alien building. It glowed with an otherworldly light, pulsating with an energy that seemed almost alive.

"That building looks like it's from another world," Meera said. "We should check it out."

"Let's go," Arjun agreed, and was eager to explore.

As they approached the building, its architecture revealed itself as something unlike an alien. It featured smooth, flowing lines and a shimmering material that emitted a soft, pulsating glow. The grand gate was adorned with intricate symbols, and a control panel beside it seemed to control access. Before they could get close, the gate began to close with a deep, resonant clang. Panic surged through Arjun. "We need to get in before it's too late!"

They hurried to the control panel, where Arjun began pressing the



glowing symbols, trying to bypass the security. The symbols were complex and unfamiliar, but Arjun's knowledge of technology and science fiction guided him as he experimented with different combinations. After several tense moments, the gate creaked open just enough for them to slip through. Inside, the building revealed itself as a marvel of advanced alien technology. The walls were lined with glowing consoles and mysterious devices. The sophistication of the technology was apparent, but the systems seemed oddly accessible. As they explored further, the alarm suddenly blared with a sharp, metallic wail. Red lights flashed, and a robotic voice announced, "Intruders detected. Lockdown in progress." The massive doors began to close with a loud grinding noise, sealing them inside. The friends looked around frantically for a way to override the lockdown. "We need to find a way to stop this lockdown!" Arjun shouted, frustration evident in his voice. They rushed to the central console, which appeared to control the building's security. Despite the intimidating appearance of the alien technology, Arjun's quick assessment revealed a crucial detail the system lacked robust encryption or sophisticated cybersecurity features.


"These systems might be more vulnerable than they seem," Arjun



observed. "It's almost like they don't understand the concept of hacking. This could be our chance." Meera nodded in agreement. "If we can hack into their system, we might be able to override the lockdown."

Arjun began experimenting with the central console's interface. The controls were complex, but the lack of advanced security made it surprisingly easy to manipulate. He accessed the building's central database and security systems, bypassing the alien safeguards with relative ease. After a few tense minutes of hacking, Arjun managed to override the lockdown protocol.

The massive doors began to retract with a loud clanking sound, reopening the gates. The friends breathed a sigh of relief and ventured further into the building. To their amazement, the deactivated security systems revealed a hidden compartment behind a concealed panel. Inside, they found



an advanced tablet and a time watch. "These might be important," Meera said, examining the devices. "Let's check them out."

Arjun activated the advanced tablet and discovered it contained valuable data about the building's systems and advanced technology. The time watch had two buttons: one with a shield symbol and one resembling a clock. As they studied the devices, the building's alarm system reactivated. Drones began to patrol the chamber, their red lights scanning for intruders. "Use the tablet to disable the drones!" Meera shouted. Arjun quickly accessed the tablet's control functions. He hacked into the drones' systems, reprogramming them to attack the aliens. The drones turned against their creators, causing chaos and confusion among the alien technology. "We need to get out of here!" Arjun yelled. The friends raced through the passages, their breaths coming in rapid bursts. They clutched the crucial information about stable wormholes they had gathered, realizing its immense potential for space travel. As they neared what seemed to be an exit, the low, guttural growls of the alien pets grew louder, signaling their approach. Just as the friends were about to reach the exit, Arjun saw the alien pets closing in on them with alarming speed. In an attempt to protect Meera, Arjun

grabbed the time watch and quickly examined its buttons: one with a shield symbol and one resembling a clock. He pressed the shield button, creating an invisible barrier around himself.

Desperate to buy time for both of them, Arjun then pressed the clock button, hoping the time function would freeze everything and give them a chance to escape. The world around them slowed to a crawl, and the alien pets froze mid-pounce, their growls suspended in eerie silence.

Exhausted and overwhelmed, Arjun collapsed beside Meera, who remained frozen in time. The danger seemed to pause, but the friends' situation was far from resolved.

When Arjun finally came to, he found himself back in their town, lying on the grass near their homes. The tablet and time watch had vanished, but the crucial information about stable wormholes was still fresh in his mind. He was soon joined by Meera, who had also returned to reality. In a state of shock, they tried to process what had happened. Their immediate concern was to understand if their experience had been real or just a vivid dream. Turning on the TV, they were relieved to discover that the blinding light they had seen was actually a natural reflection caused by a phenomenon on the Moon's surface, not an alien attack. Relieved but still determined

to share their findings, They hurried to the nearest ISRO office. There, they met the scientists and shared their extraordinary experience and the groundbreaking information they had gathered. The scientists listened intently, taking careful notes as Arjun and Meera recounted their adventure and the details they had learned about stable wormholes.

Impressed by their bravery and the significance of their findings, ISRO offered them a chance to become part of the team. They were admitted as young scientists, a testament to their courage and ingenuity.

Their story, though filled with wonder

and mystery, was taken seriously. The crucial information they provided became a significant part of new research into advanced space travel technologies, bridging the gap between imagination and scientific discovery.

For Arjun and Meera, their remarkable journey had not only brought them closer but also opened doors to a future in space exploration. Their adventure remained a cherished secret between them, a thrilling chapter in their lives that solidified their bond and left them with a profound appreciation for the mysteries of the universe and the boundless possibilities of scientific discovery.

**Abdul Rahman, Student,  
Plato Public School, Delhi**

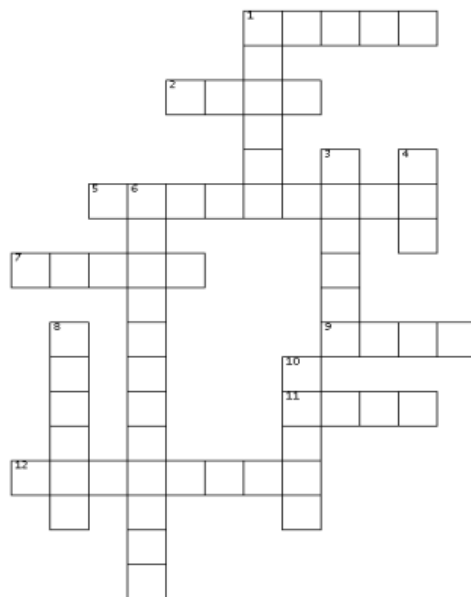


## Fun and Games

### National Space Day: Honouring India's Achievements in space Crossword Puzzle:

#### ACROSS

1. Main element being searched for on the moon by Chandrayaan-3
2. Space agency that collaborated with ISRO on the Chandrayaan-2 mission
5. Launch vehicle used for Chandrayaan-3
7. Main payload carried by Chandrayaan-3
9. The celestial body where Chandrayaan-3 landed
11. The organisation that manages space missions in India
12. Indian Prime Minister at the time of Chandrayaan-3's launch



#### DOWN

1. The meaning of "Pragyan" in Sanskrit
3. Name of Chandrayaan-3's lander
4. Number of wheels on the lunar rover Pragyan
6. Scientific instrument used to study the moon's surface
8. Mission control center for ISRO
10. ISRO's main rocket engine family

Soumen Maity PGT (Physics)  
Jawahar Navodaya Vidyalaya Jessami, Ukhrul-II,  
Manipur





# SCIENCE AND DISCOVERY

## The Father of Indian Space Program



Pratibha Yadav Class X, PM SHRI Jawahar Navodaya Vidyalaya, Kannauj

Dr. Vikram Ambalal Sarabhai was born to one of the richest businessmen Mr. Ambalal Sarabhai in Ahmedabad on 20 August 1919. He grew up in an opulent house with all kinds of luxuries and grandeur that can be sensed from the fact that the house had more than 50 rooms. However, Vikram Sarabhai was a person with no desire to live in the comforts of wealth but the desire to do great things for the society. He had personal riches of being a multifarious person with unparalleled memory, quick wit, ability to grasp many things simultaneously and concentration which is evident from the fact that he helped setting up

many institutions that are as diverse as performing arts to rocket science. Some of such institutions are the Nehru Foundation for Development in Ahmedabad, the Indian Institute of Management Ahmedabad (IIMA), and the Ahmedabad Textile Industry's Research Association (ATIRA). Along with his wife Mrinalini Sarabhai, he founded the Darpana Academy of Performing Arts. Other projects and institutions initiated or established by him include the Fast Breeder Test Reactor (FBTR) in Kalpakkam, Variable Energy Cyclotron Project in Calcutta, Electronics Corporation of India Limited (ECIL) in Hyderabad and Uranium Corporation of India Limited (UCIL) in Jaduguda, Jharkhand.

Dr. Sarabhai was a unique scientist, businessman, engineer and a genius with multiple qualities. He nurtured various organizations in multiple domains to take our country to the highest of levels in the field of science and provided hopes to the young minds to carry out research in the field of space and improve the lives of common man.

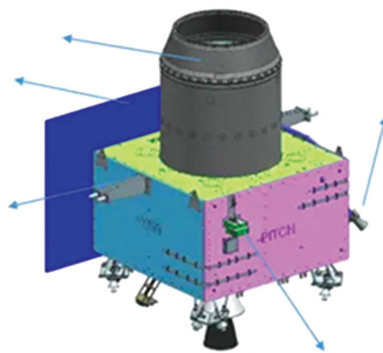
**Prashant Raghav, Teacher**  
**Renaissance School, Bulandshahr**

## Journey of Chandrayaan-3

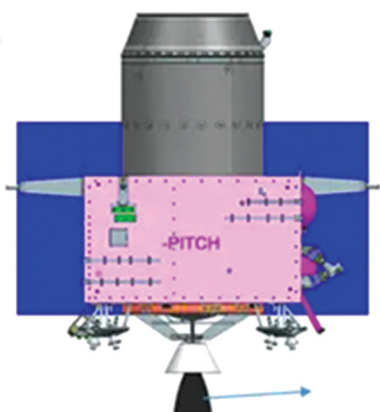
“Papa Papa, do you know India’s space mission Chandryaan-3 has successfully landed on the moon?” Aakash, excitedly, looks at his father Sudhanshu, who is a science teacher and is reading newspaper. “Yes, my son.” he answers, giving Akash a slight nod by looking over the newspaper. “And papa, do you know India is the first country to land on the south pole of the moon?” This time he folds the newspaper and calls Aakash to sit beside him. “Do you know, son, what is the significance of the mission and what does it mean for India to land on the south pole of the moon?” Aakash shook his head in refusal. “Okay, let me take you through India’s persevering journey to achieve this milestone.

“India started a series of lunar explorations with Chandryaan-3”. It was launched on October 22, 2008, from the Satish Dhawan Space Center (SDSC) at Sriharikota, an island off the coast of Andhra Pradesh. This is the first spacecraft ever to discover the presence of water on the moon. It made more than 3400 orbits around the moon in its lifetime. The mission reached its conclusion when communication with the spacecraft was lost on August 29, 2009.”

Aakash listens to his father inquisitively.



Sudhanshu continues. “In this series, on July 22, 2019, Chandrayaan-2 was launched. It too, was launched from the Satish Dhawan Space Center. This mission was very different from the previous mission, Chandrayaan-1, as it was technologically more advanced. It was designed with an orbiter, a lander, and a rover, and India did this all by itself! Before Sudhanshu could speak further, Aakash interrupted, “Yes, papa, I am aware the lander was named Vikram and the rover was named, umm.. uhh what was it called? “Akash scratches his head in confusion. “Pragyan!” Sudhanshu puts a rest to his hurriedly running train of thoughts. “Yes, son, you are very right.” Sudhanshu continues, “but do you know why these particular names were chosen?” Sudhanshu asks Aakash. Aakash replies with a no. “Okay, I will tell you. The name Vikram was chosen to pay tribute



to Vikram Sarabhai. He is regarded as the 'Father of the Indian Space Program.' Also, the word Vikram's literal meaning is strong, which means that it will explore outer space with courage. Now the word Pragyan comes from Sanskrit language, which means wisdom or intelligence."

"Papa, what exactly do these three devices do?" Akash asks. Sudhanshu appreciates his keen interest. He smiles softly and answers. "The orbiter is a device that revolves around a celestial body; in this case, it is the moon. It helps in the mapping of the moon's surface. It was also used to establish communication between Earth and the lander. Vikram, the lander, was primarily meant to test the soft landing. It is capable of communicating with the Earth as well as the Orbiter and the Rover it carries inside. The rover is a vehicle that is equipped with wheels that enable it to move around on the moon's

surface to explore minerals, study the chemical composition and topology. It uses solar energy for these tasks."

But Sudhanshu sounds a bit disappointed. "What happened, Papa?" Aakash asks.

"Aakash the Vikram attempted to land on the moon on September 6, 2019, but unfortunately crashed due to a small software error. It lost its contact with the earth." Aakash feels a bit sad about it. "But as you know, we learn from our mistakes. Scientists identified the error, corrected it, and prepared better for the next mission, which made history." Before Sudhanshu could say, Aakash shouted with joy, "Chandryaan-3."

"Yes, my son," Sudhanshu pats on Aakash's back.

"Chandryaan-3 was launched on July 14, 2023, from Satish Dhawan Space Centre. It consists of three main components: the propulsion module, the landing module, which is again named Vikram, and the Rover module, which is again named Pragyan. On August 23, 2023, the Vikram lander gently touched down to the surface of the moon. This type of landing is known as a "soft landing." After the landing, the spacecraft waited for the dust to settle, and the rover rolled down on the land and started taking a walk on the lunar surface. And my son, Sudhanshu, said with joy, Chandryaan-3 is the first mission that

has landed on the south pole of the moon.”

Aakash interrupted Sudhanshu and asked, “What is the significance of landing on the south pole of the moon?” Sudhanshu was actually very happy listening to the question, that, Aakash is taking keen interest.

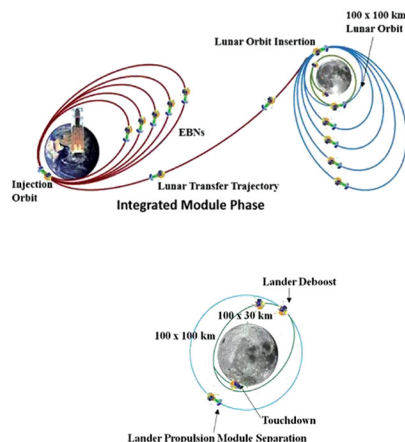
“Very good question, my son. See It is that area of the moon that has not been explored ever before. The southern pole of the moon has resources like water ice, which could be converted into oxygen to support human habitations. It has resources like iron, aluminum, titanium, and magnesium. These minerals are very useful for the electronics industry. It will also collect data, and this type of data will be used for other space programs. That’s why many countries are interested in this region. In fact, Russia’s Luna 25 also tried to get to the south pole of the moon but crashed before reaching there.”

“Papa, I have a question.” Aakash was thinking “Yes, my son, what is it?” “Papa, I have heard in the news that Chandryaan-3 took over 40 days to reach the moon, and I have read somewhere that America’s Apollo-11 took only four days to reach the moon.”

Sudhanshu thought for a few moments and then replied, “Firstly, we do not have a rocket that is powerful enough to put the spacecraft on a direct path

to the lunar surface. The second thing is that Apollo-11 and Chandryaan-3 both followed a different trajectory to reach the moon’s surface.” Before Sudhanshu could speak further, Aakash asked, “What is a trajectory? And why don’t we send spacecraft directly to the moon, i.e., without following a trajectory?”

Sudhanshu smiled softly and replies, “Firstly A trajectory is the path that a moving object follows through space as a function of time. Now your another question: Why can’t we send rockets directly to the moon? To understand this, let’s take an example: if you want to throw a ball at an object that is continuously moving, you have to do it at a particular time. Now suppose you have to throw the ball at the object and you are standing on a moving platform. Exactly like this, the Earth and Moon





are continuously moving, so to launch the rocket directly to the Earth, we have to choose a precise launch time. Another important factor is escape velocity. As you know, Earth exerts gravitational force on all objects, so in order to reach the moon, we need enough velocity to escape this gravitational pull, and that velocity is known as escape velocity. Now to achieve the escape velocity, we need enough fuel, and if we want to go directly to the moon, then we would need an ample amount of fuel to go directly to the moon.” Aakash listened to his father very carefully; he does not speak for few seconds, mulling over what Sudhanshu said. Sudhanshu asks, “What are you thinking about?” Aakash replies, “Papa, I was thinking, what trajectory did Chandryaan-3 follow to reach the moon?”

Sudhanshu thought for few seconds and explained, “Now listen carefully, as you have questioned before why NASA’s Apollo 11 took just four days and Chandryaan-3 took over 40 days.” “Yes, they have followed a different trajectory.” Aakash said eagerly. “Yes, my son, now the Apollo mission took a direct trajectory, which is called translunar injection. In brief, it means that it first launched into the Earth’s orbit, then a powerful engine was burned to send it on a trajectory directly towards the moon. In the case of Chandryaan-3, they followed

the slingshot strategy.” Before Aakash could intervene, Sudhanshu said, “Let me show you a diagram,” and Sudhanshu started to google it. He shows an image to Aakash. Aakash looked at the image very carefully. Sudhanshu elaborated, “You see the spacecraft circulates the earth, and with each revolution rises a step further in the space, this is called orbit raising, when the spacecraft is at a sufficient distance from the earth, it is taken up by the moon’s gravitational pull, and the spacecraft descends down in a circular path around the moon. This is called orbit lowering. Do you understand Akash?” Akash

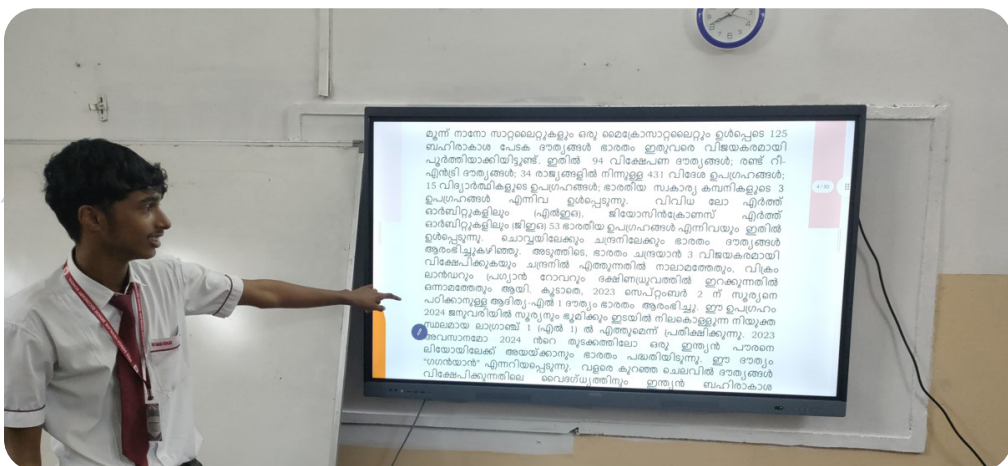


Akhil Kumar Class XII, PM SHRI Jawahar Navodaya Vidyalaya, Udhampur

nodded his head. “Very good, my son. Our scientists chose a more gradual path because it allows the use of less powerful launch vehicles. They didn’t give up and created a different path to achieve their goal. We should learn this from our space scientists.” Sudhanshu explained to him proudly. “Yes, Papa,” Aakash also replied with enthusiasm. “But Papa, who developed all these rockets, landers, rovers, etc?” Sudhanshu smiled softly. He was happy that Aakash asked this and that Aakash has now learned some terms. He replied, “The Indian Space Organization (ISRO), India’s space agency, developed all these amazing things that are taking India further ahead in the world.” He further said, “It has a team of world-class engineers and scientists. Its present

chief is Sreedhar Panicker Somnath, popularly known as S. Somnath. He is the brain behind this ambitious mission. And do you know, Aakash, that nearly 54 females participated in this historic Chandryaan-3 mission?” “This is amazing, papa,” Aakash said. Both were feeling very excited inside of themselves while talking. “And papa, do you know, papa, I have read on the internet that the Chandryaan-3 mission won the World Space Award; it will receive the award on October 14?” “Wow, this is some great news. It is getting this award as the mission will also help in future space exploration.” “Yes, Papa, when I grow up, I will also become a space scientist in ISRO and will keep making India proud like this.” Sudhanshu was feeling proud; he hugged Aakash. “Surely you will.”

**Bharti, TGT**  
**PM SHRI Kendriya Vidyalaya, Lakhanpur**



## राष्ट्रीय अंतरिक्ष दिवस— चंद्रयान-3 की चाँद पर लैंडिंग



चलो चलते हैं अंतरिक्ष की ओर एक नई यात्रा पर। हम जानना चाहते हैं ब्रह्मांड को और इसे जानने के लिए हम आगे बढ़ना चाहते हैं। हम ब्लैक होल से जुड़े रहस्यों को देखना चाहते हैं। हम चाहते हैं कि चंद्रमा की सतह पर बार-बार पहुँचें। मंगल पर जाएँ और ब्रह्मांड में अगर कोई जीव हो तो उससे भी संपर्क साधें। अंतरिक्ष या विज्ञान को किसी दिवस में समा लेना संभव नहीं है। यह तो एक प्रगतिशील, एक निरंतर, आगे बढ़ता हुआ विषय है। अंतरिक्ष में हर दिवस कुछ नया जानने के लिए है, हर दिवस कुछ नया देखने के लिए है।

कभी छानी खाली खला कहीं

हम उड़े जहाँ पे हवा नहीं।

जब मानवता ने पहली बार चंद्रमा की ओर देखा, तो उसे एक अज्ञात, अदृश्य संसार का आभास हुआ। चंद्रमा की सतह पर पहुँचना मानवता का

सपनों की उड़ान | **August 2024**

स्वप्न था, और यह स्वप्न चंद्रयान-3 के साथ फिर से जीवंत हो उठा है। यह मिशन केवल एक यान नहीं है, बल्कि यह मानवता की अदम्य इच्छा शक्ति, विज्ञान की प्रगति, और अनंत ब्रह्मांड की ओर हमारे कदमों का प्रतीक है। यह चंद्रयान-3, चंद्रयान-2 का अनुगामी यान है। इसका उद्देश्य है चंद्रमा की शांत, सजीव सतह पर अपने पंखों को फैलाना, अवतरण करना और रोवर के साथ एक नई कहानी लिखना।

आदरणीय डॉ. ऐ.पी.जे. अब्दुल कलाम जी का चंद्रयान के साथ एक गहरा रिश्ता था। जब चंद्रयान-3 ने अपनी अनंत यात्रा पर कदम बढ़ाया, तो वो महज एक यान नहीं, एक सपना था जो सितारों की ओर उड़ चला था। यह सपना हमारे कलाम साहब के दिल की धड़कन था, जो हर हिंदुस्तानी के ख्वाबों की आवाज़ था। उस रात, जब यान ने अपनी उड़ान भरी, आसमान की गहराइयों में चाँद की ओर, तो ऐसा लगा



जैसे कलाम साहब की रूह हम सबके बीच थी, अपनी मीठी मुस्कान के साथ कलाम साहब की जिंदगी की कहानी किसी पुष्प की तरह है, जो अपनी महक से हर दिशा को महकाता है। उन्होंने अपनी मेहनत और लगन से स्वयं को और देश को सितारों तक पहुँचाया। जब चंद्रयान-3 ने अपनी उड़ान भरी, तो ऐसा लगा जैसे कलाम साहब का हाथ हमारे हाथ में था। उनकी दुआएँ हमारे साथ थीं। वो रात, जब चाँद हमारे इतने करीब था, कलाम साहब के सपनों की तरह। आदरणीय डॉ कलाम और चंद्रयान की बीच हुए संवाद को मैं अपनी कल्पना के अनुसार शब्दबद्ध कर रहा हूँ।

डॉ. एपीजे अब्दुल कलाम: “चंद्रयान-3, तुमसे मुलाकात कर के बड़ी खुशी हो रही है। तुमने जो हासिल किया है, वो सिर्फ एक मिशन नहीं, बल्कि पूरे देश की उम्मीदों की परवाज़ है। बताओ, चाँद की सियासत कैसी है?”

चंद्रयान-3: “डॉ. कलाम, चाँद की सतह पर उतरना एक सपना था जिसे आप जैसे रहुनुमा ने हमें सिखाया। यहाँ की ज़मीन ठंडी और खामोश है, मगर इसमें छुपी हैं कहानियाँ जिन्हें हमने सोचा भी नहीं था।”

डॉ. ए.पी.जे. अब्दुल कलाम “तुम्हारी यह उड़ान वाकई काबिले तारीफ है। मगर हमें ये समझना चाहिए कि ये सिर्फ़ शुरुआत है। विज्ञान की ये बिसातें हमें आगे भी बढ़ना सिखाती हैं।

तुम्हारे अंदर जो हिम्मत और जज्बा है, वही हमें हमेशा आगे बढ़ाता रहेगा। हम सब यहाँ इकट्ठे हुए हैं ताकि हम तुम्हारी कामयाबी का जश्न मना सकें। मगर याद रखना, ये सफ़र का सिर्फ़ एक पड़ाव है। अभी हमें और भी बहुत कुछ सीखना है। चाँद से जो संदेशो हमें मिले हैं, उन्हें हमें समझना है और उनके ज़रिये नई मंज़िलें हासिल करनी हैं।”

चंद्रयान-3—“आप सही फरमा रहे हैं, डॉ. कलाम। मेरी हर तस्वीर, हर डेटा का मकसद है कि इंसानियत को नई रोशनी मिले। आपकी प्रेरणा ने मुझे हमेशा आगे बढ़ने का हौसला दिया है।”

डॉ. ए.पी.जे. अब्दुल कलाम—“तुम्हारी ये बातें सुनकर मुझे बहुत खुशी हुई। मैंने हमेशा यही सोचा था कि नौजवानों को ज्ञान-विज्ञान के क्षेत्र में नई राहें मिलें और तुमने ये साबित किया है। तुम्हारी हर कामयाबी में मैं अपनी मेहनत और सपनों की झलक देखता हूँ।”





चंद्रयान-3:—“आपका ये उत्साहवर्धन ही हमारी सबसे बड़ी ताकत हैं। मैं प्रण करता हूँ कि आपकी उम्मीदों पर खरा उतरूँगा और चाँद की हर कहानी को धरती पर लाऊँगा।”

डॉ. ए.पी.जे. अब्दुल कलाम—“तुम्हारी इस लगन और हिम्मत से मैं बहुत प्रसन्न हूँ। याद रखना, हमारी मंज़िल सिर्फ़ चाँद नहीं, बल्कि वो तमाम आसमान हैं जिन्हें हमें छूना है।”

चंद्रयान-3—“जी, डॉ. कलाम। हम आपके उसूलों

और आदर्शों पर चलते हुए आगे बढ़ते रहेंगे। आपके आशीर्वाद से हमें नई मंज़िलें मिलेंगी।”

डॉ. ए.पी.जे. अब्दुल कलाम: “शाबाश, चंद्रयान-3! तुम्हारी ये कामयाबी हमारे देश के हर बच्चे के दिल में नए सपनों की लौ जला रही है। मुझे तुम पर गर्व है और मेरी दुआएँ हमेशा तुम्हारे साथ हैं।”

चंद्रयान-3: “धन्यवाद, डॉ. कलाम। आप हमारे मार्गदर्शक हैं और हमेशा रहेंगे।”

अंतस राव, XI  
पी. एम. श्री केंद्रीय विद्यालय क्रमांक 3, झांसी





## TEACHERS' CORNER

### From Earth to Moon: India's Epic Voyage

It is a tale of a time when India, a land of ancient wisdom and burgeoning aspirations, dared to reach for the moon. This is not merely a historical account, but a cherished story passed down through generations, adorned with the warmth of a grandfather's voice and the wonder of a child's imagination. Join us on this extraordinary journey as we relive the excitement, challenges, and triumphs of India's lunar mission through the eyes of a young listener, captivated by the grandeur of their nation's achievements.

#### **A Curious Country**

"You see, children," Grandfather began, his voice carrying a gentle cadence, "there once was a land, vast and diverse, a land of ancient wisdom and modern dreams. India, we call it. It was a land of curious minds, you see. We looked up at the sky, not just to admire its beauty, but to question its mysteries. The sun, the moon, the stars—they were more than celestial bodies to us. They were puzzles waiting to be solved."

For centuries, our wise men pondered the cosmos, charting the stars, predicting seasons. We watched the moon with particular fascination. It

was a silent, luminous companion, ever-present in our nights. We wondered about its nature, its composition, and whether it harbored secrets we could unlock.

Our ancestors dreamt of reaching out and touching the moon, of exploring its barren landscapes. These dreams were passed down through generations, a silent current flowing beneath the surface of our lives. And so, when the time was right, a nation of dreamers embarked on a grand adventure.

#### **A Special Bird: Rocket**

"Now, my dears," Grandfather continued, "to reach the moon, we needed a very special kind of bird. Not a bird with feathers, mind you, but a bird of metal and fire. We called it a rocket. It was a marvel of human ingenui-



ty, a towering structure of steel and dreams. Imagine a giant, peaceful tree reaching for the sky, but instead of leaves, it had engines that roared like thunder. Inside this metal giant, were rooms where brave men and women worked tirelessly, their minds calculating the paths of stars and planets. Building this rocket was like planting a seed. It required patience, care, and a deep belief in the impossible. Countless hands toiled day and night, each adding a piece to this cosmic puzzle. Engineers, scientists, and dreamers worked together, their spirits as high as the rocket they were building. And then came the day when our metal bird was ready to soar. It was a day of hope and anticipation, a day when the heart of a nation beat as one. The countdown began, a rhythmic pulse of excitement. And then, with a thunderous roar, our rocket broke free from Earth's hug and began its journey to the moon."

### ***A Journey towards the Moon***

Imagine our rocket, Chandrayaan, venturing into the silent expanse, a quest for the celestial. It exchanged the sun's warmth for the cold grip of space, overcoming Earth's gravity with every passing moment.

Picture this cosmic journey: a silent dance through a starry ocean, where days and nights blend into one. Our rocket, a testament to human ingenuity, traveled from dreaming of the



moon to reaching for it.

As it neared its destination, the moon grew larger, a promise of fulfillment. Years of dreams were about to culminate in a historic moment.

### ***Landing on the Moon***

"Now, the final act was to touch down on the moon, a feat that had never been achieved by our country before. It was like trying to balance a needle on a pinhead, but a thousand times harder. The moon was no gentle giant, but a harsh, unforgiving world, covered in craters and dust.

Our rocket had to slow down, very, very slowly. It was like a bird carefully lowering itself to a nest. Any mistake, even the slightest, could have been disastrous. The ground below was not soft grass, but hard, rocky soil.

But our engineers were clever, weren't they? They had planned for everything. With the help of computers that could think faster than a blink, they guided our rocket safely to

the lunar surface. It was a moment of triumph, a victory for the human spirit. We had reached the moon, a dream turned into reality."

### **A Proud Moment**

"Imagine, children, the thrill that swept through our nation when the news broke. It was as if the entire country held its breath, waiting for confirmation. And then it came, a surge of joy that echoed through every corner of India. We had done it! Our rocket, our dream, had touched the moon. It was a moment of unparalleled pride, a testament to what human ingenuity and determination could achieve. People poured into the streets, their hearts filled



with a joy that was infectious.

It was more than just a scientific achievement; it was a cultural victory. Our ancient dream of reaching the moon had been realized. It was as if a sleeping giant had awakened, and the world looked at us with newfound respect. The young and old, the rich and poor, everyone was united in this moment of glory.

That night, as I looked up at the moon, it seemed to shine brighter, as if it was smiling back at us. It was a symbol of our triumph, a reminder that with courage and perseverance, we could reach for the stars. And who knows, perhaps one day, one of you will look up at the moon and dream of walking on its surface.

***Remember, children, dreams are the stars that guide our journey.***

**B. Umesh Kumar Sharma, Assistant Professor  
NERIE, NCERT, Shillong**



## Lessons for the Next Generation

The Mission has inspired future generations to pursue careers in STEM fields and space exploration by developing curiosity, learning to ask questions, explore, and seek answers. In essence, our students from their school days have plenty of opportunities to pursue the field of Space Exploration as a career. The integration of initiatives like Manak Inspire, NCSC, Science Exhibition, and the formation of School Innovation Councils (SIC) in Kendriya Vidyalayas fosters a scientific temper among students. The Science Exhibition provides a platform for students to showcase their experiments and projects, promoting hands-on learning and experimentation. Collectively, these initiatives cultivate a scientific mindset, preparing students to approach challenges with logic, curiosity, and creativity, ultimately contributing to the development of a scientifically literate society. So, dear youngsters! Keep looking up at the stars, and who knows, maybe one day you'll be part of India's next giant leap in space exploration!

**Neeraj Asthana, Principal  
PMSHRI Kendriya Vidyalaya, Dhar**



### प्रगति पथ

जब विक्रम ने लहराया तिरंगा  
चाँद के अगम्य ध्रुव पर  
विश्व चकित था भारत के  
इस अदम्य साहसिक कर्म पर।  
गौरव की लहर दौड़ी देश में  
हर दिल में उमंग छाई  
वैज्ञानिकों की अथक मेहनत  
एक नई कहानी लिख पाई।  
भारत की प्रगति का यह प्रतीक  
सबसे कम व्यय में तैयार हुआ  
है आदित्य-एल-1 निराला  
सूर्य प्रभा को जिसने छुआ।  
हम सब मिलकर प्रण करते हैं  
ऐसे ही बढ़ते जाएँगे  
विकसित भारत के पथ पर  
हम अपना कर्तव्य निभाएँगे।

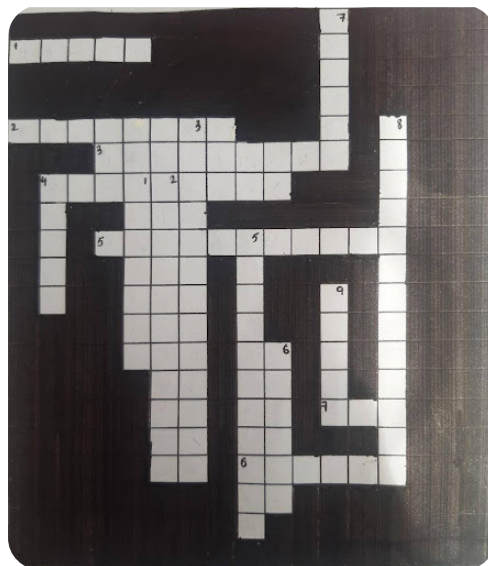
**डॉ शिक्षा कौशिक, हिंदी विभागाध्यक्षा,  
क्वीन मेरीज़ स्कूल नोर्थड, दिल्ली**

# FUN and GAMES

## PUZZLE

### DOWN

1. The first living animal in orbit.
2. The first satellite launched by Soviet Union into space in 4th October 1957.
3. A constellation in the North sky, which is made up of 7 stars.
4. Studies of universe and its components.
5. India's 1st successfully launched satellite in 19th April 1975.
6. Jupiter's moon discovered on 8th January 1610 by Gallileo Galilei.
7. The largest star in the Solar System.



### ACROSS

1. The planet with the highest orbital eccentricity of all the planets.
2. The largest known mountain and volcano in the solar system.
3. First Indian woman to enter space.
4. A small – icy celestial body that orbits around the Sun.
5. A large bubble in space created by the solar wind from the sun.
6. The planet known as ICE GAIET.
7. A depression found on the surface of a planet or a moon.
8. The first man to set foot on the moon in 21st July 1969.
9. The planet with the slowest rotational period.



MEMETON KONSAM, XII  
PM SHRI Jawahar Navodaya Vidyalaya, IMPHAL



# VOICES AND OPINIONS

## Do you want to be an Amateur Astronomer?

Astronomy is one of the oldest and most fascinating sciences of the world. The sky from ancient days has attracted the attention of humans across the globe. It has contributed to human curiosity, thinking and planning in all generations. Their curious observations and discoveries laid the foundation for today's astronomy, science and mathematics. Amateur observers have contributed significantly in the history of astronomy. Since early years of her civilization amateurs watched the sky and studied the patterns and movement of stars, planets and galaxies. Aryabhatta, Brahmaputra, Varahmihira, Bhaskaracharya and many other researchers studied the sky and recorded their observations in scriptures based on their accurate observations and calculations related to various celestial bodies.

In modern times, professional astronomers including Vainu Bappu, Jayant Narlikar, and others while pursuing their astronomical research, popularized astronomy through their rich publications, promotion of sky watching activities for common people in and around their reputed institutions. Today India has a few hundred Amateur Astronomer Organizations in dif-

ferent states who undertake regular sky observation, instrumentation and popularization contributing significantly to public understanding of astronomy, eradication of superstitions and promotion of scientific temper.

Confederation of Indian Amateur Astronomers (CIAA), an assembly of more than 50 amateur astronomers' organizations was formed with its registered office at Pune. Several amateur astronomers' organizations publish regular astronomy updates in their local journals. Over the years, the CIAA has played an instrumental role in promoting astronomy in all states and UTs of India in three crucial areas including Sky Observation (regular sky watching, special





astronomical events, observation of variable stars, comet hunting, satellite observation, and meteor observation), Instrumentation (telescope making, astro-photography, rocketry) and Popularization (painting, writing, lectures, regular public events and conducting courses) involving children, and common public including teachers.

This provides a rich platform for children. In any state they can get in touch with their local amateur astronomers' organizations and participate in their regular astronomy related activities. Over the years, thousands of children starting as amateur astronomers have grown as reputed scientists and researchers in astronomy, astro-physics and related subjects. They also participate in the Astronomy Olympiads and visit many reputed astronomy organizations in different nations.

**Binay Pattanayak, Former General Secretary,  
Confederation of Indian Amateur Astronomers**



## Parent's Perspective



As a parent, watching my child witness the historic landing of Chandryaan-3 on the moon was a moment of indescribable pride. His eyes sparkled with wonder, reflecting the same thrill and anticipation that gripped the nation. This monumental achievement by ISRO, etched in the annals of history, planted a seed of boundless curiosity and aspiration in the young heart. To see him dream of the stars, inspired by the dedication of our brilliant scientists, fills me with hope. In the words of John F. Kennedy, "We choose to go to the moon... not because it is easy, but because it is hard," a reminder that challenges yield even greater triumphs. It's a testament to what dreams, fueled by passion, can achieve. At this moment, the universe feels a little closer, and the possibilities for our future seem infinite.

**Pooja Sethi**  
*Mother of Arav Sethi studying in class VII*



## A Journey Through the Sky: My Lifelong Fascination with Space

From childhood stargazing to a relentless curiosity about celestial phenomena, my journey with space has been a continuous thread weaving through different stages of my life.

### ***Childhood: The Spark of Curiosity***

Growing up, I was captivated by the night sky. The brightness of certain stars fascinated me, and I spent countless hours trying to identify the most luminous ones. I would ask my parents endless questions about the stars, their colours, and their distances from Earth. This early fascination was not just about the beauty of the night sky but also about a deeper desire to understand the universe's mysteries.

### ***School Days: Learning and Debunking Myths***

During my school years, my passion for space took a more structured form. One of the most memorable events was when a solar eclipse occurred, and our science teacher took the initiative to bring a real-world experience into the classroom. The eclipse was an opportunity to not only observe a celestial phenomenon but also to address and debunk superstitions that often surround such events. It was fascinating to see the Moon slowly move across the Sun and the sky darken as the eclipse reached its peak. More importantly,

it was a chance to learn about the scientific explanations behind such phenomena and to understand that there was no need for superstition.

### ***Adolescence and Growing Up: Expanding Horizons***

My teenage years were marked by a growing fascination with how the atmosphere interacts with celestial bodies and how these interactions manifest as observable phenomena. During this period, I developed a keen interest in observing different celestial events, such as meteor showers, eclipses, and planetary alignments. This hobby not only enhanced my understanding of celestial mechanics but also deepened my connection to the universe. I also began to explore the scientific principles behind atmospheric phenomena, such as the Northern Lights and the impact of solar winds on Earth's magnetosphere.

### ***Curiosity About Modern Spacecraft***

Entering adulthood, my curiosity about space broadened to include modern technological advancements. I became fascinated with the technology behind spacecraft, satellites, and jet flights. Watching a satellite traverse the sky or a jet streak through the atmosphere sparked a sense of wonder about human ingenuity and our ability



to explore beyond our planet. I found myself following the latest developments in space technology, eagerly reading about new missions, satellite launches, and advancements in aerospace engineering. The idea of satellites orbiting Earth, capturing data, and sending it back to us was awe-inspiring. I marvelled at the precision required to launch and maintain these satellites and the crucial role they play in our daily lives, from weather forecasting to global communication. One particular fascination was with the trajectories of satellites and their visible paths across the sky.

#### ***The Allure of Comets and Asteroids***

One of the most exciting aspects of space observation for me has always been witnessing the fleeting brilliance of comets and asteroids. These celestial bodies, with their distinctive tails and rapid movements, represent some of the most dynamic and visually spectacular phenomena in the sky. I have also closely followed the discovery and tracking of asteroids. The knowledge that these objects are remnants from the early solar system, traveling through space at incredible

speeds, added a sense of urgency and excitement to my observations.

#### ***Staying Informed: A Lifelong Passion***

To this day, my passion for space remains undiminished. I am an avid reader of space-related news and information, constantly seeking out articles, magazines, and scientific journals to stay updated on the latest discoveries and developments in astronomy and space exploration. Reading about the latest space missions, technological innovations, and theoretical research allows me to appreciate the scale and complexity of the universe even more. It also inspires me to think about the future of space exploration and the potential for human expansion beyond Earth.

#### ***A Lifelong Journey***

From the early days of stargazing as a child to the excitement of observing comets and asteroids, each phase of my life has deepened my fascination with space and expanded my understanding of the cosmos. The wonder of the night sky, the thrill of witnessing celestial phenomena, and the joy of staying informed about space-related developments have all contributed to a lifelong passion for space.

**Praveena Naik, Librarian,  
Jawahar Navodaya Vidyalaya, Rymbai East**

## चंद्रयान भारत की शान

चलो चले अपने प्यारे देश भारत की  
ओर, जिसका राष्ट्र पक्षी कहलाता है  
मोर।

भारत कर रहा है तैयारी, कि चाँद पर  
जीवन हो सफल, भारत की आशा है कि  
हम चाँद पर भी उगाए हरी-भरी फसल।

कल्पना चावला नाम था उसका, सबके  
दिलों पर छाई थी,

देश की पहली महिला ने चाँद पर जाकर  
भारत में खूब धूम मचाई थी।

वैज्ञानिकों ने अपनी पूरी जान लगा दी,  
चंद्रयान को सफल बनाने में,

अपने परिवारों से दूर रहे, चंद्रयान को  
सफल बनाने में। जिस दिन चंद्रयान को  
चाँद पर सुरक्षित उतारा था, वह दिन  
तो भारत के लिए सबसे चमकता हुआ  
सितारा था।

चंद्रयान-3 उतरा था उस चाँद की सुनहरी  
माटी पर, उतारने को सफल बनाने वालों  
ने जन्म लिया था भारत की माटी पर।

इसको सफल बनाने में सब ने मिल-जुल  
कर काम कराया था,

तभी तो चंद्रयान-3 का नाम हर एक  
अखबार में छाया था।

मोदी जी के बिना, ये काम न आसान था,

चंद्रयान को चाँद पर भेजना, यही तो पूरे  
भारत का अरमान था।

मोदी जी महान हैं, पूरा भारत करता  
उनका सम्मान है,

चाँद पर जीवन सफल बनाने का हमारे  
मन में एक अरमान है।

गर्व की बात है कि नवोदय से पढ़े कुछ  
वैज्ञानिक भी इसमें साथी थे,

कुछ साल पहले जो हम जैसे बच्चों के  
ही तो सहपाठी थे।

पूरे विश्व में गूँज रहा है भारत का ही  
नाम,

आशा है हमारी कि ऐसे ही बढ़ती रहे  
भारत की शान।

चंद्रयान को सफल बनाने में,  
वैज्ञानिकों ने छोड़ दिया था अपना खान-  
पान,

इसरो का था इसमें अमूल्य योगदान।

शत् शत् नमन है मेरा उन वीरों को, जो  
सोए नहीं दिन रात थे,

चिंता थी उनके मन में बेशक, पर करते  
काम दिन-रात थे।

सुरक्षित उतरा चंद्रयान हमारा,

आशा है लहराता रहे तिरंगा हमारा।

सुश्री पारूल, X  
पी एम श्री स्कूल जवाहर नवोदय विद्यालय कलौई

# Moon Fall



On 23 August, 2023 as the world held its breath, the Vikram lander executed its descent with grace. The landing was so precise that it could have been mistaken for a well-rehearsed dance routine. ISRO chief Shri S. Somanath described it as a moment that connected with the hearts of people, and indeed, it did. Prime Minister Shri Narendra Modi, watching from afar, declared, “India is now on the Moon!” It was to commemorate this prodigious feat that the Government of India declared August 23rd of every year as ‘National Space Day’.

The soft landing of Chandrayaan-3 on the lunar south pole is not an isolated incident, but a culmination of centuries of intellectual pursuit.


The Indian Space Research Organisation (ISRO), with its newest lunar addition, is sending a resounding message to the world: “We’re not just aiming for the stars; we’re landing on them.” After all, who would have

thought that the country known for its rich tapestry of history, from the Indus Valley Civilization to the Taj Mahal, would now add ‘Moon Landing’ to its resume? And now, thanks to the brilliant team of people at ISRO, our childhood dreams of exploring space are much more tangible.

The Moon has been a source of fascination for humanity since time immemorial. The first recorded lunar observation dates back to the Babylonians, who meticulously documented lunar phases around 400 BCE. Our ancestors looked at the moon and saw a rabbit pounding rice. We see a potential energy source, a platform for scientific exploration, and, perhaps, a future holiday destination.

Then in 1969, we have Neil Armstrong taking “one small step for man, one giant leap for mankind,” while the world collectively held its breath—much like we did on August 23, 2023. Fast forward to the 21st century, and ISRO has transformed from the little engine that could into the rocket-fuelled powerhouse that can. Missions like Mars Orbiter Mission (Mangalyaan) showed us that India wasn’t just playing in the space sandbox—it was building castles. The 2014 Mars mission, completed on a shoestring budget, was a





milestone that even earned a nod of respect from NASA. The journey to this lunar triumph was anything but straightforward. Remember Chandrayaan-2? It was the mission that almost made it, like a cricket team that loses by a whisker after a nail-biting finish. Launched in 2019, it aimed to explore the Moon's south pole but faced a heartbreaking setback when the lander lost communication just moments before touchdown. But instead of retreating into the shadows of disappointment, ISRO took it on the chin, dusted itself off, and got back to work. Chandrayaan-3 was born from that spirit of resilience, embodying the age-old adage that "failure is the mother of success." Launched on July 14, 2023, this mission was designed with a laser focus on achieving a soft landing. The Vikram lander, equipped with advanced sensors and algorithms, showcases a blend of traditional craftsmanship and cutting-edge technology. The goal here wasn't just to hit the lunar surface but to achieve a soft landing. India's latest lunar triumph isn't just a moment in time. ISRO's journey began with the early days of satellite launches, like the famous Aryabhata and Rohini satellites, which were the precursors to today's space missions. Aryabhata was India's debutante into the space age, making its mark in 1975. With the successful landing of

Chandrayaan-3, the Pragyan rover began its mission to explore the lunar surface. Equipped with advanced scientific instruments, the rover is tasked with conducting experiments and gathering data that will contribute to our understanding of the Moon's composition and history. The presence of water could pave the way for human colonisation and even serve as a launching point for missions to Mars.

These researches could improve the prospects of the Moon as a viable outpost for humanity as we set our sights on Mars and beyond. The lunar south pole, with its permanently shadowed regions, holds the promise of untapped resources that could fuel our dreams of deep-space exploration.

International cooperation is essential for addressing complex challenges, and space exploration serves as a unifying force. The challenges are immense, and success requires the pooling of global intellect. India's contribution to this grand cosmic enterprise is significant, but it is part of a larger story. The Apollo missions, the Soviet Luna program, and the recent endeavours of China and the United States have all laid the groundwork for our current understanding of the moon. The data gathered by Pragyan could be shared with scientists around the world.

The spirit of collaboration could lead to groundbreaking discoveries that benefit humanity as a whole.

Our lunar mission is not merely a technological feat but a cultural assertion.

The moon, in its silent vigil, has inspired poets, philosophers, and scientists alike. From the romantic musings of Kalidasa to the precise calculations of Kepler, it has been a muse and a measuring rod. India's lunar sojourn is a chapter in this age-old dialogue between humanity and the cosmos.

While the whole nation hustles and bustles to celebrate the first National Space Day on August 23, 2024, it's worth pondering: what does it mean to have a day dedicated to space? The establishment of National Space Day is a fitting tribute to this achievement. It serves as a reminder of the importance of investing in science, technology, engineering, and mathematics (STEM) education, which is crucial

for nurturing the next generation of innovators.

Imagine children across the country donning astronaut helmets and building rocket models out of cardboard boxes—if that doesn't

scream “future scientists,” I don't know what does.

As we stand on the cusp of a new era of space exploration, it is essential to approach it with humility and responsibility.

The cosmos beckons, and it's up to us to answer the call. Here's to the dreamers, the doers, and the curious minds who dare to reach for the stars. In the words of the great Carl Sagan, “Somewhere, something incredible is waiting to be known.” The universe is vast, and our curiosity knows no bounds—let's see where this journey takes us next.

Happy National Space Day!



**Anwita D Pillai IX**  
**PM SHRI Kendriya Vidyalaya Ernakulam**

### Concept Note

Sapnon ki Udaan is an e-magazine dedicated to all school children of the country studying in middle or secondary stages of school education. Anyone can contribute for this quarterly e-magazine, be a student, teacher, principal, educator or a parent! The e-magazine has been launched by the Department of School Education & Literacy, Ministry of Education to foster curiosity, creativity, and critical thinking skills among children. It will cover wide range of subjects including science, technology, current issues, literature, arts, and culture, tailored to the interests and cognitive levels of the target age group. Sapnon ki Udaan is not only to provide entertaining and educational content but to engage children to expand their knowledge and stimulating their imagination. The tone will be friendly and encouraging, aiming to inspire a love for learning and reading among them. The e-magazine will have articles, essays, poem, travelogue, memoirs, features, comic strips, satire, jokes, games and puzzles, paintings and other creative activities etc. Every issue will have a new theme which will attract you.

### Disclaimer

The contributors' views and opinions expressed in articles, and other materials, are their own. The editorial board is not responsible for any legal issues.

- Without prior permission from the publisher, no part of this magazine may be reproduced, stored, or transmitted in any form or by any means, whether electronic, mechanical, copying, recording, or otherwise.
- This document may be reviewed, summarized, reproduced, or translated in part or in whole, but it must not be used for sale or any commercial purpose.
- This magazine is not to be sold, resold, or otherwise disposed of by way of trade in any form other than its original cover or binding without prior permission from the publisher.



MINISTRY OF EDUCATION  
GOVERNMENT OF INDIA  
शिक्षा मंत्रालय  
भारत सरकार



विद्यया ऽ मृतमश्नुते



एन सी ई आर टी  
NCERT

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्  
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING