



# NEWSLETTER JULY 2025



**JM INTERNATIONAL SCHOOL,  
DWARKA DELHI**

## EARLY SPACE EXPLORATION



The early space exploration era, which began in the mid-20th century, was marked by many historic events that changed the course of human history. One of the most significant events was the launch of the first artificial satellite, Sputnik 1, by the Soviet Union on October 4, 1957

Sputnik 1 was a small, spherical satellite that orbited the Earth every 96.2 minutes, transmitting radio signals back to Earth for three weeks before its batteries died. The launch of Sputnik 1 marked the beginning of the Space Race between the Soviet Union and the United States, and sparked a wave of interest in space exploration around the world.

In response to Sputnik 1, the United States launched its own satellite, Explorer 1, on January 31, 1958. Explorer 1 discovered the Van Allen radiation belt, a zone of energetic particles trapped by Earth's magnetic field, which greatly increased our understanding of the Earth's environment.



Image: A model of Explorer 1 is held high by (left to right) JPL Director William Pickering, James Van Allen, and Wernher von Braun at a late-night news conference announcing the launch of Explorer 1, held at the National Academy of Sciences in Washington, DC.  
Credits: NASA/JPL-Caltech

The early space exploration era also saw many other historic events, including the first human spaceflight by Yuri Gagarin in 1961, the first American spacewalk by Ed White in 1965, and the first landing of humans on the Moon by the Apollo 11 mission in 1969.

These early space exploration achievements paved the way for many more advances in space science and technology, including the development of the International Space Station and the exploration of Mars and other planets in our solar system. Today, space exploration continues to push the boundaries of human knowledge and inspire new generations of



### SPACE QUOTE

"I didn't feel like a giant. I felt very, very small." - Neil Armstrong

## — THE SPACE RACE — AND FIRST MAN IN SPACE



The Space Race was a competition between the United States and the Soviet Union to achieve milestones in space exploration. It was born out of the Cold War tensions between the two superpowers and lasted from the late 1950s to the early 1970s.

One of the most significant events in the Space Race was the launch of the first human into space by the Soviet Union on April 12, 1961. Yuri Gagarin, a Soviet Air Force pilot, orbited the Earth aboard the Vostok 1 spacecraft for 108 minutes, becoming the first human to leave the confines of Earth's atmosphere and experience spaceflight.

Gagarin's historic flight was a major propaganda victory for the Soviet Union, and it sparked a renewed sense of urgency in the United States to catch up and surpass Soviet achievements in space. The US responded with the Mercury program, which aimed to put American astronauts into orbit around the Earth.

On February 20, 1962, NASA astronaut John Glenn became the first American to orbit the Earth, aboard the Friendship 7 spacecraft. Glenn's flight was a major achievement for the United States and helped restore confidence in the American space program.

The Space Race continued to escalate, with the Soviet Union achieving many more milestones, including the first woman in space and the first spacewalk.



U.S. astronaut John H. Glenn, Jr., with the Mercury spacecraft Friendship 7 on February 20, 1962.



Cosmonaut Yuri Gagarin strapped in for Vostok 1 capsule on April 12, 1961



### SPACE QUOTE

"Space is for everyone. Let us explore it together." - Yuri

## ABOUT STEMROBO TECHNOLOGIES



**STEMROBO Technologies Pvt Ltd** is an Indian company that provides education and training services in the field of STEM (Science, Technology, Engineering, and Mathematics) and robotics. The company's aim is to promote hands-on learning and innovation among young students by providing them with educational kits, training programs, and workshops.

Stemrobo Technologies Pvt Ltd offers a range of products and services, including robotics kits, coding kits, and educational software. The company's products are designed to be user-friendly and provide a fun and engaging way for students to learn about STEM subjects. In addition to its educational products, Stemrobo Technologies Pvt Ltd also conducts workshops and training programs for students, teachers, and educational institutions. These programs are designed to help participants learn the basics of robotics and coding, and develop their skills in these areas.

### Importance of STEM Education for Kids

The term "STEM" typically refers to a group of academic disciplines that are focused on science, technology, engineering, and mathematics. It prepares them for the future by building problem-solving skills, encouraging curiosity and exploration, fostering collaboration and communication skills, and addressing global challenges that require STEM principles for their solution.



#### SPACE QUOTE

The sky is not the limit. There are infinite possibilities in space.

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## ABOUT STEMROBBO LAB



The Robotics Lab is a dedicated workspace where students can learn, experiment, and transform their ideas into prototypes. Designed to foster creativity beyond rote learning, the lab encourages students to explore futuristic skills such as design and computational thinking, adaptive learning, and artificial intelligence.

Equipped with state-of-the-art tools and equipment like 3D printers, robotics kits, and electronic components, the Robotics Lab provides a hands-on learning experience in science, technology, engineering, and mathematics (STEM) fields. The primary goal is to cultivate problem-solving and critical thinking skills from an early age. By promoting experimentation and innovation, the lab aims to nurture the next generation of innovators and entrepreneurs, preparing them for future challenges and contributing to the overall development of India's technological landscape.



### SPACE FUN FACT

When Indira Gandhi asked Sharma how India looked from outer space, he replied, "Sare Jahan Se Accha"

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## GLIMPSE OF ACTIVITIES

### Grade I – Linkage Box Magic Straws and Connectors

Students used colorful straws and connectors to build 3D models, boosting creativity, spatial awareness, and problem-solving skills.

Activities included:

- **Kenel:** Learned about enclosure design and proportion.
- **Supermarket:** Explored space organization and structural planning.
- **Rocket:** Understood balance and stability in tall structures.



 **SPACE FUN FACT**  
99 per cent of our solar system's mass is the sun

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## GLIMPSE OF ACTIVITIES

### Grade II – Linkage Box Magic Straws and Connectors

The Linkage Box with colorful straws and connectors allowed students to build creative 3D models, enhancing spatial skills, problem-solving, and design thinking through hands-on exploration.

Activities included:

- **Long Chair:** Learned about length, support, and stability in elongated designs.
- **Specs:** Created spectacle frames, improving proportion sense and fine motor skills.
- **Space Rover:** Built a rover model to understand mobility, balance, and functional design.



**SPACE FUN FACT**  
Jupiter's Great Red Spot is a storm bigger than Earth.

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## GLIMPSE OF ACTIVITIES

### Grade III – Study Time & Shaking Dice

The Paper Circuit Kit and Micro:bit allowed students to explore electronics and coding through hands-on activities, enhancing problem-solving, creativity, and logical thinking.

#### Activities included:

- **Study Time (Paper Circuit Kit & Counter):** Built a paper-based circuit with a counter to track study sessions, learning basic electronics and time management.
- **Shaking Dice (Micro:bit – Microsoft MakeCode):** Programmed a virtual dice that rolls when shaken, introducing coding logic, random number generation, and sensor-based interactivity.



 **SPACE FUN FACT**  
Space is completely silent—sound can't travel.

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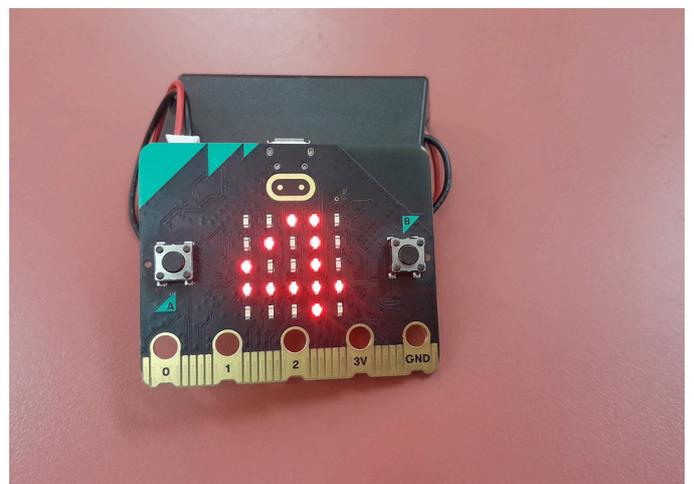
## GLIMPSE OF ACTIVITIES

### Grade IV – Micro:bit & Paper Circuit Activities

Using Micro:bit and Paper Circuit kits, students explored electronics and coding to create interactive and expressive projects, enhancing creativity, logical thinking, and hands-on problem-solving.

#### Activities included:

- **Touch Heart & Send a Smile (Micro:bit – Microsoft MakeCode):** Programmed interactive greetings and emotive displays, learning coding logic, sensors, and LED control.
- **Laughing Boy, Flower & Bird (Paper Circuit):** Created paper-based circuits with LEDs to animate characters and objects, developing skills in basic electronics, design, and imaginative storytelling.



#### SPACE FUN FACT

UY Scuti is 1,700 times bigger than the Sun.

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## GLIMPSE OF ACTIVITIES

### Grade V - Smart Circuit Kit Activities

The Smart Circuit Kit enabled students to learn advanced electronics concepts through hands-on experiments, improving understanding of circuits, sensors, and real-world applications.

#### Activities included:

- **Fire Alarm System:** Built a working model alarm using sensors and circuitry, learning about safety mechanisms, detection systems, and alert signals.
- **Fan Regulator:** Designed a circuit to control fan speed, understanding voltage regulation, current flow, and practical electronics applications.
- **Piano:** Created a musical circuit that plays notes when keys are pressed, exploring sound generation, circuits, and interactive design.



 **SPACE FUN FACT**  
A day on Venus is longer than a year there.

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## GLIMPSE OF ACTIVITIES

### Grade VI – Arduino Nano & Tinker Orbit Kit

Using the Arduino Nano and Tinker Orbit Kit, students explored robotics and electronics programming, enhancing coding skills, logical thinking, and hands-on problem-solving.

#### Activities included:

- **Basics of Arduino Robotics Kit (Alternative LED Flashing):** Programmed LEDs to flash alternately, learning about sequencing, timing, and basic robotics concepts.
- **Digital and Analog Data (Switching On/Off LED Using Push Button):** Controlled LEDs using push buttons, understanding digital and analog signals, input/output interactions, and fundamental electronics principles.



#### SPACE FUN FACT

Lightning is five times hotter than the surface of the Sun.

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## GLIMPSE OF ACTIVITIES

### Grade VII – STEM Bot Kit

Using the STEM Bot kit, students explored advanced robotics and environmental sensing, enhancing programming skills, problem-solving, and practical understanding of electronics and automation.

#### Activities included:

- **Night Light:** Built an automatic night lamp that turns on in low light, learning about sensors, circuit design, and automation.
- **Temp & Humidity Monitoring Robot:** Created a robot that monitors environmental conditions, understanding sensor integration, data acquisition, and real-time monitoring.
- **Smart Thermobot:** Designed a smart robot capable of responding to temperature changes, exploring automation, control systems, and interactive robotics applications.



**SPACE FUN FACT**  
A teaspoon of neutron star material would weigh about 6 billion tons.

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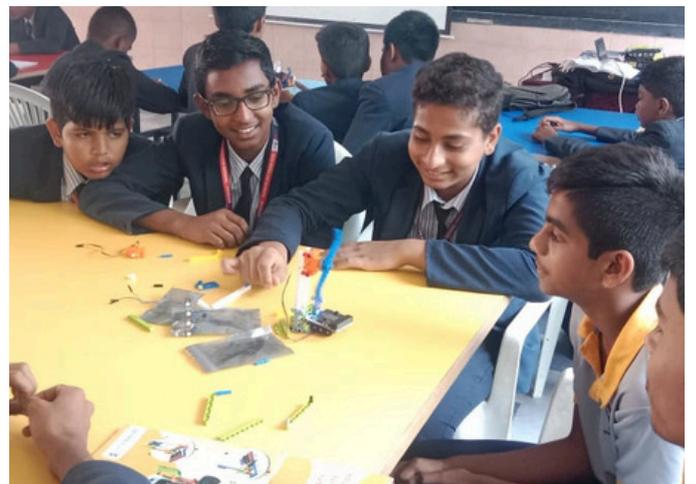
## GLIMPSE OF ACTIVITIES

### Grade VIII – Tinkercad & 3D Printing

Using Tinkercad and 3D printing, students transformed digital designs into physical models, enhancing spatial visualization, design thinking, and hands-on prototyping skills.

#### Activities included:

- **Visualisation of Real World Objects:** Designed and visualized everyday objects in 3D, learning proportions, dimensions, and modeling techniques.
- **Ludo Dice:** Created 3D printable dice for a Ludo game, understanding geometric design, precision, and functional modeling for real-world applications.



#### SPACE FUN FACT

There are more stars in the universe than grains of sand on all Earth's beaches.

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## GLIMPSE OF ACTIVITIES

### Achievements

Students successfully showcased their projects at the SRIJAN Exhibition, demonstrating creativity, technical skills, and practical application of STEM concepts.



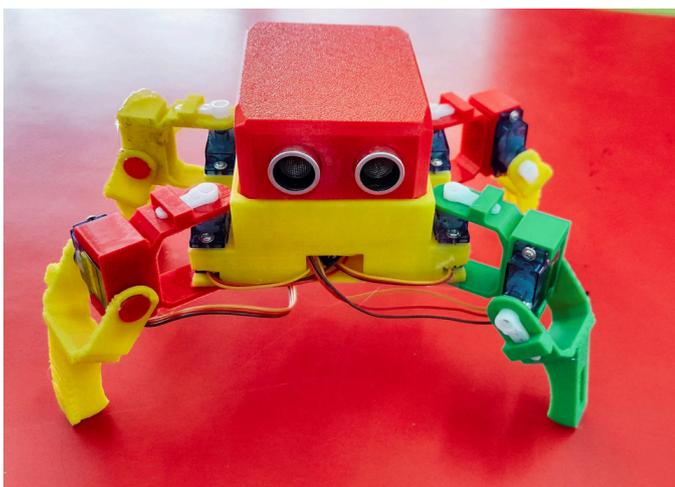
**SPACE FUN FACT**  
There's a planet made of diamond twice the size of Earth.

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THANK YOU



## CONTACT US

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