



SPARK OF CURIOSITY

Project Report
2021-22



Sare Taare Zameen Par Trust:

STZPT is a non-profit organization. That aims to bring considerable change in rural education by providing them Immersive and Experiential learning. Tare Zameen Par is a science outreach program that takes **Astronomy, Science and Math** concepts to the doorsteps of the underprivileged students.

www.tarezameenpar.com

Spark of Curiosity:

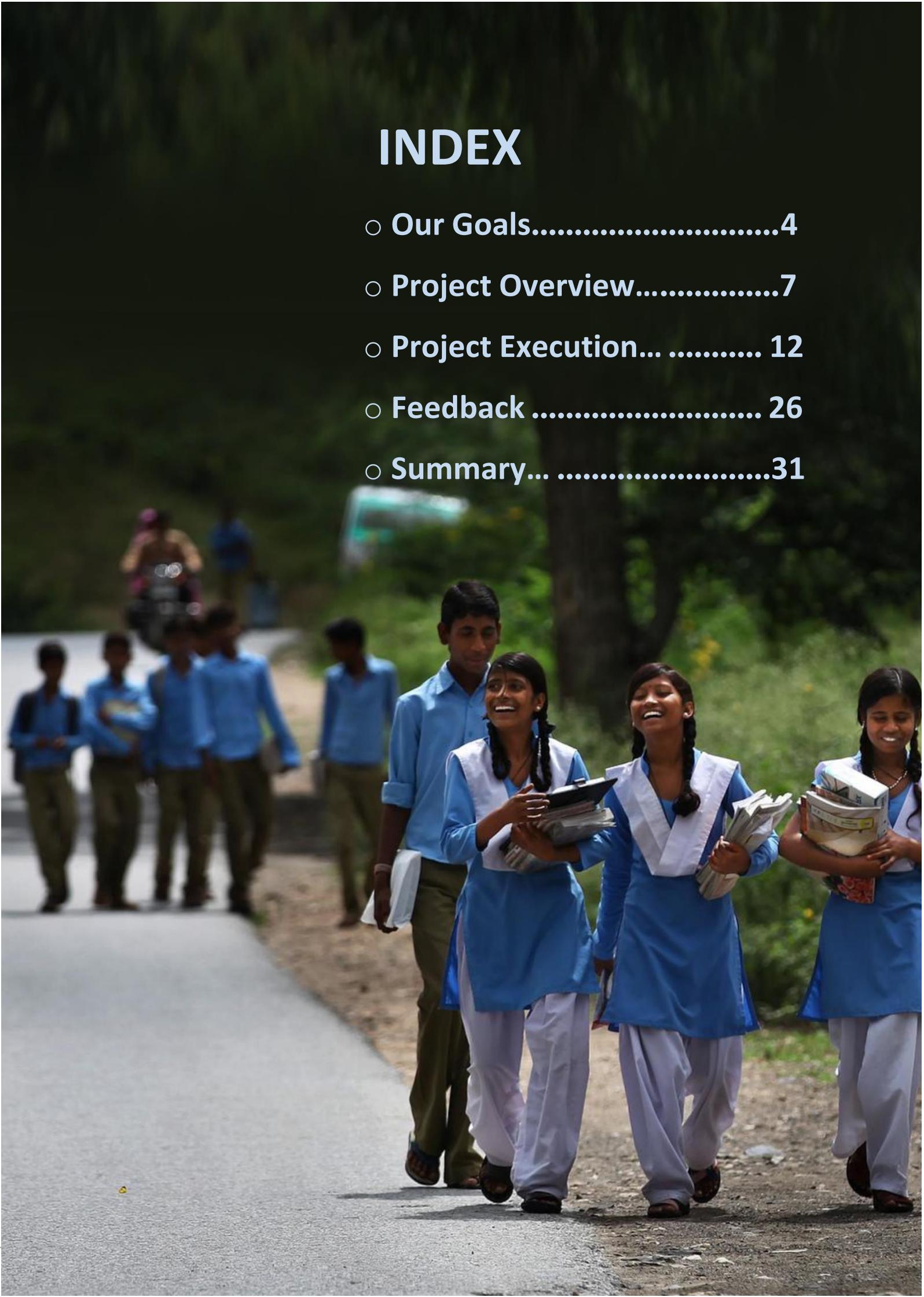
Spark of Curiosity is one of the most appreciated programs of TZP. It is a whole academic year engagement program that provides Immersive and experiential learning along with fun activities that ignites the spark of curiosity among students.

[Spark Of Curiosity | Tare Zameen Par](#)



INDEX

- **Our Goals.....4**
- **Project Overview.....7**
- **Project Execution... 12**
- **Feedback 26**
- **Summary...31**





೦೧:೧೧:೩೧ | ಸೂಚಿ ಸುತ್ತಣ್ಣ | ಮಂಗಳೂರು
ಭೂಮಿಗೆ ಅಕ್ಕಿ ಅಲ್ಲದೆ ಇದ್ದರೆ
ಅಕ್ಕಿ ಅಕ್ಕರ ಖಂಡಲ ನ್ಯಾಯ ಶಾಲೆ
ಕುಡುವುದು

Our Goals

Importance of Rural Education

In India, education in the rural segments is not only important to eradicate poverty and illiteracy, but also for a variety of other social, economic as well as cultural and political reasons.

Schools in Rural India

Eighty-seven per cent of the schools in India are in the country's villages. Government statistics and independent surveys have revealed that over 90 per cent of the rural schools at elementary level are run by the government.

Importance of Science Education

Science education gives students the opportunity to gain a better knowledge of how and why things function. Science can teach children about the world that surrounds them. Beyond the potential scientific breakthroughs, there are individual benefits to learning science, such as developing our ability to ask questions, collect information, organize and test our ideas, solve problems, and apply what we learn.

Challenges in Learning Science

Science can be learned better practically. But the government run schools from rural areas are not able to provide the quality education. They do not have a well-equipped lab, a good teacher, the access of latest technologies. Even they find it very difficult to go and visit the Science centres that are located in metro cities.

Our Solutions

TZP's Science outreach programs are designed to provide quality education in Astronomy, Science and Math. Through our Innovative products like,

- Digital Mobile Planetarium,
- Mobile Science Lab,
- Mobile Science Exhibitions
- Spark Of Curiosity program, etc.
-

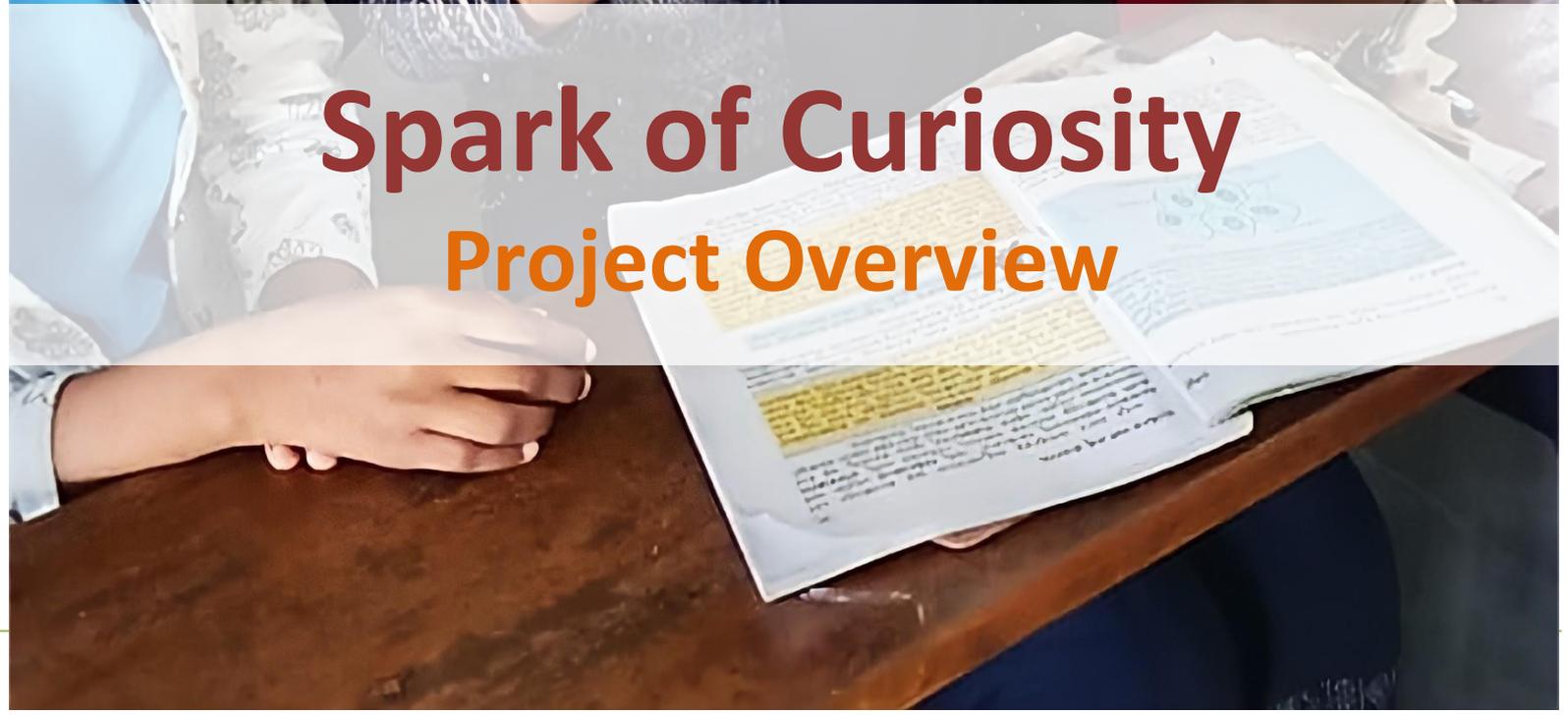
Our goal is to implement these solutions till the last mile



*I hear and I forget,
I see and I remember
I do and I understand.*



Spark of Curiosity Project Overview



Science and Math has been the toughest subject all the time. However, it is very important to learn these subjects. Math and science education provides a framework for how to find answers. Math models phenomena and relationships in our observable environment, while articulating concepts from the intuitive to the obscure. Science gives deep attention to the quality and interaction of the things that surround us. But the students from the remote areas aren't privileged enough to get good teachers, well-equipped science labs, or access to the latest technologies.

‘Spark of curiosity’ is an Innovative program executed by **Tare Zameen Par** in association with **Synopsys**. It is a combination of various programs that aims to ignite the curiosity to learn the science concepts. It includes

- **Digital Mobile Planetarium Shows**
- **Customized Science kits distribution.**
- **Offline Lectures**
- **Virtual Lectures**
- **Virtual meeting with Teachers to explain the use of kits in regular teaching**
- **Group Activities by Students**
- **Student Interaction with Indian Scientist**
- **Quiz Competition**



“An innovative Science Outreach program”

Scope of Work

For the FY 2021-22, Synopsys has collaborated with Tare Zameen Par to execute 'Spark of curiosity' to achieve sustainable impact on the science education in the rural Karnataka.

What we have committed,

- **Vision:** To build an interest in learning science by introducing Hands-on learning or experiential learning to the remote area students. And make them learn and understand the concepts more deeply.
- **Targeted Number of students:** For the engagement of academic year 2021-22, the program was designed to target 3000 students.
- **Targeted Geographical area:** On the initial discussion with the dignitaries of Synopsys, it was decided to conduct spark of curiosity program in Coorg, North Karnataka.



Resources

Science concepts can be learned more effectively through experiments. But the schools from remote areas are not able to provide such facilities. Therefore we came up with the solution that we should make a set of experiments in the form of soft toys. That would be easy to distribute also. Resources that we had committed are,

- **Science kits:** Made up of foam material. Students have to dismantle the sheet and set up the experimental set-up. It gives 'Building Block game' experience to students that helps to create interest.
- **Handbook:** All the set of kits are provided with a handbook that can guide student how to set up the experiments along with the explanation of concept in regional language.
- **Science Instructor:** An experienced science instructor from the team TZP who conducts online and virtual lectures to teach students and solve their queries regarding science experiments and related topic.
- **Project coordinator:** All the activities are being planned are executed under the coordination of Project coordinator. Like, selection of school, legal permissions, planning with schools with concern of authorised person, etc.
- **Virtual Meetings:** Because of the Digital India initiative, most schools get internet connections and projection systems. That we use for the virtual lectures and follow-ups. If any school doesn't have such facilities we coordinate with teachers to allow students to use their smart phones to connect the virtual lectures.

Additional activities

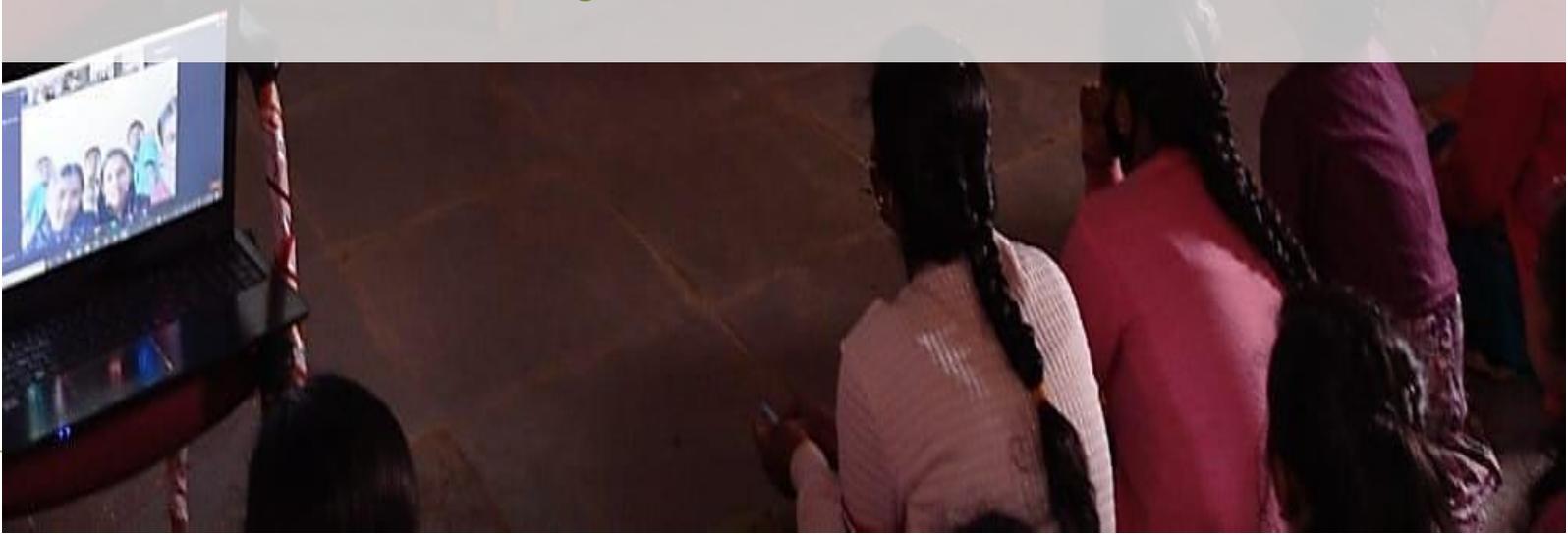
During the execution of the program that had planned with Synopsys, we thought of adding few more activities to achieve the maximum impact. We had designed the academic engagement program that include,

- **Digital Mobile Planetarium:** It's an inflatable dome with 360° projection system that gives immersive experience. Through this mobile planetarium, students from remote areas can experience the similar shows that urban student can experience by visiting Planetariums in science centres.
- **Interaction with Indian Scientist:** It is always motivating and inspiring to have the interaction with Indian Scientists. The Spark of Curiosity initiative has received appreciation from the renowned Indian Scientist and former chairman of ISRO Sri Kiran Kumar. He also agreed to have interaction with students during the inauguration of Spark of Curiosity program.
- **Quiz Competition:** Making students participate in competitions like quizzes can build their interest to learn by enjoying it. While one student is playing the quiz, the student from the audience also tries to find and give the answers. We have used the same concept. We designed the questionnaire in such a way that it includes very simple questions mapping to their syllabus. To bring a joyful environment to their learning.
- **Other Activities:** To ensure the outcomes of the project we have also conducted Virtual Lectures, Virtual meeting with Teachers to explain the use of kits in regular teaching, Group Activities by Students



Spark of Curiosity

Project Execution



Designing of Science Kits

We planned to design the kits in such way that it can also give 'the building blocks game' experience. This becomes an interesting part of it.

- **Material:** The science kits are made up of foam material which is very light weight and safe to use.
- **Content:** Experiments in science kits are mapped to the syllabus. There are different sets of experiments for difference class. Each kit has 10-12 experiments.
- **Explanation:** There is a handbook in each kit. That has pictures of experimental setup along with explanation.
- **Handbook Language:** Kannada.



Cover Design

We have designed the cover of the science kit in a unique way. It is actually a poster containing information about 12 Indian Scientists. The poster is rolled on the box which can be easily removed and can be pasted on the wall. The idea is, that students can paste it on the wall near their place of study so they can idolize our Scientists.



Inauguration Event

The inauguration event was held at Government School in Saligrama Village in the Mysore district. Keeping COVID related protocols in account; it was organized offline as well as virtual mode. The Chief guests and Guests of honor were present virtually.

- **Guests:** The science kits were virtually inaugurated by Hon Chief guest **Sri Kiran Kumar**, the renowned Indian Scientist and the former chairman of ISRO. In the virtual presence of guest of honor **Sri Raja Subramanyam**, VP, Application engineering, Synopsys, **Sri A.B. Basavaraj KAS**, Director (Technical), KSTePS, and the special guests **Sri Mukesh B.A.**, Director Finance, Synopsys, **Sri Chandrashekar B.U.**, Principal R&D Engineer, Synopsys, **Sri Dinesh Badagandi**, Founder, Tare Zameen Par, **Sri Raveesh S R**, Proprietor, Sara Vidya Mandir, **Smt Vatsala S K**, Vice Principal, Govt Junior college, Saligrama.
- **Invitation Poster:**

tare zameen par In Association With **SYNOPSYS**

Cordially Invite you to join
ಕುತೂಹಲದ ಕಿಡಿ SPARK OF CURIOSITY

An Initiative to Spark Curiosity about Science and Maths using Kits & Toys

Chief Guest

A.S. Kiran Kumar
Renowned Indian Scientist & Former Chairman ISRO

Special Guests
Sri. Mukesh B A
Director Finance, Synopsys
Sri Chandrashekar B U
Principal R&D Engineer, Synopsys
Smt. Sabitha Mahesh
Project Admin, Mgr II, Synopsys
Sri. Ravi Vattipalli
Sr Staff R&D Engineer, Synopsys
Sri. Dinesh Badgandi
Founder, Tare Zameen Par
Sri Raveesh S R
Proprietor, Sara Vidya Mandir
Smt Vatsala S K
Vice Principal, Govt Junior College, Saligrama

Guests of Honor

Raja Subramanyam
VP, Application Engineering, Synopsys

A B Basavaraj KAS
Director (Technical) KSTePS

12:00 Lighting the Lamp & Invocation Song
12:05 Welcome Address By Sri Dinesh Badagandi, Founder, Tare Zameen Par
12:08 Introduction of Guests By Sri Abhijeet Chaudhari, Head Operations, Tare Zameen Par
12:15 Launch Of Kutuhalada Kidi By Sri A S Kiran kumar, Former Chairman, ISRO
12:20 Science Kit Demonstration By Student Representative
12:28 Address By Sri A B Basavaraj KAS On Contribution Of Govt In EdTech Initiatives
12:34 Address By Sri Raja Subramanyam On footprint Of Synopsys in Indian Society
12:40 Address By Chief Guest Sri A S Kiran Kumar On Importance of learning Science in Nation Development
12:52 Distribution Of Science Kits
12:57 Vote Of Thanks By Sri Mukesh B A, Director Finance, Synopsys

Date: 10 Aug 2021 Time: 12:00 Noon Virtual

Venue: Saligrama Govt Highschool, Saligrama, K.R Nagar, Mysore 571604
Zoom Meeting: <https://zoom.us/j/92003975371>
Meeting ID: 920 0397 5371

- **Event Highlights:** Around 300 students from the Saligrama Highschool and the nearby schools were present for the inauguration. All the guests were able to interact with students through a big screen. After the formal inauguration, the Guest of honor addressed the students. Then the Hon. Chief guest Sri Kiran Kumar shared his valuable experience and had an interaction session with students where students asked questions to him. Later we distributed science kits to all students. Simultaneously they also experienced the Digital Mobile Planetarium shows.
- **Replication:** after the first successful event, we have replicated this during all the next phases of Science Kit distribution.
- **Glimpses:**



Summary Video



Note: Click on image to open the video

Distribution of Kits

We had targeted 3000 students from different geography. We tried to cover some areas in South Karnataka and Some areas in North Karnataka as well. We have distributed science kits in 26 Schools. While distributing kits we used to make sure that the every student will know the exact benefit of every element of this project.



- **School Data**

Sr No	Name Of The School	No Of The Student
01	GJC Saligram	139
02	GHS Hanagodu	390
03	GHS Doddahejjuru	172
04	GHS Nagapur Hadi	54
05	GHPS Kolavige	12
07	GHPS Doddahejjuru	19
08	GHPS Hindagudlu	19
09	GHPS Mudaganuru	11
10	GHPS Bharthvadi	26
11	GHS Neralakuppe	124
12	GHS Manuganahalli	106
13	GHPS Haralahalli	21
14	GHPS Abburu	26
15	GHPS Kamagoudanahalli	17
16	GHPS Hanagodu	40
17	Sara Vidya Mandir Saligram	160
18	Thriveni School virajpete	124
19	Kaveri school virajpete	107
20	Maruti school murnadu	149
21	Public school ponnampet	379
22	Sai Shankar school ponnampete	95
23	Murnadu high school	190
24	Lions Practionary school gonikoppa	70
25	Government Highschool Madikeri	252
26	GHS Haradanahalli	298

Total: 3000

Offline Lectures

We always focus on conceptual learning. Learning science is more effective and useful if the concept behind the topics and experiment is cleared. We had arranged offline lectures where our science teachers used to explain the deep concept behind the experiments.



Virtual Lectures

As we have covered the different regions in rural Karnataka, It was quite challenging to visit every school repeatedly to conduct offline lectures. Also, to ensure COVID-related precautions, we arranged the lectures over ZOOM. Some schools don't have a projector and internet facilities. We discussed with teachers to form groups of students and give them their smartphones to attend the zoom lectures. This went well and it could help us to keep in their touch to solve any problem related to science kits.



Group Activities by Students

Group Study helps students to build best communication skill and improve thinking creativity. It gives a chance to develop as a student, person and professional. We have implemented this thought by encouraging them to perform the experiments from science kits in group. That helps them to learn more effectively.

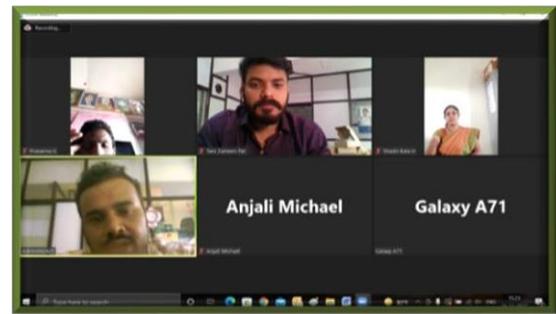


Note: Click on image to open the video



Virtual Meeting with Teachers

When an organization initiates a program for students, the chances of getting success in it also depend on the involvement of the school staff as well. We often had virtual meetings with teachers to share the updates regarding the project and to discuss what else we can do in the current program.



Science kits in regular Teaching

As mentioned above teacher's involvement plays major role to achieve our goals. Many teachers found it easy to explain the subject topics using science kits because we already have designed these kits according to their syllabus. Mrs. Shashikala from the Manuganahalli School has set an ideal example of it. She has used the science kits during her lectures that encouraged other school teachers to do the same. Her involvement and dedication led us to give her the title 'Jupiter of Curiosity'. The title suggested by Mr Chandrashekar B U, Principal R&D Engineer, Synopsys.



Quiz Competition

We had also organized the Quiz Competition to give extra benefit through the program Spark of Curiosity. The advantages of Quiz Competitions that we have observed are,

- ✓ Students tend to actually read the material.
- ✓ Students are placed in the right attitude for learning.
- ✓ Students feel more confident to discuss the material.
- ✓ Students raise their grades by simply reading the material.
- ✓ The quiz provides a good lead-in for either a lecture or discussion of the material.
- ✓ Students grow curious about the answers.
- ✓ The easy chance to do well gives students a feeling of self-esteem.
- ✓ Students are provided with a real foundation for intellectual growth



Mobile Digital Planetarium

Digital Mobile Planetarium is our most appreciated project that gives immersive learning experience. It is an inflatable dome with 360° projection system. There are well-established planetariums in metro cities. But, students from remote areas cannot afford to visit them. But our Digital Mobile Planetarium takes that experience to the doorsteps of remote area students. Along with Astronomy, we have other science-related content in English and other regional languages. We had arranged Planetarium shows during each phase of science kit distribution.





Spark of Curiosity

Feedback

Video Feedback

It is our pleasure to say that the 'Spark of Curiosity' program is enjoyed by students and appreciated by teachers. Even many students had contacted us personally through social media to share their videos where they have assembled the kits and performed the experiments by their own. This is the proof that we are reaching towards our goal. Students are exploring themselves and involving in conceptualised learning.

Video Feedback by Teachers



Video Feedback by Students



More on our Youtube channel : [Tare Zameen Par – Digital Mobile Planetarium](#)

Appreciation by Teachers

From,

*Irin Usha A
Assistant Mistress
GPU High School Madikeri.*

To,

*Tare Zameenpar,
Digital Mobile Planetarium
Bangalore.*

Respected Sir/Madam,

SUBJECT: Appreciation letter for your great job.

- - - - -

Me Irin Usha A Assistant Mistress working as a teacher of English in GPU High School wish to extend our gratitude on behalf of Vice Principal and staff members for the perseverance and dedicated attitude of your Science project conducted in our school by your Tare Zameenpar team members under the title "SPARKLE OF CURIOSITY" which aroused a lot of curiosity among all the students and even teachers. Science experiment which was conducted by your team members was well thought, well prepared, well prepared and well coordinated and well presented.

It was a pleasant surprise to see that all our students had developed high confidence and motivational level towards Science. Due to pandemic from two years children had lost their interest towards their studies, there was a long learning

gap among students so your project helped a lot and impressed them towards learning Science. It also helped in increasing the attendance of students and motivated them to be regular to the classes. Your project helped us a lot to bring back our students to main stream of learning.

Another interesting thing in your project was Quiz programme where children enjoyed a lot in participating. Beautiful trophies were given for the winners. Science kit was given to all the students by your team which was a very great work done it is so useful to students.

I would like to convey my sincere thank to your team members and gave a amazing platform to build their confidence and hone their presentation skills in future. The bar is raised clearly so now lookin forward to another spectacular project as they progress to the next class. There you all once again. I whole heartedly thank one and all and appreciate your great servcice rendered to our School.

Yours Sincerely,

Irin Usha A

To,

Tare Zameen Par Trust

our sincere thanks and also appreciation for Tare Zameen Par Trust [Spark of Curiosity] for coming and distributing Science kits to our school students.

Educational Science kits contain lab equipment materials, manuals and references to be hand-on to provide holistic learning to students. Now a child is able to learn science experimentally with the help of these kits. It helps a child to absorb more knowledge and ensures that the learning stays in the mind for longer time. Science kits make learning more effective for students.

Another crucial benefit of using science kit is that they make a learning fast, easy with a great fun. It supports pupils to retain and retrieve knowledge. It also develops scientific vocabulary.

Now our students are very curious and also excited to do the experiments using their science kits in the classroom. They were eagerly waiting for the science class every day to use their science kits, without absent to the school. This made their full attendance to the class. Thus increase in the percentage attendance in the school. So, once again I thank the trust for the support and cooperation in developing a new confidence for teaching science.

Thanking you,

Shashikala H
Science Teacher
Govt High School,
Maruganahalli,
Hunsur Taluk
Mysore.

Project Summary

Spark of Curiosity program FY 21-22

Total No of kits Distributed: 3000

Schools Visited: 26



Web page: Spark Of Curiosity | Tare Zameen Par



Tare Zameen Par

#52, 9th Main Road, Banashankari Stage 2, Bangalore, Karnataka
560070, PHONE: 9035013642, 9035013649

Visit our website: www.tarezameenpar.com Drop your queries at: info@tarezameenpar.com