

# FOUNDATION EXPERIENCE

## Celebrating Science: The Science Mela

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One could hardly recognize the school on D-Day! With more than 2000 people gathered, the school grounds draped in a colorful *shamiana*, numerous children decked vibrantly, the atmosphere was no less than that during a village *jathre* (fair), bustling with activity! This was the day of the Science Mela at Sathyampete Higher Primary School, in Shorapur block of Karnataka.

### The Background

The Science Melas that are being facilitated in a number of schools across Shorapur block, are part of the Child Friendly School Program, a joint initiative of Government of Karnataka and Azim Premji Foundation.

The Child Friendly School Initiative (CFSI) is an experiment to demonstrate a process of providing quality education, in a sustained and child-friendly manner, in partnership with all stakeholders, by building capacity and accountability in the system. The program started in 2004, in Shorapur block of Yadagir educational district of North-East Karnataka. The initiative covers all the 336 government primary schools of the Shorapur block.

The program interventions deal with issues within the classroom, school and community. In-school interventions provide support to curriculum implementation, the teacher, the teaching-learning process, and improvement of the school and classroom environment. The program seeks to support positive school-community interface to ensure effective involvement and participation of the community.

### Genesis of the Science Mela

The Child Friendly School Initiative is now at a crucial phase of implementation. Working more closely with the community, to involve them in the management of schools, is a major challenge. Interacting with the community has convinced us that there is very little

meaningful communication between the school and the community.

It is in this context that the thought of facilitating a Metric Mela emerged. The



*A proud parent sees what his child learns in school*

CFSI team had a very successful experience when it attempted the Metric Mela in March 2008. The implementation of this concept in Shorapur showed how such events could help address many issues involving the school-community relationship.

The Science Mela is a step forward in this direction. The team's belief is that this too, like the Metric Mela, could be a powerful catalyst for bridging the school-community divide.

Science Mela at Government Higher Primary School, Sathyampete

The Science Mela organized on 3 December, 2008, was the first Science Mela ever conducted, in the history of Shorapur. Over 2500 children, teachers and community members participated. It had nearly 70 stalls and exhibitions pertaining to science.

### Objectives of Science Mela



*How does the world look through a telescope?*

- Develop scientific temper among children and teachers.
- Spark curiosity and interest in students towards science in everyday life.
- Provide a space for children to observe, understand, experiment and discuss various aspects of science and the things around them.
- Help children create equipment and models through

simple, low-cost materials, in order to understand the science behind these concepts.

- Help the community appreciate how understanding various scientific concepts, behind every day events, helps children develop a scientific attitude towards life.
- Enhance the participation of the community in school activities, in a festive atmosphere, where the talents and competencies of the children are showcased.
- Provide a space for children to enhance their interpersonal skills.

Preparation is the key



*A serious discussion on planning for the Mela*

The preparation is crucial and it was a very elaborate process too. It started with conceptualizing and visualizing the Mela and then working on each of the

different experiments and models. A considerable portion of the time was spent in preparing experiments that were appropriate for the idea. For nearly three months, teachers worked hard with students to design experiments that were appropriate for effectively communicating the science behind simple phenomena to others. It was indeed challenging to actualize the conceptualized experiment in a convincing way. It required intense discussions, observation, review, revisit, rework and modification before a final product could emerge, particularly as it had to be easily understood by others.

The first round of preparatory meetings conducted with the teachers showed their interest and enthusiasm in organizing a Science Mela. Science teachers had taken on the responsibility of visualizing, conceptualizing and working on the experiments to be showcased in the Science Mela. Teachers listed around 55 experiments, exhibits and activities that could be developed with low-cost materials.



*Teachers and CFSI Margadarshis conceptualizing a detailed plan*

These were categorized into four sections:

- 1) Demonstration of experiments
- 2) Participation in experiments (play, do, etc.)

3) Display (exhibition)

4) Fun in science (magic, illusions, etc.)

Teachers prepared a concept note of the Science Mela and shared it with others. This helped them to not only articulate the vision, but also to take greater ownership for the event. They prepared a detailed write-up on each of the experiments under the following heads: objective, materials required, method/process/activity and conclusion.

The responsibilities were shared and the Head Teacher coordinated the entire process. The Head Teacher organized the materials required for each activity, most of



*Students modeling a volcano*

which were procured locally. Students were then assigned to each activity, and they prepared the materials under the guidance of their teacher. One of the difficulties encountered in the process was that the students could not easily prepare and actualize some experiments, exactly as they had been conceptualized. Hence, some of the planned activities were revised, and some changed completely. For example, an activity on Soil Conservation had been planned with two large steel plates filled with soil. Loose mud was filled in one plate and the other plate had mud with small saplings, indicating vegetation, to prevent erosion of the soil. While pouring water into these two plates, the idea was that the loose mud will flow with the water and the roots of the plants will hold the soil in the second plate. But to the surprise of the group, the mud in



*Understanding volume by actually measuring it*

both the plates got washed away without any difference! This led to a lot of discussion, and it took some time for the team to understand the concept that strong roots are the binding

factor here, and they replaced the loose soil of the second plate with a scraped piece of top soil which had grass with its roots intact. Processes such as these made the Science Mela more meaningful, providing as they did, plenty of learning opportunity even during the preparatory stage.

#### Example of an activity card

*Name of the activity:* Role of air in transmitting sound.

*Objective:* Demonstrating that air is required for transmitting sound.

*Materials required:* Glass beaker, mobile phone.

*Explanation:* In this activity, participants will be asked to stop the sound of a ringing mobile without switching it off and even without touching the mobile. This is to be done in one minute. When participants are unable to do this, students will demonstrate this.

*Method:* Mobile will be kept on the table. Students take a beaker or a glass which can accommodate a mobile and place the mobile inside. Students close the mouth of the beaker or glass by pressing it tightly with their hands. When they lift their hands and open the container, the sound is heard again. But when they press it tightly, the sound is not heard.

*Conclusion:* Sound is transmitted through the air. Air is the medium of transmission of sound.

#### Conclusion

Participation in the preparation of the Mela, by teachers from other schools, was a very important part

of this collective and collaborative effort. The School Development and Management Committee (SDMC) played a major role in ensuring the success of the Mela. A



*Child engrossed in showing a community leader where we live on this planet*

lot of materials were mobilized from nearby schools, high schools and colleges. An important learning imbibed by the team was that the process of preparation was very enriching in itself, and hence the process was viewed as even more important than the event.

It was indeed a sight to see adults becoming kids once again! A fresh liveliness pervaded the school, which was the hub of the village, on that day. Children took on the role of self-confident, independent individuals, completely responsible for the task at hand. There was a sense of pride not only in the children, but also in the eyes of their parents and teachers, who saw their children displaying commendable behavior, knowledge and skill.

It would be appropriate to conclude with the following words of Arathi, Assistant Teacher, Higher Primary School, Sathyampete :

“The process of preparation for the Science Mela has encouraged children to raise questions, in an informal and friendly atmosphere. I am sure that this culture of questioning will encourage a spirit of enquiry among children, which will be expressed within the classroom as well.”

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