Indian School Al Wadi Al Kabir

STEAM Innovation Boot Camp: Robotics, Arduino & 3D Printing

We are delighted to announce the **STEAM Innovation Boot Camp on Robotics, Arduino & 3D Printing** as part of the **March Vacation STEAM Program**. This intensive and hands-on program is designed to provide students with practical exposure to robotics, electronics, coding, and 3D printing. Participants will learn Arduino programming fundamentals, explore robotics concepts, and engage in 3D design followed by printing their own creations.

Objectives of the Boot Camp

- To build foundational knowledge in **STEAM** (Science, Technology, Engineering, Arts, and Mathematics)
- To introduce students to **Robotics, Arduino & 3D Printing**
- To develop **Coding, Engineering, and Design Skills** through hands-on activities
- To foster creativity by engaging in **Project-based learning**
- To enhance **problem-solving** and **critical thinking** abilities

Learning Outcomes

- By the end of the boot camp, students will be able to design, build, and program basic to intermediate robotic systems and create functional 3D-printed components while applying problem-solving and design-thinking skills.

Activities Included

- **Robotics Basics**: Learning robotics components, sensors, and motors
- **3D Design**: Introduction to 3D design software and modeling techniques
- **3D Printing**: Printing students' own 3D designs to take home
- **Hands-on Projects**: Students will work in teams to create small robotic systems
- **Mini Projects**: Combining Arduino and robotics for functional designs

Certification

All students who successfully complete the boot camp will receive a Certificate of Appreciation in **Robotics, Arduino & 3D Printing**

Proposed Schedule (7 Days) Grades 6 to 8 (Academic Year 2025 – 2026)

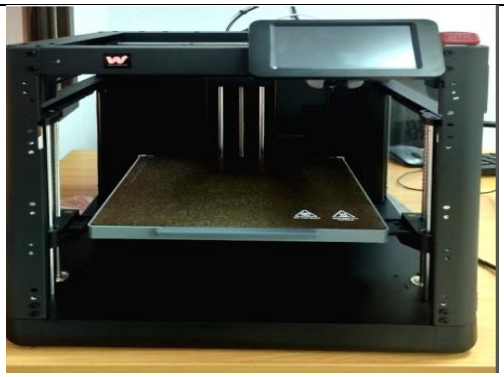
Date & Day	Time	Topics/Activity
24/03/2026 Tuesday	10.00 a.m. to 12.00 noon	Orientation, Safety rules, and Introduction to Arduino and Robotics
25/03/2026 Wednesday	10.00 a.m. to 12.00 noon	Understanding Electronic Components and Basic Robotics Circuits
26/03/2026 Thursday	10.00 a.m. to 12.00 noon	Working with Motors and Sensors in Robotics
30/03/2026 Monday	10.00 a.m. to 12.00 noon	Arduino and Robotics Mini Project (Hands-on Activity)
31/03/2026 Tuesday	10.00 a.m. to 12.00 noon	Introduction to 3D Design Software and Basic Modeling
01/04/2026 Wednesday	10.00 a.m. to 12.00 noon	Final Project Development: Combining Arduino, Robotics, and 3D printing
02/04/2026 Thursday	10.00 a.m. to 12.00 noon	Project presentation, Evaluation and Feedback Session

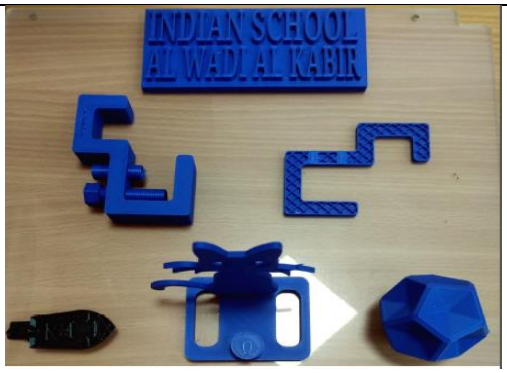
Program Details

- **Materials:** Arduino kits, Robotics components, and 3D printing materials will be provided by the school
- **Venue:** School STEAM Lab (Second Floor)
- **Fee:** Completely Free of cost (**No Registration fee)**
- **Seats:** Limited, allotted on a first-come, first-served basis (only 25 seats available)
- Google Form URL: https://forms.gle/phw4dXqo3ZCiN5Pj6
- The participants will come in their proper school uniform for the boot camp.
- Parents are requested to arrange their own transportation arrangement.
- Parents are encouraged to register their ward within the given timeframe through the Google Form.
- Further details will be shared with registered students.
- We invite students to participate in this exciting opportunity to explore **Arduino, Robotics, and 3D printing** in a fun, creative, and educational environment.

Sample activities for Grades (6-8) – Academic Year 2025 – 2026

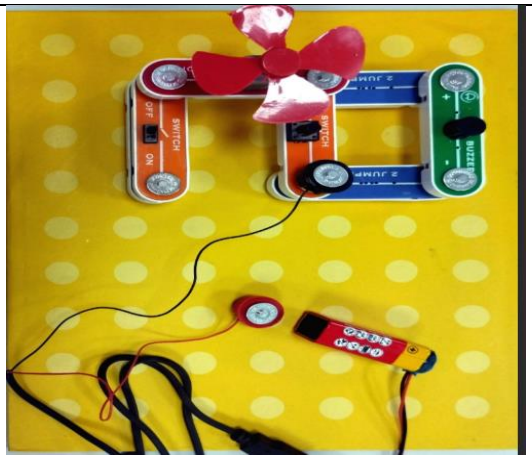
3D PRINTING



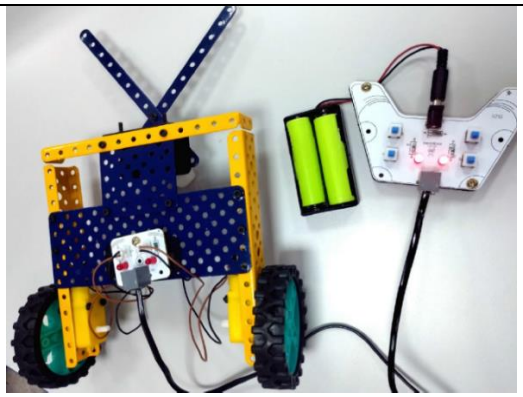


ROBOTICS KITS

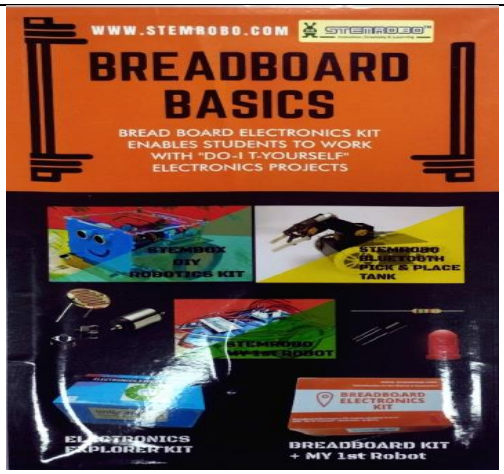
SMART BLOCKS

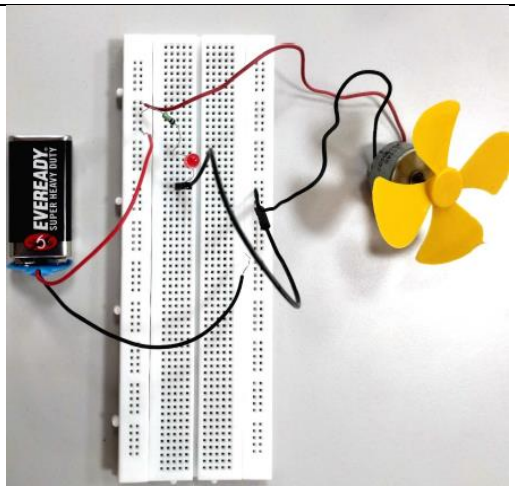


MECHATRONIC KITS

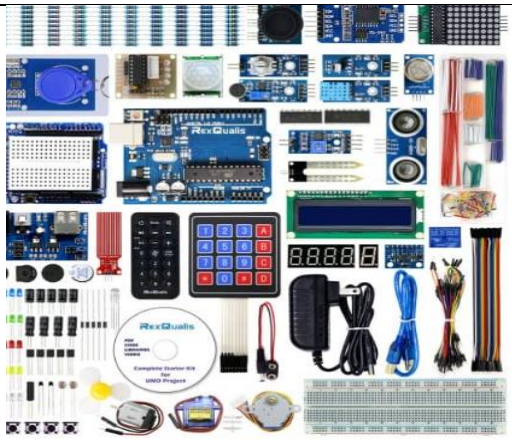


BREADBOARD BASICS





ARDUINO KITS



“Be a Part of the Innovation Journey”