

Lab to School - Best Practice

15/07/2025

1. Title of the Practice

"Lab to School" Initiative: Bringing Physics Experiments to ZPH School, Vemagiri

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 ZPH School, Vemagiri have limited laboratory facilities. The initiative aimed to supplement classroom learning by delivering live demonstrations and experiments directly to 8 to 10th-grade students, making science more approachable and engaging.

4. The Practice:

On 15th July 2025, faculty members and students from the Department of Physics conducted a series of interactive demonstrations at ZPH School, Vemagiri

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.

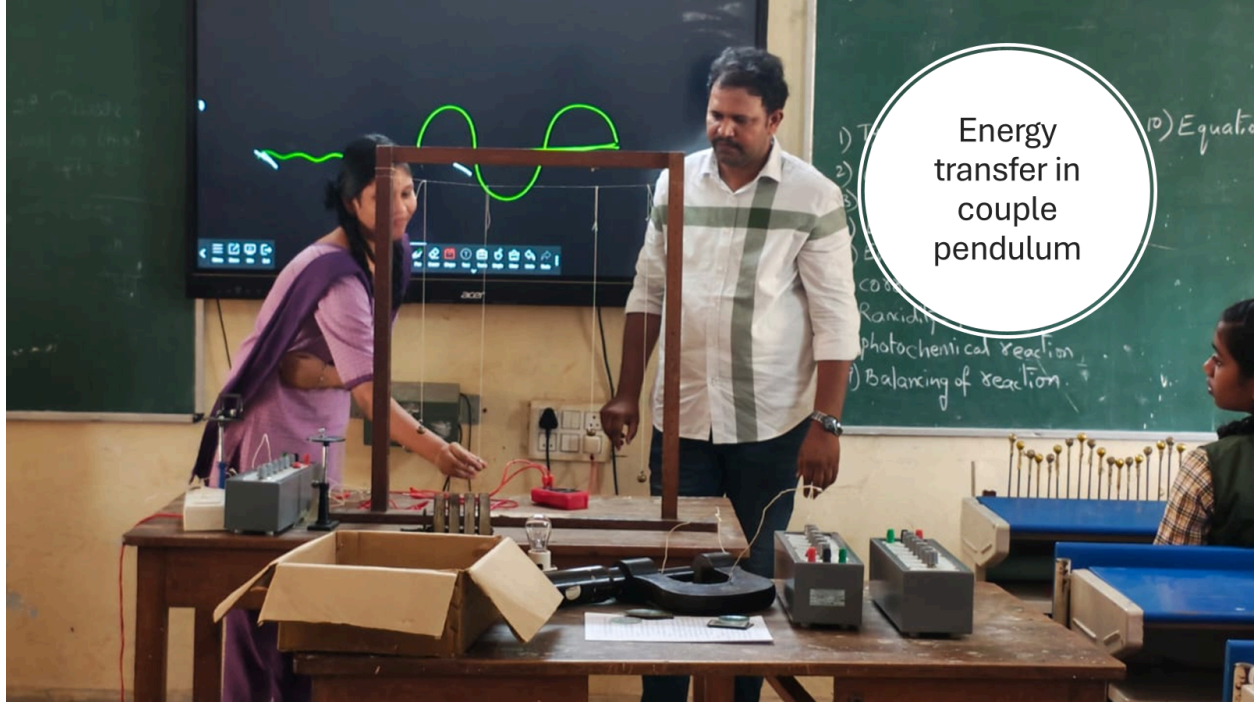
6. Conclusion:

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



Lab to school: Departmental Best Practice



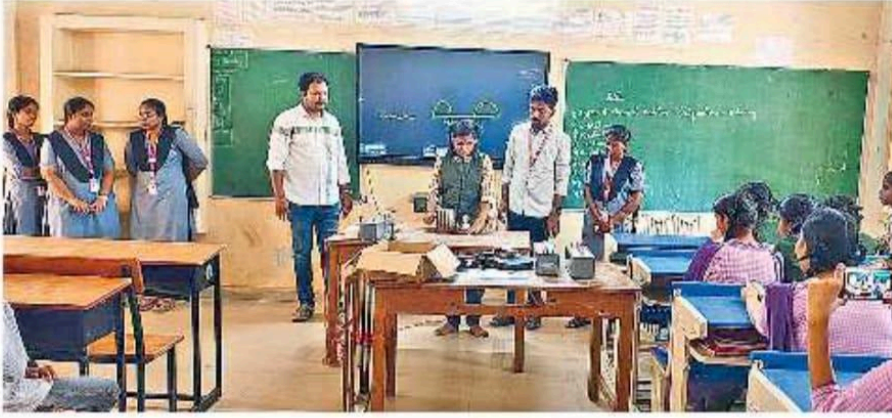
Theory behind light and electronics experiments



Paper clippings

పాఠశాల విద్యార్థులకు ప్రయోగ పాఠాలు

దేవీచౌక్, న్యూస్టుడే: ల్యాబ్స్ ఆన్ వీల్ కార్యక్రమంలో భాగంగా రాజమహేంద్రవరం ప్రభుత్వ ఆర్ట్స్ కళాశాల బౌతికశాస్త్ర విభాగం ఆధ్వర్యంలో అధ్యాపకులు,



విద్యార్థులతో ప్రయోగాలు చేయిస్తున్న అధ్యాపకులు

విద్యార్థుల బృందం మంగళవారం వేమగిరిలోని జడ్పీ ఉన్నత పాఠశాలను సందర్శించారు. ఈ సందర్భంగా

పాఠశాల విద్యార్థులకు వివిధ ప్రయోగాలపై వివరించడంతోపాటు వారితో ప్రయోగాలు చేయించారు. యాంత్రిక తరంగాల ప్రదర్శన, సౌరశక్తి ప్రయోగాలు, విద్యుత్తు డైనమో సహాయంతో యాంత్రిక శక్తిని విద్యుత్తు శక్తిగా మార్చడం వంటి ప్రయోగాల గురించి విద్యార్థులకు వివరించారు. ఈ కార్యక్రమంలో అధ్యాపకులు కె.వెంకటేశ్వరరావు, జి.శ్రీనివాసరావు, డి.సంజీవ్ కుమార్, బి.హరినాథ్, కె.భార్గవి, పి.పద్మావతి, జి.పద్మ తదితరులు పాల్గొన్నారు.

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