

LUEUR LUNAIRE MOON'S LINE OF LIGHT



MOON'S LINE OF LIGHT

GRADE-5 EDITION BY OMPEE LEARNERS



UNDER THE MOON'S LIGHT

Lunar moon up in the night,
Under its glow, we find our light,
Nurturing dreams with its gentle grace,
A celestial poet in space,
Radiant in the sky, a smiling face.

People gather to share their rhyme,
Our voices echo through space and time,
Everyone's words, like a sweet monsoon,
Singing of the Moon, our favourite tune,
Of its magic, we swoon.

CHANDRAYAAN CHRONICLES-MOON'S RADIANT LINE

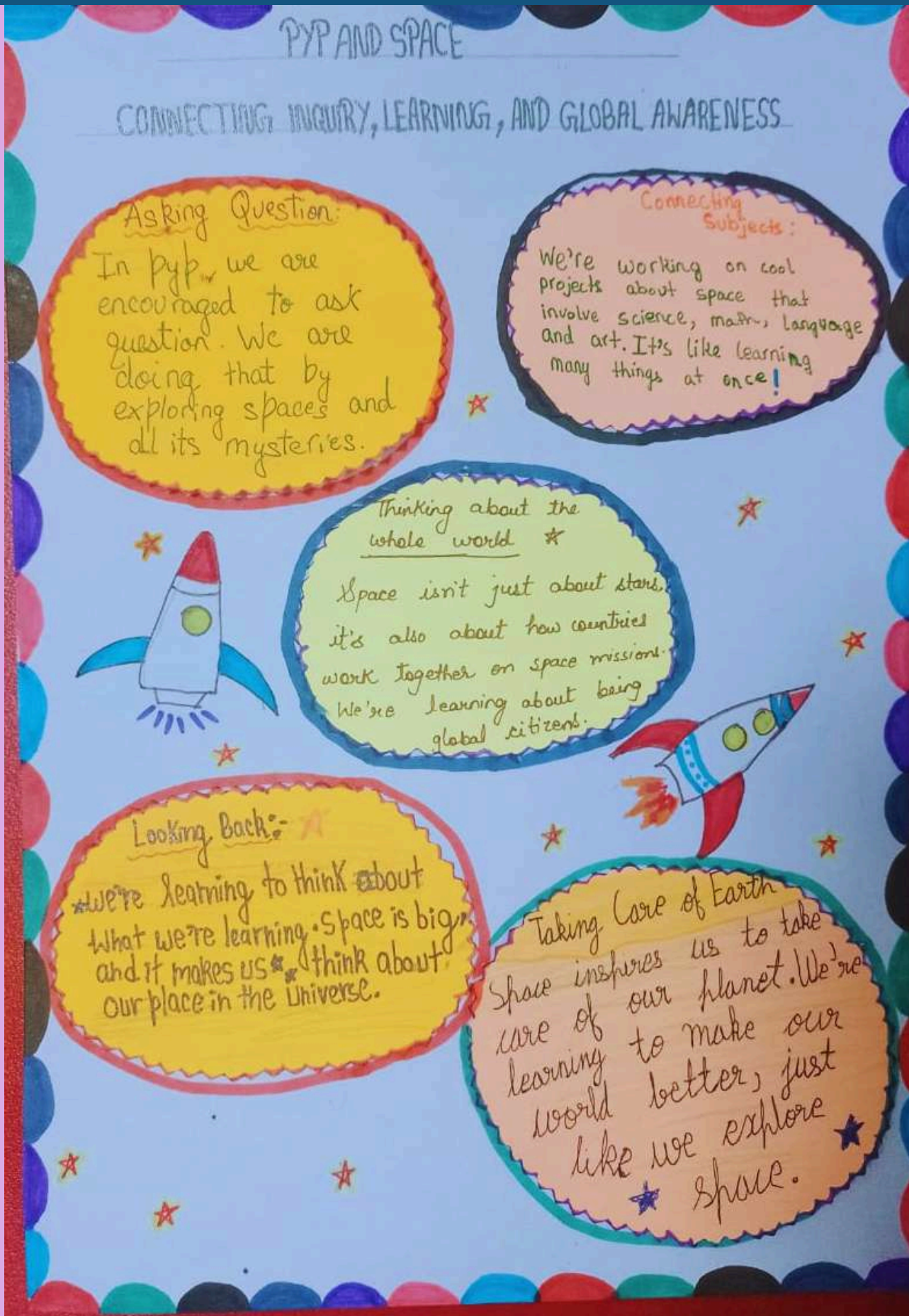
In this special edition, we draw parallels between the wonders of Chandrayaan's lunar missions and the synergy of knowledge and creativity. Just as ISRO aims for the stars, our students are scaling new heights in their learning journeys. From science to art, we celebrate their daily achievements and the rich tapestry of talents in our school community. Join us as we spotlight their curiosity, accomplishments, and stay connected through shared experiences, molding the leaders of tomorrow at Ompee Global School.

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CONNECTING INQUIRY, LEARNING, AND GLOBAL AWARENESS

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FACES BEHIND CHANDRAYAAN-3

NEWSLETTER 2023-34

By Vanya Malhotra and Poorvi (Grade-5)

Meet the remarkable individuals who shaped Chandrayaan 3:

- **Srikant - Mission Director:** Appointed in 2021, he's been the driving force, overseeing meticulous planning and strategy.
- **P. Veeramuthuvel-Main Scientist:** Leading the mission, known for his technical prowess, he played a vital role in Chandrayaan 2 as well.
- **Kalpana-Associate Project Director:** A key contributor to the mission's success.
- **M. Sankaran - Director:** His guidance was instrumental.
- **S. Somanath - Chairman:** Led with expertise, with experience at VSSC and LPSC.
- **Nambi Narayan:** His 'Vikas Engine' powered Chandrayaan 3.
- **Mission Objective:** Chandrayaan 3 aimed to further our understanding of the Moon and advance lunar exploration.
- **Site Selection:** A rigorous process led to the choice of the landing site, chosen for its scientific significance and safety for the mission's objectives.
- **Challenges Conquered:** Chandrayaan 3 confronted significant challenges, such as extreme lunar surface conditions and navigation complexities, tackled through teamwork and innovation.
- **Scientific Gear:** Chandrayaan 3 carried diverse scientific instruments, including high-resolution cameras, spectrometers, and seismometers, gathering critical lunar data.

Together, this team of visionaries and scientists made Chandrayaan 3 a reality.

Let curiosity and determination drive our pursuit of knowledge, inspiring future missions, and reaching new heights together!



ISRO'S HUMAN SPACEFLIGHT PROGRAMME

NEWSLETTER 2023-34

Information collected by Daksh from Grade 5

Historical Milestones:

- In August 2007, the then Chairman of ISRO, G. Madhavan Nair, hinted at the agency's interest in launching a Human Spaceflight Programme.
- In February 2009, the Government of India officially authorized the human space flight program, marking a significant step forward.
- The program gained substantial momentum in 2017 when crucial decisions and planning efforts were intensified.

Reliability and Safety:

- ISRO places an incredibly high priority on safety, aiming for more than 99.8% reliability for its crew escape system. This dedication ensures the utmost safety for astronauts.

The Launch Plan:

- ISRO's crewed orbiter, named Gaganyaan, is set to embark on its journey atop a Geosynchronous Satellite Launch Vehicle Mk III (GSLV Mk III).
- Approximately 16 minutes after liftoff, the rocket will inject the orbital vehicle into an orbit located between 300 to 400 kilometers above Earth's surface.
- ISRO's Human Spaceflight Program is a testament to India's ambitions and technological prowess. Stay tuned for more updates as we continue to explore new frontiers in space!

MOON MAZE

CAN YOU HELP THE CAT GET TO THE MOON FOR A NAP?



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ISRO'S ROCKETS TAKING US TO THE STARS

NEWSLETTER 2023-34

Information collected by Avyukt and Laranya from Grade 5

What is ISRO?

ISRO, which stands for the Indian Space Research Organisation, is like India's space superhero team. They are all about exploring outer space and using it to make life better for us and the whole world. ISRO is part of the Indian government's Department of Space and was created in 1969, but it all started with the dream of Dr. Vikram Sarabhai.

How many rockets has ISRO launched?

ISRO has been super busy with rockets! They've launched 124 spacecraft missions and 92 launch missions. And guess what? They're planning even more cool missions, like sending people or robots into space (Gagan Yaan), exploring other planets (Aditya, Chandrayaan, Shukrayaan), and more!

What's the biggest rocket ISRO has?

ISRO's largest rocket is called the Launch Vehicle Mark-III (LVM3). It's like the big boss of rockets and can carry lots of stuff into space. They recently launched it with 36 satellites onboard.

How many types of rockets does ISRO have?

ISRO has three main rockets they use: the Polar Satellite Launch Vehicle (PSLV), the Geosynchronous Satellite Launch Vehicle (GSLV), and the Geosynchronous Satellite Launch Vehicle Mk-III (LVM3). The PSLV has different versions with different numbers of rockets on it!

Which was India's very first satellite?

India's first satellite was named Aryabhata, after a famous Indian astronomer. It was super special because it was entirely made in India and launched into space on April 19, 1975, with the help of a Soviet rocket.

What's the next big thing in ISRO's rockets?

ISRO is always working on exciting new rockets. They have something called the Next Generation Launch Vehicle (NGLV), which will be even more advanced than their current rockets like PSLV and GSLV. It's like the future of space exploration!

Information collected by Avyukt and Laranya from Grade 5

Aditya-L1 is a spacecraft designed and developed by the Indian Space Research Organisation and various other Indian research institutes to study the solar atmosphere. Aditya-L1 was launched aboard the PSLV C57 at 11:50 IST on 2nd September 2023.

The mission of Aditya-L1, India's first solar space observatory mission, has commenced its data collection activities. ISRO has activated the STEPS instrument, which measures supra-thermal and energetic ions and electrons. The data collected will assist scientists in analyzing the behavior of particles surrounding Earth.

Here are 10 facts about Aditya L1:

- It is the first Indian mission dedicated to observing the Sun.
- It was launched from Shriharikota, Andhra Pradesh.
- It was launched ten days after the successful landing of ISRO's Moon mission, Chandrayaan-3.
- Aditya L1 aims to diagnose the plasma within coronal loops, examining its temperature, velocity, and density.
- Aditya-L1 is positioned between the Earth and the Sun, approximately 1.5 million kilometers (about 930,000 miles) away from Earth, in the direction of the Sun.
- The budget for Aditya-L1 is Rs 400 crore.
- The Aditya-L1 mission will be placed into a point called the L1 Lagrange point.
- This mission will be ISRO's second space-based astronomy mission after Astro Sat, which was launched in 2015.
- Aditya-L1 was initially named Aditya 1 and was intended to observe only the solar corona.
- Aditya-L1 will remain approximately 1.5 million km away from Earth.

Read More

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SPACE & MOON MARVELS

Information collected by Team Grade 5

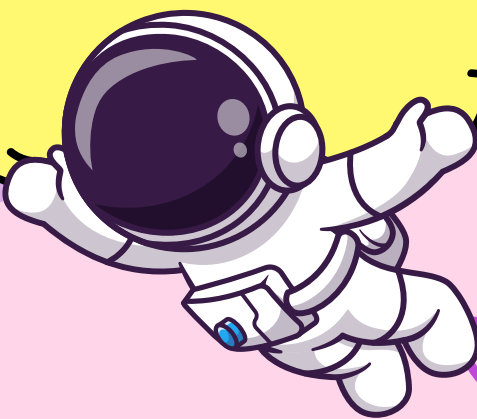
Word Scramble

1. ERSNAUTO
2. TESATOLCPE
3. ROVRUE
4. GNATIROON
5. RITIEPLONAXOE
6. SEARCRFTA
7. NOTRLIEB
8. GATXLA
9. SASTLILUNE
10. EONXRTEPIAL



Lunar Exploration:

Humans first set foot on the Moon during the **Apollo 11 mission** in 1969. **Neil Armstrong** and **Buzz Aldrin** became the first astronauts to walk on the lunar surface.



ANSWER:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

HARNESSING THE LUNAR POWER WORD

Information collected by Team Grade 5

1. **Lunar Exploration:** The act of studying and investigating the Moon's surface, geology, and atmosphere.
2. **Spacecraft:** A vehicle designed for travel or operation in outer space.
3. **Mission Control:** The center where the planning, coordination, and monitoring of a space mission take place.
4. **Rover:** A remote-controlled robotic vehicle designed for exploring the surface of a celestial body.
5. **Orbiter:** A spacecraft designed to go into orbit around a celestial body, such as a planet or moon.
6. **Navigation:** The process of determining and controlling the spacecraft's position and path.
7. **Exploration:** The act of traveling to new or unknown places for discovery and understanding.
8. **Crater Analysis:** The study of the depressions or indentations on the lunar surface caused by impacts.
9. **Lunar Surface:** The physical exterior of the Moon.
10. **Astrobiology:** The study of the origin, evolution, and distribution of life in the universe.
11. **Sample Collection:** The process of gathering and storing materials or data for analysis.
12. **Geological Study:** The examination of the Moon's geological features, such as rocks and formations.
13. **Space Technology:** Technology developed for use in space exploration and travel.

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DISCOVERING INTRIGUING FACTS ABOUT INDIAN LUNAR MISSIONS

NEWSLETTER 2023-34

Information collected by Saanvi and Yashmaan, Grade-5

Introduction:

Indian lunar missions have made significant strides in lunar exploration, with Chandrayaan-1, Chandrayaan-2, and the recently launched Chandrayaan-3 mission. These missions have not only expanded our understanding of the Moon but have also showcased India's growing prowess in space technology and exploration. In this article, we will delve into the key details and discoveries of these missions.

Chandrayaan-1: India's First Lunar Probe

- Chandrayaan-1 marked India's entry into lunar exploration and was a monumental achievement for the Indian Space Research Organisation (ISRO). Launched in October 2008, the mission comprised an orbiter and an impactor. The orbiter was inserted into lunar orbit on November 8, 2008.
- On November 14, 2008, the Moon Impact Probe separated from the orbiter and successfully struck the lunar surface near the Shackleton crater, a location named Jawahar Point. This achievement made ISRO the fifth national space agency to reach the lunar surface.
- Despite encountering technical issues such as star tracker failure and poor thermal shielding, Chandrayaan-1 exceeded expectations by operating for 312 days, and conducting valuable research. One of its major discoveries was confirming the presence of lunar water, a significant scientific breakthrough.

Chandrayaan-2's Goals and Payloads:

The mission's primary objectives included:

- Mapping and studying lunar surface composition.
- Locating and assessing lunar water.
- Conducting scientific experiments on the lunar surface using the rover.
- The Chandrayaan-2 mission had a budget of Rs 978 crore and featured advanced technologies in both the lander and rover.

Key Discovery:

- Despite the lander's setback, the Chandrayaan-2 orbiter confirmed the presence of water in the form of ice on the Moon's surface, furthering our understanding of lunar resources.

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Chandrayaan-3: India's Successful Lunar Landing

- Chandrayaan-3, the third mission in India's lunar exploration program, marked a significant milestone for ISRO. Launched in July 2023, it replicated the successful components of Chandrayaan-2, featuring a lunar lander named Vikram and a lunar rover named Pragyan. The mission achieved a successful landing near the lunar south pole, making India the fourth country to land on the Moon.
- After entering lunar orbit in August 2023, Vikram and Pragyan were briefly put to sleep due to depleting solar power. They were scheduled to resume operations at local sunrise on September 22.

Chandrayaan-3's Design and Payloads:

- The mission comprised three main components:
- Propulsion module: Carried the lander and rover to lunar orbit.
- Lander (Vikram): Responsible for the soft landing on the Moon.
- Rover (Pragyan): A six-wheeled vehicle designed for on-site analysis.
- Chandrayaan-3's payloads included instruments like ChaSTE (Chandra's Surface Thermophysical Experiment), ILSA (Instrument for Lunar Seismic Activity), LP (Langmuir Probe) on the lander, and APXS (alpha particle X-ray spectrometer) and LIBS (Laser-induced breakdown spectroscopy) on the rover.

Key Milestone:

- Chandrayaan-3 successfully achieved a lunar landing near the south pole, reaffirming India's capabilities in lunar exploration.

Conclusion:

- India's Chandrayaan program has made remarkable strides in lunar exploration, with each mission contributing valuable insights into the Moon's composition, water resources, and geological features. Despite challenges and setbacks, ISRO's determination and technological expertise have propelled India to the forefront of lunar exploration. As India continues to expand its space endeavors, the Chandrayaan program remains a symbol of the nation's scientific and technological prowess on the global stage.



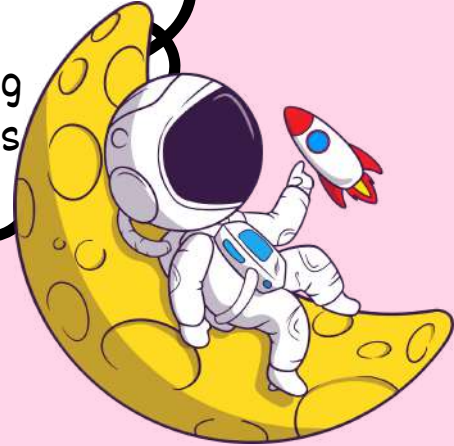
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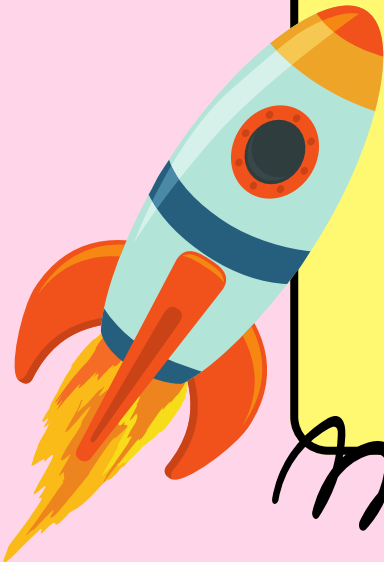


ISRO

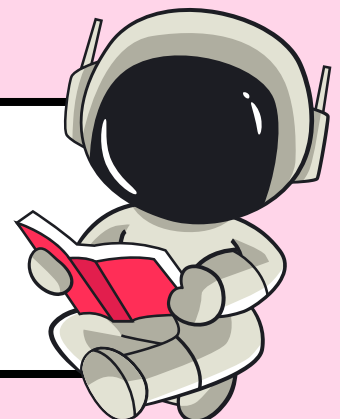
Get ready for an exciting space journey in this newsletter! We'll share amazing ISRO facts, like launching a record-breaking 300+ satellites in one go. Learning about space and ISRO's cool missions is important for future leaders and scientists. Fun fact: ISRO's Mars Orbiter Mission (Mangalyaan) was super cost-effective. Let this newsletter spark your curiosity about the universe. Grab your reading glasses, and let's explore – maybe our dreams will reach as high as ISRO's rockets!



- **Satellite Record:** ISRO holds a world record for launching over 300 satellites in a single mission.
- **Cost-Effective Mars Mission:** ISRO's Mars Orbiter Mission (Mangalyaan) was remarkably cost-effective, making history.
- **NavIC Navigation System:** ISRO's NavIC provides accurate positioning and timing information for India and neighboring regions.
- **Lunar Discoveries:** Chandrayaan-1 made significant discoveries on the Moon, including evidence of water molecules.
- **Future Missions:** ISRO has already made significant progress in its missions, including the successful launch of Aditya-L1, dedicated to studying the Sun. Additionally, they are actively preparing for Gaganyaan, India's inaugural human spaceflight mission, showcasing their commitment to pushing the boundaries of space exploration.



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GAGANYAAN

India's Leap to the Stars

NEWSLETTER 2023-34

By Grade-5 Learners Priyanka and Bipanpreet

Introduction:

Did you know that India is all set to send humans into space? It's an exciting adventure called Gaganyaan-1. Originally planned for December 2021, this remarkable journey is now expected to happen in either late 2023 or 2024. The crew module, made by Hindustan Aeronautics Limited (HAL), took its first flight on 18th December 2014. Get ready to learn more about this incredible mission!



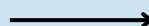
Fascinating Facts:

- The Gaganyaan-1 mission aims to be India's first-ever human spaceflight, and it's a big step towards exploring the stars.
- The crew members selected for this mission will be called "Vyomanauts," a term derived from the Sanskrit word "Vyoma," meaning "sky" or "space."



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Gaganyaan Robot: Vyommitra

ISRO's Gaganyaan mission will feature Vyommitra, a female humanoid robot. Vyommitra's role is to test mission systems and procedures, as well as collect data on the effects of space travel on humans.

Gaganyaan Mission Objective

The Gaganyaan project aims to demonstrate India's human spaceflight capability. It involves launching a three-member crew into a 400 km orbit for a three-day mission and safely returning them to Earth in Indian sea waters. Key elements include developing critical technologies such as a human-rated launch vehicle, life support system, crew emergency escape provisions, and crew management aspects.

Gaganyaan: The Spacecraft

Gaganyaan is India's crewed orbital spacecraft designed to carry three people. A planned upgraded version will have rendezvous and docking capabilities. The maiden crewed mission is scheduled for launch in 2023 or 2024. The crew module is manufactured by Hindustan Aeronautics Limited, and the Defence Research and Development Organisation supports human-centric systems and technologies for the mission.



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ADVENTURE

Humans Heading to the Stars...

By Grade-5 Learner Drish

Hi, I'm Drish from Grade 5, and I've got an exciting story to share with you. It's about India's plan to send people into space.

Mission Gaganyaan:

In 2024, something amazing is happening. ISRO, which stands for the Indian Space Research Organisation, is going to launch two special missions. They won't have people on board, but they're important steps to help get us ready for sending astronauts into space. Picture big rockets shooting into the sky.

A Change in Plans:

Before 2018, ISRO had different things it wanted to do, and putting people in space wasn't the main goal. But secretly, since 2007, they've been working on the technology needed. They even did tests like making a crew module go through Earth's atmosphere and practiced how to escape from the launch pad safely.

Government's Big Support:

In 2018, the Indian government said, "Go for it!" They gave ISRO a huge amount of money, about ₹100 billion (that's like \$1.5 billion in the US), to make a special spaceship that can carry astronauts. This spaceship will go into space for 7 days and carry 2-3 astronauts. That's like a dream come true for space lovers.

ISRO's journey to put people in space is super exciting. They're working really hard, and who knows, maybe someday, one of us could be one of those astronauts exploring space!

INDIA'S MOON MISSION MADE EASY

By Grade-5 Learners Ruhani and Harshwardhan

- Chandrayaan 3 is India's third mission to the Moon by ISRO.
- Chandrayaan-1, India's first lunar mission, found ice on the Moon in 2009. Chandrayaan-2 tried to do the same but couldn't land safely.
- Chandrayaan-3 aims to fix past mistakes and learn more about the Moon's south pole and water.
- Chandrayaan-3 includes a lander called Vikram and a rover named Pragyan, honoring Vikram Sarabhai, a space pioneer.
- It was launched on July 14, 2023, from Sriharikota and circled Earth on July 15.
- Chandrayaan said "I am feeling the Lunar Gravity" after reaching the Moon's orbit.
- On July 23, 2023, Vikram landed on the lunar South Pole after a 40-day journey.
- India's Prime Minister, Mr. Narendra Modi, watched the landing online from South Africa.
- Chandrayaan-3's first message on the Moon was "India, I reached my destination and you too."
- India is the first to explore the Moon's south pole, a proud moment.
- India is the fourth country to land on the Moon after the US, the Soviet Union, and China.
- Pragyan rover will leave India's flag and ISRO logo on the lunar soil.
- Chandrayaan-3's mission cost is around 6.15 billion.
- ISRO focused on preventing problems for a successful landing.
- The leaders behind India's Moon mission are ISRO chief Mr. S Somanath and project director Mr. P Veera Muthu.
- India's Moon rover is exploring, collecting data, and sending images to Earth.
- Pragyan rover has tools to find minerals and study the Moon's soil.
- Pragyan communicates with the lander, which sends data to the orbiting spacecraft, then to Earth.
- Chandrayaan 3 can work for 14 days, like one lunar day, and may wake up when the sun rises.
- Vikram lander and Pragyan Rover will stay on the Moon; they won't come back to Earth.

Let curiosity and determination drive our pursuit of knowledge, inspiring future missions, and reaching new heights together!



MAYA

(STORY BY SIA AND KHUSHI)

THERE WAS A GIRL NAMED MAYA, SHE ALWAYS HAD A DREAM TO BE A SPACE SCIENTIST. WHEN SHE GOT OLDER SHE WANTED TO ENTER INTO. SHE WORKED VERY HARD AND PASSED THE ENTRANCE EXAM, SHE WAS SO HAPPY. SHE GOT A JOB IN ISRO, HER DREAM HAD COME TRUE.

THERE SHE DID NOT KNOW THAT SHE WOULD ACHIEVE MANY MORE THINGS AHEAD, AND WHEN SHE GOT MORE AND MORE EXPERIENCE, SHE WAS ASSIGNED TO A PROJECT NAMED CHANRAYAAN 2. SHE WAS SO EXCITED TO BE IN THE PROJECT, SHE CREATED A ROCKET THAT WOULD GO TO THE MOON. BUT ON THE WAY TO THE MOON IT CRASHED.

FEW YEARS PASSED BY AND SHE WAS AGAIN ASSIGNED ON THE PROJECT CHANDRAYAAN 3. SHE WORKED SO HARD THIS TIME, ENSURING THERE ARE NO MALFUNCTIONS NOW.

AND CHANRAYAAN 3 WAS LAUNCHED ON JULY 14, FROM SATISH DHAWAN SPACE CENTER SRIHARIKOTA.

AND TO HER SURPRISE ,CHANRAYAAN 3 WAS LANDED ON THE MOON ON AUGUST 23, 2023. AND HER DREAM BECAME TRUE.

THE MORAL OF THE STORY IS – FOLLOW YOUR PASSION.

Let curiosity and determination drive our pursuit of knowledge, inspiring future missions, and reaching new heights together!

SPACE EXPLORATION QUIZ

NEWSLETTER 2023-34

By Grade-5 Learners Atharv and Mihir

1. How many countries have successfully landed on the moon?

- a) 6 countries
- b) 7 countries
- c) 8 countries
- d) 5 countries

3. What is the name of the lander in the Chandrayaan 3 mission?

- a) Apollo
- b) Vikram
- c) Sojourner
- d) Artemis

5. How many times did Chandrayaan 3 orbit the Earth before entering the moon's orbit?

- a) 5 times
- b) 3 times
- c) 7 times
- d) 2 times

7. When did Chandrayaan 3 successfully enter the moon's orbit?

- a) August 5, 2023
- b) July 20, 1969
- c) September 2019
- d) January 3, 2022

9. Which planet is the hottest in our solar system?

- a) Mars
- b) Venus
- c) Mercury
- d) Jupiter

2. Which country became the first to reach the moon's south pole?

- a) United States
- b) India
- c) China
- d) Russia

4. When did Chandrayaan 3 land on the moon?

- a) August 23, 2023
- b) September 2019
- c) July 20, 1969
- d) January 3, 2022

6. What is the full form of ISRO?

- a) Indian Space Research Observatory
- b) International Space Research Organization
- c) Indian Space Research Organization
- d) Institute of Space Research and Observation

8. On which point did the Pragyan Rover reach?

- a) Luna Maxima
- b) Moon Central
- c) Shiv Shakti Point
- d) Apollo Crater

10. What was the name of the first human to set foot on the moon?

- a) Neil Armstrong
- b) Buzz Aldrin
- c) Yuri Gagarin
- d) John Glenn

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BIPANPREET
GRADE-5



YUGANSH
GRADE-5



KHUSHI
GRADE-5



LARANYA
GRADE-5



SIA
GRADE-5



DAKSH
GRADE-5



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VANYA
GRADE-5



SAANVI
GRADE-5



MIHIR
GRADE-5



POORVI
GRADE-5



RUHANI
GRADE-5



ATHARV
GRADE-5



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harshwardhan
grade-5



tejas
grade-5



yaashmaan
grade-5



diksh
grade-5



priyanka
grade-5



avyukt
grade-5



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OUR ART GALLERY

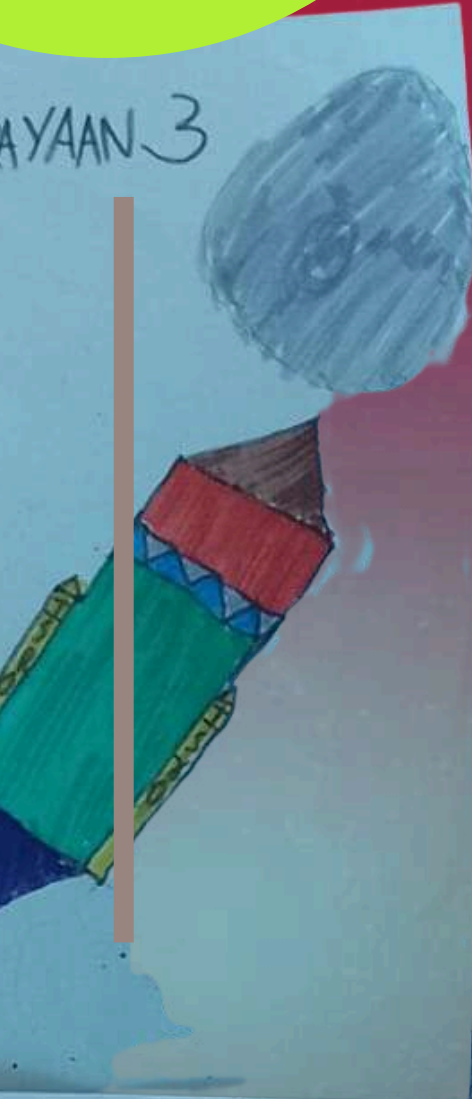




Chandrayaan 3 - India's Pride



OUR IMAGINATION





Dear Readers,
 We're thrilled to introduce our first ompee global school newsletter, focused on our Chandrayaan 3 and space. We've titled it "L'espace d'avenir" inspired by the french language. As students, we truly value the power of education. We agree with Malcolm X, who once said "Education is the passport for the future, for tomorrow belongs to those who prepare for it today."

Our mentors have played a significant role in helping us achieve this.

Our journey is rooted in the PYP connection which shapes our learning experiences. We're grateful for your support and look forward to sharing more about our school adventure in future Newsletters

Warm Regards,

PYP-5 Students of Ompee Global School.



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