



*STEM Land Newsletter*

*Volume-3, April-June 2018*

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

STEM land resource centres are located in Udavi School and Isai Ambalam School, two outreach schools of Auroville. Children come to STEM Land for Math, EVS and science classes. They learn Mathematics, Electronics, 3D Printing, Programming, Mindstorms (Robotics) and play strategic games that enhance logical thinking. The elder children take responsibility for their learning and plan their goals. They only ask for support when needed. This self-directed learning is based on Sri Aurobindo's first 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 and taking responsibility of his or her learning.



### **Priyan the tailoring bird**

In an EVS session 4<sup>th</sup> graders at Isai Ambalam School were studying about Indian birds. We discussed about nests and how each bird makes its nest differently. As an activity children went out of the class like a bird and searched for the materials for to build nest. They collected some twigs, hay, leaves. Priyan was able to make a tailoring birds nest out of the leaves, hay and thread he found outside.



While he was doing the nest Nithish from 3<sup>rd</sup> grade came and helped him. It was an example of how the work of one child inspires others into action.

## 6th graders building Infinity cube

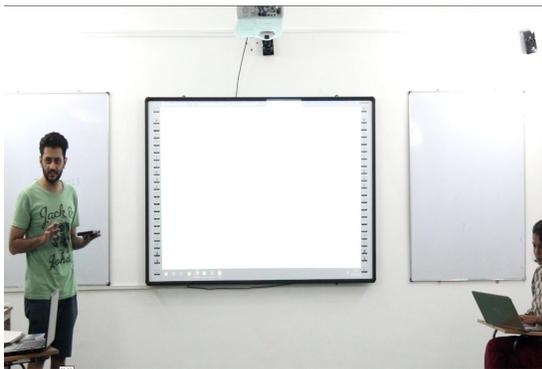
The 6th graders from Udavi school wanted to build something to show their parents. A few weeks before the class had built cubes from chart paper to understand volume. In our training with Ravi Aluganti at Isai Ambalam School on Kirigami we had encountered the infinity cube he had built.



The structure that could move within itself was amazing and we decided that we will work with the children to convert the regular cubes to an infinity cube. [Read more](#)

## WordPress course

Kshitij who attended the python Django course offered a WordPress course. It was 8 session course, two classes in a week.



Technically, it was a lighter course compared to Python Django course. We learnt to design and create our own website. Feedback from the course indicated that they found the course interesting and enjoyed it. [Read more](#)

## Children building a tree house in their school

The children at Isai Ambalam have been wanting to build a tree house for some time. Josh who volunteered at STEM land at Udavi school last year was back this year. This time he spent time both at Isai Ambalam and in Udavi school and had some experience with building tree houses. He decided to work with the children to build a tree house. With the help of the children and some very nice tools Josh brought with him the children were able to help him use the bamboo on campus for the main sections of the tree house.



Josh was very impressed at how comfortable and efficient the children at the school are at using tools. Josh had also taught the children a song about trees in English and the children sang this song as well. The tree house community also supported us in the initial stages. The entire structure came up very quickly in a little over a week including sleep overs. The children measured and cut bamboo and the tree and created a complete platform and a short keep out wall that makes it feel like you are in a boat in the air. [Read more](#)

## Teachers training and teachers visits to Isai Ambalam and Udavi school

A group of 44 teachers from Babaji Vidyalaya came to visit Isai Ambalam. We shared about what we deeply care about and explained some of the EBDs (Education by Design) that children made. We showed them the [pond](#), [clay room](#) and later children took initiative to explain their own EBD projects. Children first spoke about the tree house. They explained in English and shared their work confidently to all the teachers. They also showed the [clay oven](#). The 6th grade children explained the [India map](#) that they built using red sand. Then they took the teachers to the [garden](#) and showed them the [Kitchen waste water treatment plant](#).



Ayush from 7th standard presented his project in Scratch. Then Saranya took the teachers to STEM land and showed the materials, games, puzzles and projects that children have done. She also explained how we work including the ground rules and the check in check out system.

In Udavi we gave a presentation on STEM land in the i-SMART class room. We also shared the stewardship (leadership) tools with them. Through the session every teacher was able to process what they really care about and found what they stand for, and notice their common fears.

The teachers were happy and also took the stand and fear chart to put it on their notice board in their school to remind themselves about their values.



## Bonfire and Silambam with Mohanam (bamboo center)

As part of our sleep overs when children work on projects this year we collaborated with Mohanam cultural center. After working on projects at 6:30 p.m. the children go to the center to learn drums (around a bonfire) and at 7:00 a.m. the next day morning they go to learn Silambam.



This has added an art and musical dimension to the sleepovers. Our children showed interest in learning arts and opened up as they danced around the fire. Some of us have joined both these programs and have a great time with the Mohanam team.

### Smart board in i-SMART class room

We set up a new smart board at our i-SMART class room. Children from the 10th grade were very excited to see the smart board. They were discussing how they solved the questions in their Maths annual examination of the previous year. When Sanjeev was writing on the smart board with his finger instead of using the given pen, children were fascinated by it and all tried using the smart board.



They discussed all questions from last term question paper and gave turn for each child to write the answers they knew on the board. The 10th graders now use the smart board during their classes. The children often explore the advanced features and let us know.

### Preparation workshop with Isai Ambalam school teachers

A stewardship workshop was arranged in the



morning with all the teachers and volunteers at Isai Ambalam School during the summer

vacation. The focus was on to find what one wants to accomplish on the up coming year and determine ones roles and accountabilities. It also allowed us to have a common language to help us be more effective as a group. It was organized for three days, the table PCs were the members of STEMLand. The workshop was delivered by Arun and Sundar. We were able to plan well for about and knowing the change that we want to see.

### LNET Conference (Learning Network) in Bangalore

STEM land contingent of 7 people attended the LNET conference in creative school at Bangalore for three days . The conference was primarily of practitioners from across the country and was also attended by teachers from different schools. Resource people conducted sessions on different aspects of education. In addition to the main sessions we also interacted with some resource people who offered us sessions at night on Mathematics and drama.



We also conducted sessions on all three days. We offered stewardship tools and an electronics session. We did stand, fear and deep listening and in the electronics session we did the seven segment displays to display their name. On the last day, we offered a session for the children from creative school and were very engaged and interested in it and felt complete and content only after completing their names.

### Trail Blazers Conclave at IIMB (Bangalore)

Sanjeev was invited to the trailblazers conclave organized by IIMB and Rotary as a panelist to talk about innovations in education. The talks and panel included those who were running large scale programs across the country and those who had working programs that could be scaled. We received interest in visiting and collaborating with STEM land.



### Youth trainees at STEM land

Three engineers who have completed their engineering under graduate in electronics are interested learning in programming and hands-on electronics.



They are now going through a python interactive course along with three of our team members. During the course participants are expected to do assignments and Sanjeev reviews the code and gives feedback.

### Creative school children interaction and Jayashree's session on healing

Jayashree from creative school in Bangalore came to STEM land with her school children as well as a volunteer who is interested in setting up a STEM land at their school.



The children from creative school had completed their 10th and 11th grade taught the children mindfulness exercises specifically focusing on the 10th graders at Udavi for 3 days. They shared how these techniques had helped them keep calm and be fresh when studying and taking examinations.



These included breathing techniques and affirmations. They also colored mandalas with their non-dominant hand and shared how they felt doing it. Children also practiced fire meditation with candles that could help free them of nagging emotions. Various aspects of being free of fear, being able to solve many math problems came up from the Udavi children in the interactions.

## Workshop on Siddha Medicine

Our work on well being for ourselves and our children coincided with the interest of the teachers at Isai Ambalam school and we invited a Siddha practitioner to the school. Vignesh had an interactive session to understand common understanding and distinctions between symptoms and root cause and then shared his knowledge on the history of Siddha medicine and current status of Allopathic medicine and how people are using it at many times to address symptoms.



He also talked about the collection of toxins and how day to day living practices and natural mechanisms if allowed to run their course detox the body. He stated the benefits of many herbs and trees around campus depending on the conversation. [Read more](#)

He stated the benefits of many herbs and trees around campus depending on the conversation. He also gave natural alternatives for the daily use of products such as shampoo and tooth paste. Later a similar workshop was also conducted for children after which there is much buzz about making our own natural products. We have so far made toothpaste and one group of children are considering maintaining a mill.

## Support a child

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).

## Our Team

We are a team of 9 engineers at STEM land. Our projects range from python programming and more recently to analog VLSI layout.



( Left to right ) Poovizhi, Ranjith, Arun, Logeshwari, Sanjeev, Pratap, Sundar, Saranya, Naveen

[Meet the team](#)

## 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.

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