

Basic & BEYOND

MODEL ROCKETRY
WORKSHOP

*Launching Young Minds into the
World of Rocket Science*



A rocketeers Initiative

ISRO's move towards privatisation heralds a new era of space exploration in India. We're stepping up to foster an ecosystem that will be the cradle of tomorrow's rocket scientists. Our nationwide educational platform is a gateway for students to immerse in hands-on STEM learning, empowering them to spearhead future Mars missions and explore new frontiers. Through a scientifically devised curriculum and tech-enabled processes, we're making rocket science accessible, enjoyable, and intuitive for aspiring innovators across the country.

Welcome to the Rocketeers

At Rocketeers Research Institute, we're on a mission to build a robust foundation for space exploration within the classrooms of India. In partnership with ISRO, our workshops are designed to spark a lifelong interest in STEM and provide a practical pathway for aspiring young rocket scientists.

Why Model Rocketery

Model rocketry isn't just about the thrill of launch. It's a comprehensive educational tool that reinforces physics concepts, nurtures critical thinking, promotes teamwork, and instils a growth mindset.



Workshop Structure

Basic Model Rocketry

STUDENTS CAN BUILD & LAUNCH OUR
Flagship MODEL ROCKET

- Duration: One Day (7-8 Hours)
- The workshop begins with an introductory session to build awareness, followed by a session on basic model rocketry principles. Participants then move on to hands-on sessions where they build and fly model rockets. The day concludes with a Q&A and feedback session to address any queries and gather insights on the learning experience.

Intermediate Model Rocketry

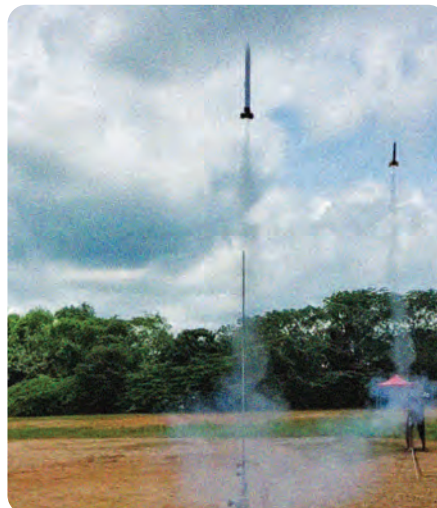
STUDENTS CAN BUILD & LAUNCH THEIR
Own MODEL ROCKET

- Duration: Two Days (7-8 Hours per day)
- On the first day, the structure mirrors the basic workshop with an introduction, a session on basic rocketry, hands-on build and fly sessions, and a Q&A session.
- The second day delves deeper with a session on the science of model rockets and advanced rocketry concepts. Participants then get to design, build, and fly their own model rockets, applying the knowledge acquired. The workshop concludes with a Q&A and feedback session, providing an opportunity for clarification and reflection on the learning journey.

Curriculum Includes

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| ► Rocketry Basics
Core principles of motion, forces, and energy. | ► Mathematics
Practical applications of algebra, trigonometry, and calculus. | ► Aerodynamics
Airflow and forces, relating to rocket design and flight. | ► Propulsion
Engine types and basics of propulsion for rocket flight. |
| ► Flight Mechanics
Dynamics from liftoff to reentry. | ► Stability
Importance of stability in rocketry. | ► Design Concepts
Design principles for building your own rocket. | |

This structure provides a blend of theoretical knowledge, practical skills, and interactive feedback, catering to different learning levels and ensuring a comprehensive understanding of model rocketry.



Workshop Pricing

Basic

Model Rocketry Workshop Model Rocket & Price (*Choose Any One*)

Zippy

Model Rocket Kit

Rs.1,224 + 18% GST



Moonshot

Model Rocket Kit

Rs.1,302 + 18% GST



Additional Cost

Rs. 300 Per Kit for Recovery (Parachute Based Landing)

Rs. 22,000 + 18% GST, Trainers Fee (Two Rocketeers Educators)

The cost of shipping kits and rocketry-related material to the institution/venue will be charged as per actuals.

Intermediate

Model Rocketry Workshop Model Rocket & Price (*Choose Any One*)

Moonshot

Model Rocket Kit + Bulk Kit

Rs.2,502 + 18% GST



Hurricane

Model Rocket Kit + Bulk Kit

Rs.2646 + 18% GST



Additional Cost

Rs. 450 Per Kit for Recovery (Parachute Based Landing)

Rs. 44,000 + 18% GST, Trainers Fee (Two Rocketeers Educators)

The cost of shipping kits and rocketry-related material to the institution/venue will be charged as per actuals.

TERMS

- ▶ 50% payment should be made before 20 days of the workshop date.
- ▶ The remaining 50% payment is to be made on our arrival at your Institution/Venue for the workshop.
- ▶ The total number of participants for the workshop should be intimated before 20 days of the workshop date.
- ▶ All costs for travel, accommodation, transfer, lodging, and food for Rocketeers personnel are to be borne extra by the institution.

LOGISTICS REQUIRED FOR WORKSHOP

- ▶ Classroom/Hall to accommodate all registered students.
- ▶ Projector, screen, mike, audio system.
- ▶ Whiteboard and whiteboard markers.
- ▶ A ground/open space measuring 50X50 meters for both days of the workshop
- ▶ 2 staff members to help manage students.
- ▶ 4 student volunteers to help manage to launch Model Rockets.



Learning Outcomes

- ▶ **Comprehensive Understanding:** Delve into the physics of rocket science with a hands-on approach.
- ▶ **Bridging Theory and Practice:** Apply theoretical knowledge in real-world scenarios.
- ▶ **Holistic Learning:** Explore physics, equations, and systems design, and experience rocket launching.
- ▶ **Real-World Applications:** Understand the interplay between math, physics, and tangible applications.
- ▶ **Rekindled Passion for Science:** Reignite a love for science through experiential learning.
- ▶ **Invitation to Explore:** Opportunity to host the Model Rocketry Workshop at your institute for an enriched educational experience.

Benefits

- ▶ **Certification:** From Rocketeers and the International Space Society.
- ▶ **Rocketeers Kit:** Rocket, motor, accessories, manuals, space-themed poster, and fins.
- ▶ **Expert Guidance:** Learn from ISRO scientists with free career counselling.
- ▶ **Lifetime Membership:** To the Rocketeers Model Rocketry Club.
- ▶ **International Exposure:** Build and fly model rockets with NAR(USA), and explore abroad opportunities.
- ▶ **Institute Empowerment:** Receives launchers and ignition systems for club activities and integration of model rocketry into student life.

