

***GRAM PANCHAYAT* MATHEMATICS COMPETITIONS**  
**PROCESS DOCUMENT**

**AKSHARA FOUNDATION**

**2016**

**“*GRAM PANCHAYAT* MATHEMATICS COMPETITIONS PROCESS DOCUMENT”,  
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## INTRODUCTION

The *Gram Panchayat* (GP) Mathematics contest is an innovative strategy, the first of its kind in the country, involving the participation and sharing of responsibility by all stakeholders including children, teachers, parents, community, educated youth, *Gram Panchayat* Presidents and members. In the process, the attempt was to encourage stakeholders to push for enhancing the quality of teaching and learning in Mathematics, which in turn would lead to better understanding and improved performance among students.

The contests were held in selected *Gram Panchayats* in six districts of the Hyderabad-Karnataka region of the state where government is implementing *Ganitha Kalika Andolana*, Akshara's Mathematics Programme.

The GP contests were conducted with the help of educated youth, or Education Volunteers, from the villages where the children contested. A Mathematics test was administered to children of the 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> grades. The question papers were designed and developed centrally by Akshara's Math Resource Team, on the basis of competencies that children had acquired in the previous academic year, 2015-16, when they were in the 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grades. Education Volunteers evaluated the answer papers on the day of the contest, thereby ensuring transparency in the whole process, as it was done by the youth at the very spot where the test was held.

### **The objectives of the GP contest were:**

1. To generate awareness among parents. The assumption was: If parents become aware of their children's numeracy levels, then there is a possibility that they will demand the school system for better delivery of services.
2. Self-financing the contest. The assumption was: An effective degree of participation can be ensured, which can be measured through the contribution of resources in the form of donations by local donors, either kind or cash, to conduct the contests. This was a significant indicator to measure collective concern at the GP level about generating a buzz around quality education.

3. To measure the performance of students in an outside-the-school situation and inculcate the spirit of competition among them.
4. To have an integrated, transparent and inclusive method for the competition. The approach adopted in the overall *andolana* of the GP level contests, as in *Ganitha Kalika Andolana*, was integrated and intensive, involving appropriate strategies at different levels.

### The competition process

1. **Concept:** The key idea behind the contest was to galvanize the community to collectively put in efforts towards improving learning outcomes in Mathematics by at least 15%, as compared to ASER 2014 levels. The GP contests were piloted during the summer vacation in April and May 2016.
2. **Grades chosen for the competition:** The tests were decided upon to target children from the 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> grades, i.e those who had completed the 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grades in the academic year 2015-16.
3. **Question paper design:** The question papers for grades 4, 5 and 6 were framed based on children's learning standards of the previous year of schooling when they were in grades 3, 4 and 5. An objective question paper pattern, framed for 20 marks, was followed to conduct the assessment. Children were given 60 minutes to answer.
4. **Selection of *Gram Panchayats*:** The contests were designed to reach out to children at the *Gram Panchayat* level. The plan for selecting the GPs and Blocks was made on the basis of convenience of all concerned. The *Gram Panchayats* that were willing to participate and contribute resources for organizing the competitions were selected.
  - 200 GPs were targeted across all Blocks in 6 districts in Hyderabad-Karnataka.
  - One Akshara Field Coordinator covered 10 *Gram Panchayats* in a Block.
  - 50 children from each grade in each GP were targeted. Children from the 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> grades formed the assessment pool, adding up to 150 children per GP.
  - The Akshara Field Coordinator was instructed to collect the enrolment data from selected schools of children studying in 3<sup>th</sup>, 4<sup>th</sup> and 5<sup>th</sup>.
  - The Akshara Field Coordinator was instructed to select at least one volunteer from each village to inform the school, ensure registration of children, communicate to parents about the competition, etc.
  - The Akshara Field Coordinator was instructed to select at least one volunteer for every 10 children for organising the competition to bring children from villages

within the GP, manage the test administration, evaluation, stage management, organising the refreshment and to manage the overall completion which was scheduled to last for 4-5 hours.

5. **Publicising/advertising the event:** Information about the contest was disseminated through GP members and at parents' meetings. A meeting of all the stakeholders was conducted at the GP level, and the venue and schedule of the contests were prepared with a gap of four days between the events.

- a. Akshara's Field Coordinators visited all the schools in the selected Gram Panchayat jurisdictions and discussed the contests in detail with the Presidents and members of the School Development and Monitoring Committee (SDMC), school headmasters and teachers, and parents. They were requested to encourage the children of their schools to take part in the competitions.
- b. A meeting of all stakeholders was called at the GP level to discuss and decide the venue, the process, task delegation, and donor commitments towards prize money, and stage and refreshment expenses.
- c. The local human resources comprised of Education Volunteers who were educated youth, usually with a BA, B.Sc, D.Ed or B.Ed degree were identified from each village and were given a day's orientation, which included details about Akshara's Mathematics programme, *Ganitha Kalika Andolana*; the objectives and process of the GP contests; and their responsibilities.

6. **The competition:** The GP contest was conducted on the scheduled date in a school, a *samudaya bhavana* (community building), a temple or any public space that could accommodate people. It was designed as a half-day event.

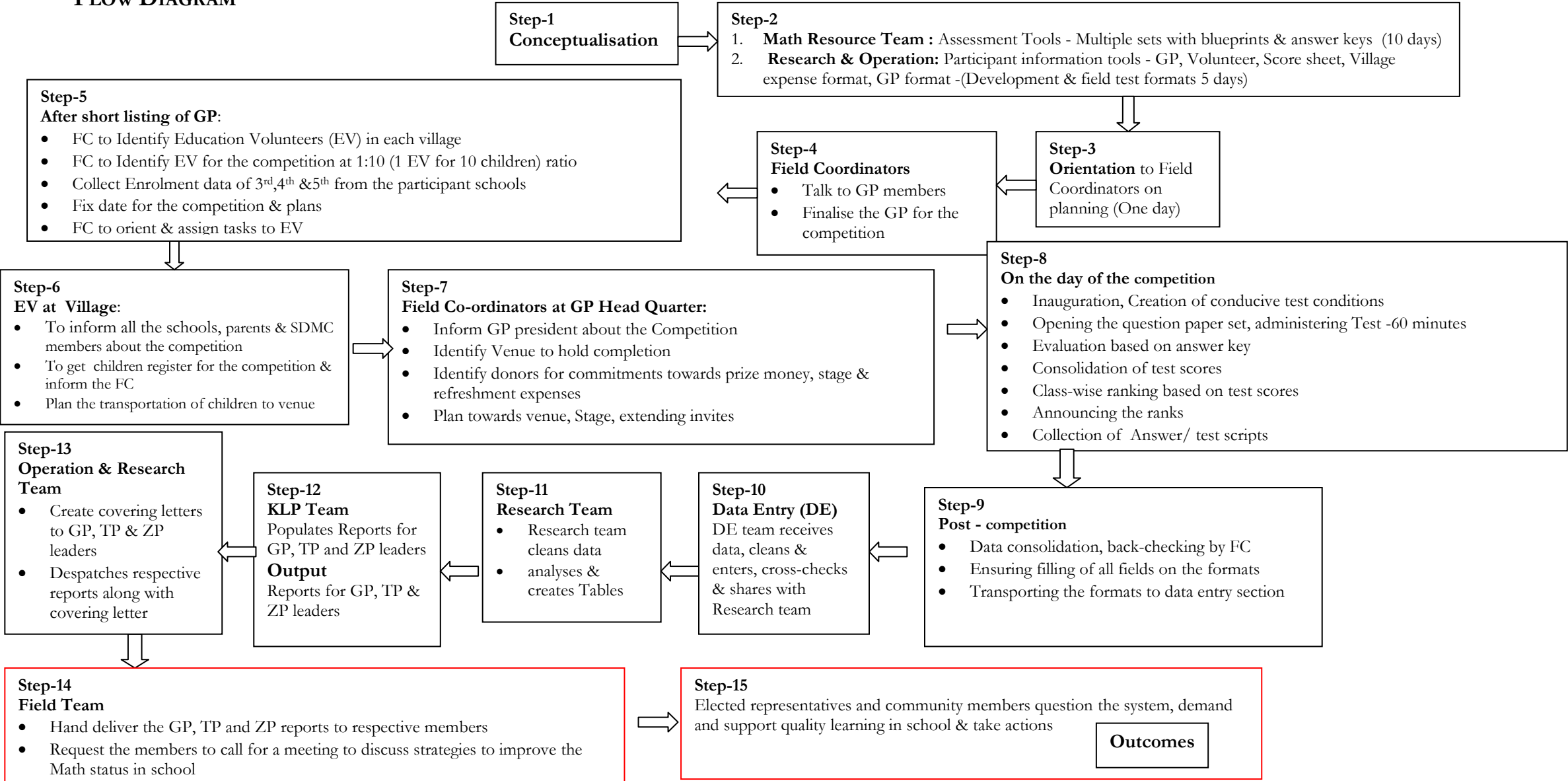
- i. The event began with a GP member inaugurating the contest by opening a sealed set of question papers in front of the gathered public.
- ii. Conducive test conditions were created by the Education Volunteers and Akshara's staff, and children were made to sit in a row to take the 60-minute test for solving 20 questions. It was a pen-and-paper test.

- iii. The question papers were distributed to the children and they were instructed to start the test. Education Volunteers supervised the test and enforced strict monitoring protocols to ensure that no malpractice took place during the conduct of the assessment.
  - iv. After the assessment, the Education Volunteers were asked to evaluate the answer scripts with the help of answer keys Akshara Foundation provided.
  - v. Class-wise mark sheets were then prepared. The first three highest scorers of grades 4, 5 and 6 were given their ranking order.
  - vi. Education Volunteers were given certificates of appreciation for their collaboration and support to hold the contests.
  - vii. *Gram Panchayat* members, parents, SDMC members, donors and the village community were invited for the prize distribution event on the evening of the same day.
7. **Data collection and entry:** Akshara's Block Coordinators consolidated the grading sheets, cross-checked the data and sent it across to Akshara's Bangalore head office.
8. **Data processing and competencies chosen for analysis:** The data was cleaned and a competency based analysis was carried out using SPSS, the statistical software, and then sent to the Karnataka Learning Partnership (KLP) team to populate the automated report cards in the pre-designed blank report card format for the *Gram Panchayat*, *Taluk Panchayat* (TP) and *Zilla Panchayat* (ZP). The blank report card, in Kannada, was developed by Akshara's Field Operations team. The analysis was presented in two categories – overall class-wise performance of the children; and children's performance in the basic Mathematics competencies of addition, subtraction, multiplication and division. Individual reports were developed and hard copies were printed for each of the GPs, Blocks and Districts.
9. **Report distribution to stakeholders:** Report cards were distributed to all the stakeholders along with a covering letter. The stakeholders included *Gram Panchayat* Presidents; the Block Education Officer (BEO) and Block Resource Coordinator (BRC) of the *Taluk Panchayat*; CEO and Executive Officer of the *Zilla Panchayat*; local MLA; and Deputy Director for Public Instruction (DDPI), Administration and Development.
10. **Follow-up after report distribution:** The intent is to collect feedback from all the stakeholders mentioned above to study the impact.

**Learnings:**

1. **Timing of the event:** Since the event was conducted during the summer vacation, it was difficult to gather all the children to participate in the contest.
2. **Incomplete formats :** Some of the fields like complete school name, child's name, name of the *Gram Panchayat* were missing. This led to a delay in completing data entry.
3. **Test papers:** The question paper design could have avoided typos. Could not comply to initial plan of creating 10 different sets.
4. **Buy-in from the community:** Since it was a new and innovative event, there were initial problems in convincing people about its importance.
5. **Sustaining the momentum:** It was difficult to manage the contests as Education Volunteers were sometimes absent on the day of the competition. It was also difficult to get the parents and the community to participate effectively due to lack of awareness. It was difficult to identify donors, and sometimes donors postponed their donations.

FLOW DIAGRAM





Tool-1 -GP -Format

<i><b>GRAM PANCHAYAT</b></i> <b>MATHEMATICS COMPETITIONS</b>					
Name of the GP:		Name of the Block:		Name of the District:	
Sl.No	Name of the GP Member	Age	Village	Contact No	Signature
1					
2					
3					
4					
5					
Signatutre of the Field Co-ordinator				Date:	

Tool-2 -Volunteer-Format

<i><b>GRAM PANCHAYAT MATHEMATICS COMPETITIONS</b></i>					
Name of the GP:		Name of the Block:		Name of the District:	
Sl.No	Name of the Volunteer	Education Qualification	Village	Contact No	Signature
1					
2					
3					
4					
5					
Signatutre of the Field Co-ordinator				Date:	

Tool-3 –Scoring Sheet- Format

<i><b>GRAM PANCHAYAT</b></i> <b>MATHEMATICS COMPETITIONS</b>							
QP code: Name of the GP: Name of the G President:							
				Name of the Block:	Name of the District:		
Sl.No	School Name	Village Name	Name of the Child/Student	Gender	KLP ID	Grade	Marks Scored
1							
2							
3							
4							
5							
Signatutre of the Field Co-ordinator				Date:			

Tool-4 –Village Expenses- Format

GRAM PANCHAYAT MATHEMATICS COMPETITIONS							
Name of the GP:							
Name of the G President:				Name of the Block:		Name of the District:	
Sl.No	Village Name	Number of EVs participated	Number of parents participated	Funds Raised and Spent			
				Expenses incurred for Prize	Expenses incurred for Refreshment	Expenses incurred for Miscellaneous	Total Expenses
1							
2							
3							
4							
5							
Signatutre of the Field Co-ordinator						Date:	