

Lab to School - Best Practice

17/04/2025

1. Title of the Practice

"Lab to School" Initiative: Bringing Physics Experiments to Nagaraja Municipal High School, Weavers Colony, Rajahmundry

2. Objectives of the Practice:

- To spark interest in science, especially physics, among school students at an early stage.
- To demonstrate the practical applications of theoretical concepts through hands-on experiments.
- To promote experiential learning by providing direct exposure to scientific equipment and techniques.
- To encourage students to pursue higher education and careers in science and technology.

3. The Context:

Recognizing the gap between theoretical knowledge and practical exposure in school education, particularly in under-resourced areas, the Department of Physics, Government College (Autonomous), Rajahmundry, initiated the "Lab to School" program. Many schools, including Nagaraja Municipal High School, have limited laboratory facilities. The initiative aimed to supplement classroom learning by delivering live demonstrations and experiments directly to 9th-grade students, making science more approachable and engaging.

4. The Practice:

On 17th April 2025, faculty members and students from the Department of Physics conducted a series of interactive demonstrations at Nagaraja Municipal High School, Weavers Colony, Rajahmundry.

The experiments included:

Light Experiments: Refraction, reflection, dispersion of light, and formation of images.

Periscope Construction: Demonstrating the principle of light reflection and optical instruments.

Renewable Energy Models:

Wind Energy Experiment: Small working models of wind turbines.

Solar Energy Experiment: Demonstrations using mini solar panels to power basic circuits.

Students were encouraged to participate, ask questions, and even operate the experimental setups themselves under supervision. Simple explanations were provided to ensure concepts were understandable at the 9th-grade level.

5. Evidence of Success

1. Students of I MSc physics actively participated and interacted during the sessions.
2. Students showed enhanced curiosity, asked insightful questions, and expressed a strong interest in replicating some of the experiments at home or in their school science fairs.
3. Feedback from the school authorities and teachers was overwhelmingly positive
4. A notable outcome was that several students expressed their aspirations to pursue physics in higher education after the session.

6. Conclusion:

The "Lab to School" initiative successfully achieved its objective of igniting a scientific temper among school students. It demonstrated that even simple, well-organized practical demonstrations could significantly enhance students' understanding and interest in science. Going forward, the Department of Physics, Government College (A), Rajahmundry, plans to continue and expand this outreach program to more schools, fostering a stronger science culture at the grassroots level.

Gallery



Demonstration of Mechanics Experiments by I MSc Students and faculty



Renewable Energy Models



Wave Concept Explanation by Students



Light Experiments: Refraction, reflection, dispersion of light, and formation of images.

Ch. Komala Lakshmi
Sd/-
Smt. Ch. Komala Lakshmi
HOD of Physics & Electronics