

AL-AMJAD MAGAZINE

GROWING SPACES

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**INSIDE
STEM LAB**

*CURIOSITY, EXPERIMENTS
AND PROBLEM SOLVING*

***LEARNING BEYOND
THE CLASSROOM***

INSIDE STEM LAB

GROWING THROUGH EXPERIENCE

At Al-Amjad, the STEM Lab is not merely a room filled with equipment—it is a space where curiosity is awakened, ideas are tested, and learning becomes a lived experience. Throughout January 2026, students from 7th - 11th Grades participated in a series of structured yet dynamic STEM activities designed to connect scientific concepts with real-world application.



The learning journey began with 7th Grade students through a hands-on exploration of simple water filtration. Students were introduced to the concept of clean water production by designing basic filtration systems using layered materials. What appeared to be a simple experiment soon became a meaningful lesson on environmental awareness and problem-solving. Through observation and trial, students successfully produced clearer, odorless water while developing an understanding of how science directly impacts daily life.



For 8th Grade, learning progressed into applied physics through simple bridge construction based on Newton's laws. Students were challenged to design and assemble bridges using limited materials, encouraging them to think creatively and critically. The activity culminated in a load-testing session using books and bottled water, where students eagerly observed how their designs responded to weight and pressure. Beyond physics, the activity fostered collaboration, communication, and resilience as students refined their ideas through discussion and experimentation.



In 9th Grade, STEM learning became more integrative through miniature assembly projects involving concepts of light intensity, motion, gravity, sound, and electromagnetism. Using wooden puzzle kits, students worked in teams to assemble functional miniatures, each representing different scientific principles. The process required patience, cooperation, and analytical thinking. Technical challenges—such as malfunctioning components—were approached not as failures, but as opportunities to investigate, adapt, and learn. Students demonstrated growing confidence by explaining the scientific concepts behind their assembled models.

Environmental science took center stage in 10th Grade through the eco-enzyme project. After receiving conceptual explanations and visual references, students engaged in hands-on practice to create eco-enzymes from organic materials. This activity introduced students to sustainable practices and illustrated how science can contribute to environmental responsibility. The learning atmosphere was active and focused, with students showing strong understanding of both the process and its broader impact.





In Al-Amjad Senior High School, STEM learning was also extended to issues of food safety through a borax detection test in food, using tofu as the sample. Students learned how to identify the presence of harmful substances through simple scientific testing methods. This activity helped students understand the importance of food safety, consumer awareness, and responsible choices in everyday life. By directly examining food commonly consumed in daily routines, students were able to connect scientific principles with health, safety, and real-world decision-making.

At the upper level, 11th Grade students participated in bridge construction testing, an activity that emphasized engineering thinking and structured analysis. The session began with theoretical discussions and video studies before students designed and constructed bridge frameworks for testing. Working collaboratively, students evaluated the strength, stability, and efficiency of their designs. The activity encouraged disciplined teamwork, critical evaluation, and a deeper appreciation of engineering principles.



Across all grade levels, the success of these STEM sessions was supported by strong collaboration among teachers. The presence and guidance of accompanying teachers ensured that learning remained organized, engaging, and student-centered. This collaborative teaching approach created a supportive environment where students felt confident to explore ideas, ask questions, and learn from both success and challenge.

Through the STEM Lab, Al-Amjad continues to cultivate meaningful learning spaces—spaces where knowledge is built through experience, challenges are embraced as part of growth, and students develop not only scientific understanding, but also creativity, responsibility, and collaboration.



NIGHTS OF REFLECTION



The Mabit, Karantina, and Daurah Tahfidz programs held on 15–16 January 2026 became a meaningful journey of spiritual growth for students across elementary, junior high, and senior high levels at Al-Amjad. Designed as an overnight experience, the program invited students to slow down, reflect, and reconnect with values that often fade amid daily routines.

The activities began in the afternoon with structured sessions on taharah, combining explanation and hands-on practice. Students learned not only the technical aspects of purification, but also its deeper meaning as a foundation for discipline and readiness in worship. This opening session set the tone for the night, reminding students that spiritual growth begins with intention, order, and self-awareness.

As evening arrived, students gathered for congregational Maghrib and Isha prayers, followed by shared meals and preparation sessions. These moments of togetherness fostered a sense of unity across different grade levels, encouraging responsibility, respect, and mutual care. Teachers played an active role throughout the program, guiding students while modeling calmness and discipline.

One of the most impactful moments of the night was the reflection and spiritual motivation session. In a quieter atmosphere, students were invited to listen, reflect, and contemplate their values and commitments. The stillness of the evening created space for sincere reflection, allowing messages about faith, integrity, and consistency to resonate deeply.



After a brief period of rest, students were awakened before dawn to take part in tahajjud prayer, followed by collective tilawah and murojaah. In the early hours of the morning, the mosque became a place of calm devotion. This experience introduced many students to the beauty of worship performed in silence and focus, strengthening both spiritual awareness and personal discipline.

The program concluded with Subuh prayer, light morning activities, and a closing session. Despite limited sleep, students remained enthusiastic and orderly until the end. The experience left a lasting impression, reminding them that spiritual strength is built through practice, reflection, and shared commitment.

Through Mabit, Karantina, and Daurah Tahfidz, Al-Amjad continues to create spaces where students grow not only academically, but also spiritually—developing character, resilience, and a deeper connection to their faith.

LEARNING IN MOTION, ACHIEVEMENT IN HARMONY



The participation of Al-Amjad Junior and Senior High School students in the International Innovation and Applied Science Project Olympiad (I²ASPO) in Yogyakarta represents more than competitive success. It reflects a continuous educational journey—one that nurtures scientific thinking from an early stage and gradually develops it into impactful research.

In this international event, two junior high teams and five senior high teams represented Al-Amjad with applied research projects. The results demonstrated the strength of this learning continuum. Junior High School students earned two international gold medals in Applied Environmental Science, while Senior High School students achieved two Gold Awards, three Silver Awards, Best Booth, and a Special Award for Research.

At the junior high level, students focused on building strong research foundations through environmental studies. Their projects explored rambutan fruit extract and eco-friendly packaging made from coconut fiber, highlighting students' ability to translate scientific concepts into practical solutions.

At the senior high level, research became more advanced and impact-oriented. Competing in Waste Treatment, Applied Life Science, and Functional Food, students developed innovations such as eczema patches, inhalers derived from pineapple waste, immunity boosters, hair tonics from apple peels, and adsorbent media to reduce environmental pollution. These projects reflected scientific rigor, creativity, and relevance to global challenges.



Recognition at I²ASPO acknowledged not only the outcomes, but also the quality of research methodology, presentation, and scientific communication. More importantly, it affirmed Al-Amjad's commitment to education as a meaningful process—where learning progresses naturally into achievement.

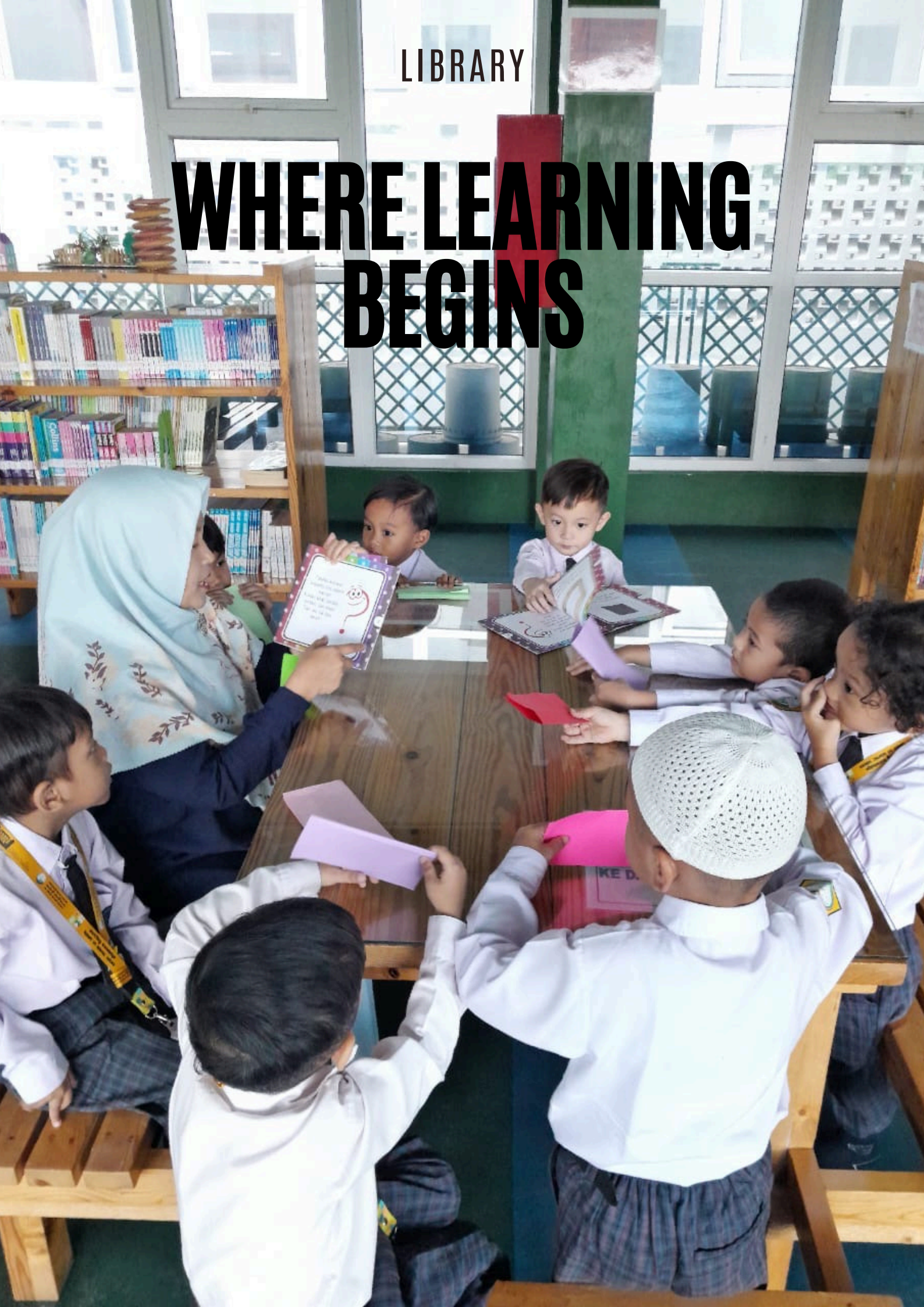
Through this journey, students returned not only with awards, but with deeper insight, confidence, and readiness to engage with the world through science.

For students who aspire to take part in research competitions, the most important step is not starting with complex ideas, but with curiosity about real problems around you. Great research often begins by observing everyday challenges—waste, health, food, or the environment—and asking simple but meaningful questions. Be patient with the process, because research is built through trial, revision, and learning from mistakes. Progress comes not from perfection, but from persistence.

Equally important is learning to work as a team and communicate ideas clearly. Research is not only about experiments, but also about explaining findings with confidence and honesty. Seek guidance from teachers, listen to feedback, and be open to improvement. When learning is approached with sincerity and responsibility, achievement will follow naturally.

LIBRARY

WHERE LEARNING BEGINS





The library also encourages collaboration. Children learn to wait for their turn, listen to others, and express their thoughts with confidence. Teachers move gently among them—not as lecturers, but as facilitators—guiding conversations, asking thoughtful questions, and nurturing curiosity. In these moments, learning feels personal and meaningful.

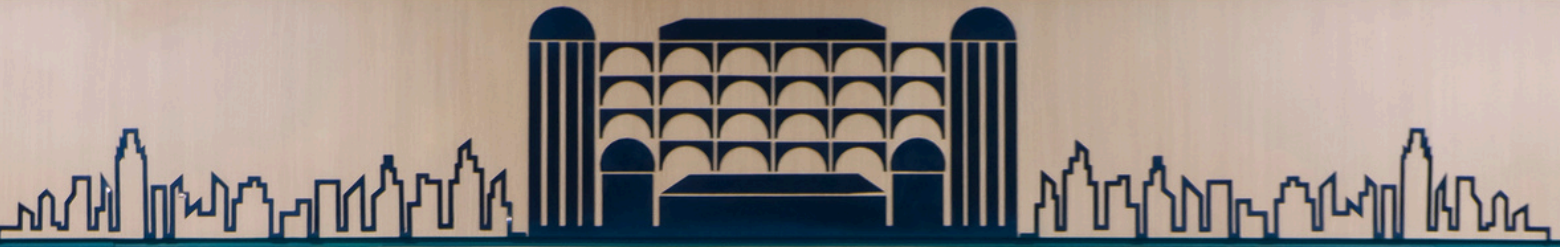
Surrounded by books and learning materials, students gradually build familiarity with reading and critical thinking. The library becomes a space where literacy is introduced not as an obligation, but as a habit formed through comfort and enjoyment. It supports the idea that learning does not always require desks and silence, but rather engagement, warmth, and connection.

Through its library, Al-Amjad creates a growing space where knowledge is approached with wonder, learning is rooted in experience, and students begin their educational journey with confidence and joy.

At Al-Amjad, the library is more than a room filled with books. It is a living space where learning begins in its most natural form—through curiosity, interaction, and joy. From early childhood to the first years of formal schooling, the library becomes a place where children feel safe to ask questions, explore ideas, and discover the pleasure of learning together.

In this space, young learners gather on the floor, listen attentively, and engage with stories, numbers, and simple concepts guided by their teachers. Learning is not rushed. Instead, it unfolds through dialogue, hands-on activities, and shared moments of discovery. A question on a screen, a colorful card in hand, or a storybook passed around the table becomes a bridge connecting ideas to understanding.





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