

# STEM LAND



## STEMLand Newsletter

Volume-4, July-September 2018

### About STEM (Science Technology Engineering Mathematics) land

STEMLand is located in two outreach schools of Auroville (Isai Ambalam and Udavi school). Children come to STEM Land for their Mathematics, EVS and science classes. They learn Mathematics, Electronics, 3D Printing, Programming, Mindstorms (Robotics) and learn to play strategic games that enhance logical thinking.

The children take responsibility of their learning and plan their goals. They work individually, in pairs or peer groups and ask for support from facilitators when they need it. This self-directed learning is based on Sri Aurobindo's first True principle of education

"Nothing can be taught". With younger children we work on real life projects that impact their surroundings. We believe a nurturing environment can support a child's learning.



## Isai Ambalam Shop EBD

In Isai Ambalam school the 7th and 8th graders had difficulty understanding profit and loss. On looking at the prices of stationary in the shops around they found that the price varied and the local shops in the village were very expensive. They also noted that it was not always easy for the younger children to have access to shops for small items they needed like pencils, erasers, scales, notebooks and their parents were not always able to get it for them quickly.

They started a small shop of needful things at the school during recess [Read more](#).



## Medicinal Garden

The children were keen on starting a medicinal garden at the school, when asked, the children said they were inspired by a session they had with a Siddha doctor in August. Children felt that a medicinal garden in the school can be used to cure minor diseases and discomforts and they could create an inventory of their own medicine. They also said that the garden would be useful for them as well as the future generations. Then children planned the location and chose it next to



the washbasin so that the water used for washing hands could be reused to grow the plants. [Read more](#)

## Elixir Course

Shanker (a web developer) who had attended the python Django course offered at the iSMART classroom, wanted to offer a course of his own on Elixir. It was designed for 6 sessions in the month of September, across three weeks. Technically, it was a lighter course when compared to the Python Django. We learnt to design and create a simple phoenix project with the terminal, IEX commands, arithmetic operations and string functions. Feedback from the course indicated that the participants found it interesting and joyful.



## 8th Inspirational Festival (Mind Mingle)

Sanjeev and Arun were invited as guest speakers to the 8<sup>th</sup> Inspirational Festival organized by Mind Mingle Helix and Rotary in Salem. The duo gave a brief introduction on STEMland. Then held a small workshop on Stewardship for all the speakers and participants. They received a good response from everybody. [Read more](#)



## Learning about Indigenous cotton

In Isai Ambalam school Dr.Deoyani Sarkhot and Pratap were working with the 7th and 8th graders on the importance of cultivating Indian cotton. Deoyani

gave a historical background about cotton including the muslim that was phased out by British to sell machine proceed cloth. The children understood the value of reviving indogenous plants and planted it both at school and took some plants to home [Read more](#).



### Scratch Course

At Udavi school the 7<sup>th</sup> graders had stepped in for their Mathematics class for the first time in STEM land this year. They saw their seniors work on projects and some of them took the effort to work with them, but we felt the need for a more rigorous course for them. We used the first term holidays to host a week long course on Scratch along with the children from Isai Ambalam school [Read more](#).



### Independence Day Celebration

This year we celebrated Sri Aurobindo's Birthday and Independence day differently. Early in morning, 5<sup>th</sup> to 8<sup>th</sup> grade students went to see the birthday bonfire at Matrimandir and spent some time in silence and meditation. The children then symbolically took the flame and ran from Town Hall, passed Solar Kitchen,

Edyanchavadi, Kottakari, Alankuppam and reached Isai Ambalam School, and lit the firewood which was kept ready. We also created a large india map [Read more](#).



### Sets Game

A few girls from 10<sup>th</sup> grade had built a physical game with a chart representing 3 venn diagrams (governed by 3 randomly selected rules by one team) and a set of 27 games pieces (3 shapes, 3 sizes and 3 colors). The other team players needs to place a piece on one of the areas and ask if it fits there. The goal is to figure out the original rules selected for each circle of the Venn Diagram and demonstrate the understanding of set theory [Read more](#).



### Bamboo Charkha

The children in 6th grade were not very sure of how the thread was made from cotton. In their textbook, they found a image of a Charkha. This got them enthusiastic and all the students wanted to make Charkhas. The class was split into two groups.

Then they searched for resource materials in their school. Since our campus has many bamboo trees they came up with the idea to make charkhas using bamboos [Read more](#).



## Holiday EBD's

During the 1<sup>st</sup> term holiday children (5<sup>th</sup> to 8<sup>th</sup> grades) had come to school for half day sessions, to learn something new. There were different groups doing different projects. The EBD's are Kitchen EBD([Read more](#)), Automatic hacksaw([Read more](#)), Bi-directional People Counter([Read more](#)) and Speed, Distance and Time([Read more](#)).



## Papers accepted at MES 10

Two of our papers have been accepted at the international Mathematics Education and Society conference 10 to be held in Hyderabad end of Jan. STEM Land (Science Technology Engineering Mathematics Land): Factors and Interventions Influencing Children's Attitude Towards Mathematics, MES10 [[Read..](#)]

STEM Land (Science Technology Engineering Mathematics Land): Deep Learning of Mathematical Concepts Through EBD and by Using Materials, MES10 [[Read..](#)]

## Our Team

We are a team of 9 engineers at STEM land. In addition we have 3 interns. Our projects range from python programming and more recently to analog VLSI layout and a platform to track children progress.



(Left to right) Sanjeev Ranganathan, Murali, Ranjith, Poovizhi, Sundar, Saranya, Pratap, Arun, Sandhiya, Naveen, Logeshwari, Abilash)

[Meet the team](#)

## Support A Child Program II Phase

In partnership with Asha for Education we have set up a [Support a Child](#) program for [Isai Ambalam School](#) the school we all volunteer in. The support will cover the needs of running high quality programs at the school including teachers salaries; nutrition; activities in sports, music, swimming and STEM land activities. The support for a child is Rs.11,000/year (\$168/year). We have successfully completed Support A child program Phase I covering children from 3rd grade(68 children) onward. We are still looking to support 32 younger children in the second phase. Please sign up to support a child [here](#).

## Contributions can be directed towards

Auroville Unity Fund  
(with a note for STEM land)  
and mail to Dr.Sanjeev Ranganathan,  
STEM land Udavi School, Auroville,  
Edayanchavadi, Tamil Nadu - 605101  
All donations are 100% tax deductible in India.

Read more details at this  
[www.aurauro.com](http://www.aurauro.com)