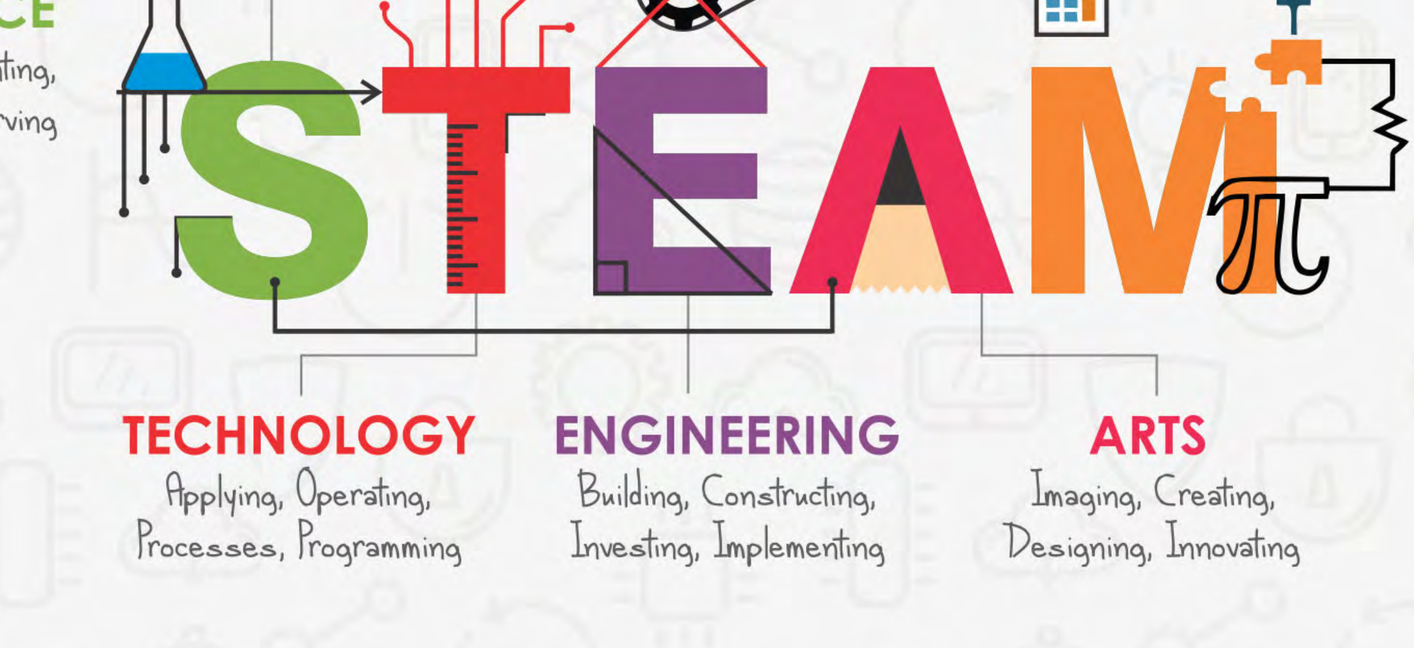
NATIONAL ACADEMY OF SCIENCE & CREATIVE ARTS | NASCA®

STEAM Education Curriculum Integrated Certification Program



Jr Kg to Grade 12

SPARK YOUR IMAGINATION!

Education is not the Learning of facts, But the training of the mind to think

What is STEAM

It is the integration of Science, Technology, Engineering, Arts and Mathematics, and their associated practices to create a student-centered learning environment in which students investigate and engineer solutions to problems, and construct evidence-based explanations of real-world phenomena.

NASCA®

STEAM Education Curriculum Integration Program

Paving way for practical and activity-based learning, NASCA has been making every attempt to unleash a child's imagination and contribute to his/her holistic development. Championing the concept of "Learning by Doing", the group offers a comprehensive range of pedagogical approaches that integrate seamlessly with the school curriculum in the field of STEAM (Science, Technology, Engineering, Art & Math). Our program allows educators to integrate these core disciplines into one-comprehensive paradigm and teach these concepts using many practical and real-world applications. The core purpose of this initiative is to achieve an innovative problem-solving aptitude among students of today and makes complex subjects like Mathematics and Science relevant and engaging.

Additionally, the program helps instill a 'maker' spirit in school students, by providing opportunities for working in a Lab environment, using hands-on experimentation and collaboration with the latest technology. The program aims to bring the do-it-yourself culture to the forefront, encourage and motivate students to become solution providers and get engaged in self-learning that will not only lead to the development of higher order thinking skills, but may eventually lead to discoveries, innovations and inventions.

- Independent Thinking
- Inter Disciplinary Approach
- Project Based Learning
- Problem-Solving Skills
- Real World Applications

NASCA® STEAM Curriculum

NASCA STEAM Education adopts a syllabus-oriented approach and covers 460+ concepts / modules which span from Jr Kg to Grade 12. It is delivered in a 'Curriculum Integrated' format to cover all the students of the respective grades. Our STEAM initiative allows students to connect theoretical knowledge with their applications and explore aspirational technological concepts of the new age.

Early Age Groups

- Cause and Effect
- Early Science & Math
- Language & Literacy
- Observing and Describing
- Problem Solving
- Role play and Collaboration
- Logic Development
- Visual Understanding
- Experiential Learning

Primary / Middle / Senior School

- Robotics
- Coding & Programing (Scratch, Drag & Drop & ARDUINO)
- Sensors & Actuators
- Physics (Physical Science)
- Mechanics
- Electronics & Circuits
- Mathematical applications in Robotics
- Internet of Things (IOT)
- Artificial Intelligence (AI)
- Computational Thinking
- Design Thinking and 3D Pen Printing / Doodling

Curriculum Highlights

THEORY
APPLICATION

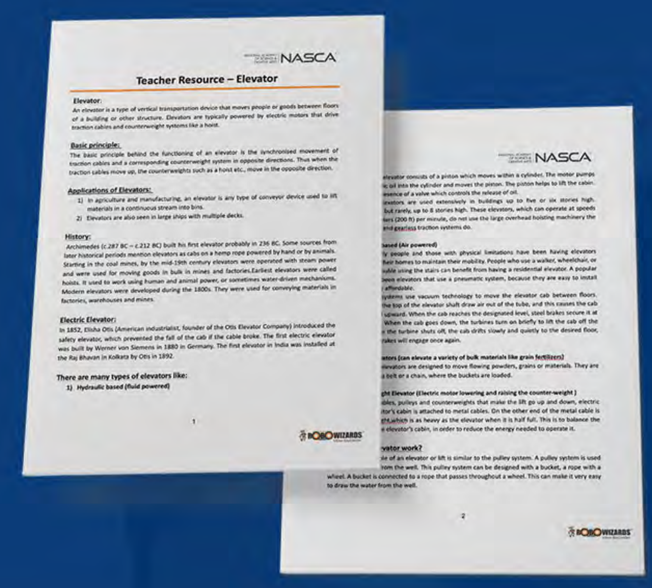
- 100% compliant with Bloom's Taxonomy
- A comprehensive range of 30 modules per grade
- Science and Math Concepts mapped to school curriculum
- New age 'Technology' syllabus
- Focus on "Fundamentals" and "Conceptual Learning"
- Research oriented learning
- Emphasis on ideation and prototyping

Every module is thoroughly researched and documented in a "Student-Centric" format which enhances the learning experience of the class.

1

Teacher Resource

NASCA defines the scope of the subject / modules with respect to the grade. The content is agglomerated to ensure the teacher has enough material at hand to be able to carry out her class.



2

Lesson Plan

Every module has a well-defined lesson plan which guides the teacher in a 'Step-by-Step' manner on class instructions and learning trajectory for a lesson. It defines the objective of the class, content delivery and assessment.

3

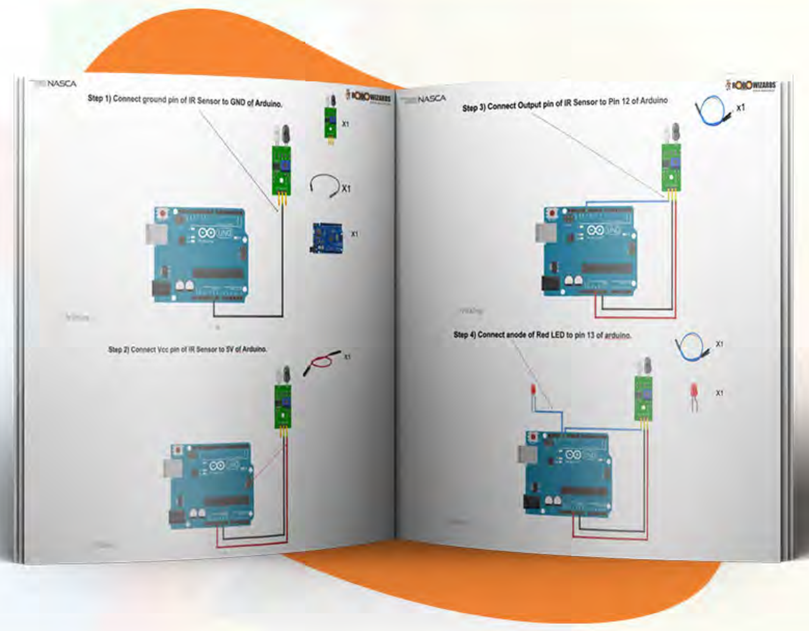
Concept Audio Visual

NASCA enhances the learning experience of a child by offering a relevant Audio Visual for each concept. It offers a multi-dimensional perspective on the core idea and its application.

4

Construction Manual

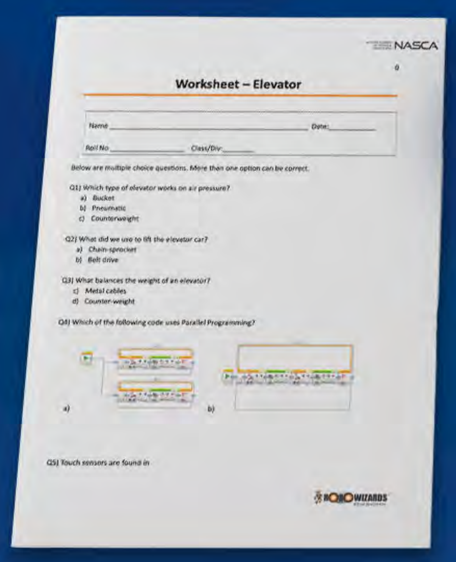
NASCA provides a construction manual for all guided projects and modules. It is an essential tool to train students on how to integrate mechanical and electronic components from a design and engineering perspective.



5

Student Worksheet

NASCA sessions culminate with a logic quiz on the concept and contents of class. It tests the understanding of students and pushes them to think out of the box for solutions.



Content is made available through

Google Cloud
Server

NASCA® Faculty & Mentors

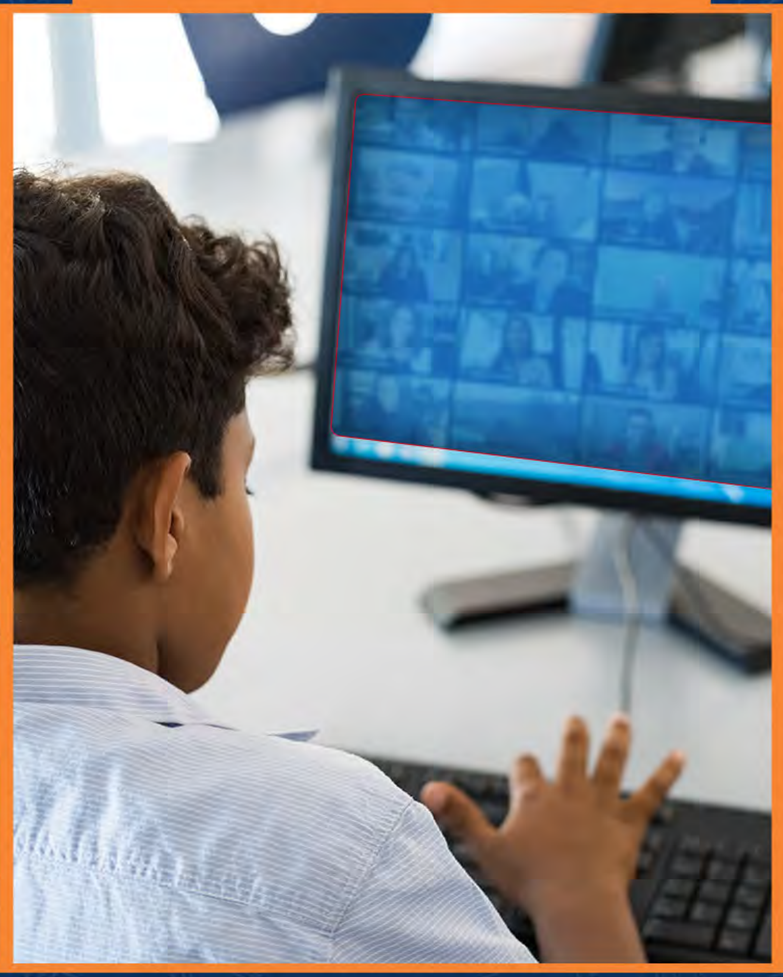
Success of an academic program depends heavily on its teachers and mentors. NASCA is committed to offering a very high caliber of faculty members who have distinguished academic credentials and industry experience. NASCA team is led by some of the senior most curriculum developers and subject-matter experts.

- BE , B-Tech, M-Tech qualified Faculty members
- Industrial Experience & Research Experience
- Technically Trained on STEAM curriculum
- Well trained in “Class Management”
- Every STEAM LAB has 2 faculty members
- The faculty is dedicated to the school on Full time basis
- NASCA also offers services to train School faculty members

Schools can opt for the **“DELIVERY MODE”** of the program from a choice of three alternatives

NASCA STEAM faculty deputed to School (Or)

LIVE online “Web-Sessions” by NASCA faculty (Or)



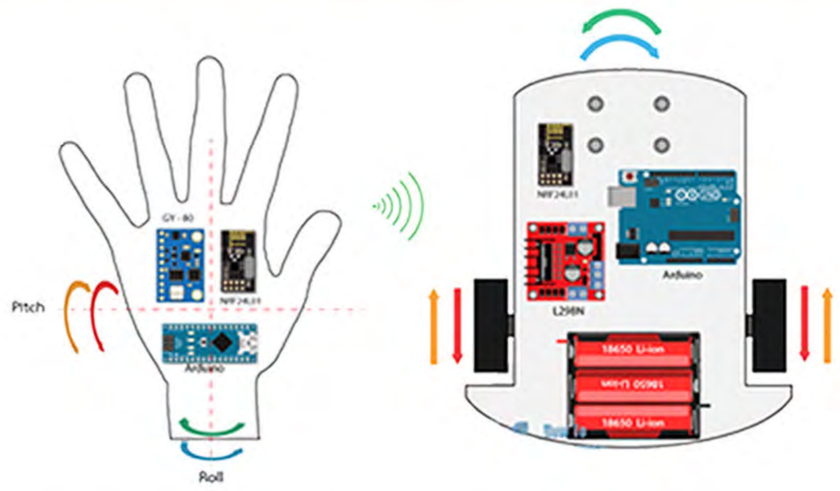
Training School faculty on NASCA Curriculum

Services

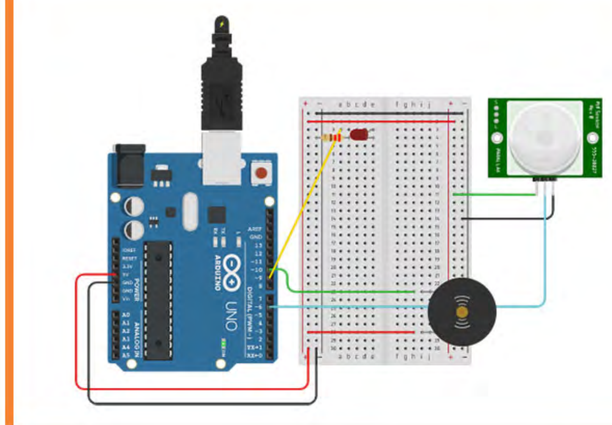
- Curriculum Mapping & customization
- 24X7 online web assistance / training
- Quality Assurance visits by ‘Subject Matter Experts’
- Centralized system to manage communication between NASCA and school
- NASCA Representation on all PTMs and Open Day sessions
- Class wise content reports that can be shared with Parents on a weekly basis

NASCA® Educational Equipment

NASCA STEAM sessions are conducted in a dedicated lab space within the school premises. NASCA invests in all the educational equipment. These are custom designed to meet the curriculum requirements and are provided in sufficient quantities so as to cater to all the students in a ratio of 1: 4 (1 Kit shared by 4 students). The school provides the infrastructure of the classroom with all the basic amenities.



- "State-of-the Art' LEGO Kits
- NASCA Electronic kits,
- ARDUINO circuit Kits,
- Multiple Sensors
- 3D Doodling Kits.
- All Kits comply with the highest safety norms
- All educational tool kits are age & grade appropriate and meet curriculum requirements.
- NASCA covers the equipment warranty for 1 year.



Representative image of a NASCA® STEAM Lab

NASCA® Course Format

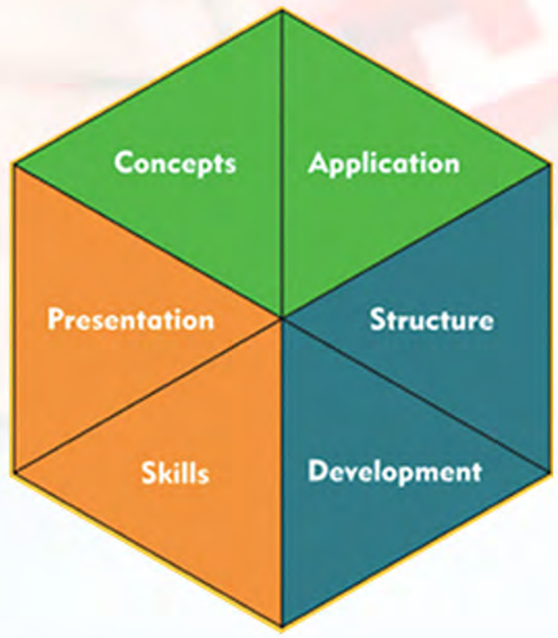
- 30 Lab sessions per year per grade for a regular academic year
- Each session of 1 Hour
- 1 class per week (per grade & per division)
- Delivered “In-School” and “Within School hours”
- STEAM Programme can also be delivered through Online medium

Process Map

Introduction → Concept → Real-Life Connect → Construction → Investigation → Worksheet

Assessment & Certification

- Bi- Annual student Assessment system
- Students are assessed on 6 parameters (Quantitative and Qualitative)
- Level based “Curriculum Integrated STEAM Education Certification”



ROBOWIZARDS Team at

WORLD ROBOTIC OLYMPIAD 2016
(Rank Holders for Regional & National Championship)

Aarav Parikh, Aarin & Rutej Talati
(SVKM J. V Parekh International School students)
(WRO Training exclusively undertaken by Robowizards team)

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ROBOWIZARDS™ STEAM EDUCATION