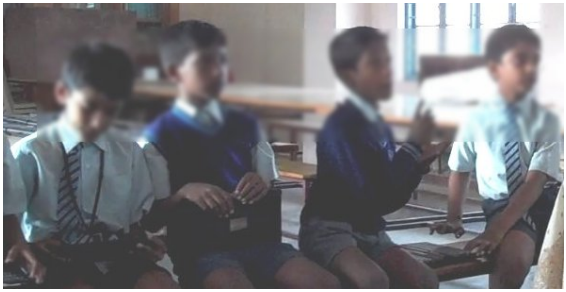
Mathematical Foundations for the Modern Age

30 hour Foundation Course for children in Grades 5 and above - First of four Phases



1 What is this?

This is a course designed to bring your child in line with the thinking required at university and at work. Although Maths is the main theme of this course, it also builds communication ability, lateral thinking, decision making abilities and IT skills. Your child will be making a decision on at least 20 issues every lesson to develop decision making ability and hone thinking and writing skills. Those decisions will be recorded and analyzed using our proprietary technology. The response of the class as a whole will be immediately displayed to provide feedback to your child of the alternative decisions that others took. Your child will never be publicly identified for failure but may occasionally be identified for outstanding ability.

This is the first phase (30 hours) of a four phase program (360 hours) that will commence with establishing the foundations of maths to finally preparing the child for university education. In the course of this journey your child will increment his/her capacity to:

- express thoughts and ideas and communicate them competently
- acquire the capacity to read, write, speak and comprehend, in English
- develop new perspectives for seeing the commonality of systems structures across disciplines
- use software and hardware for empowering himself/herself to resolve real world problems.
- understand mathematics from a practical standpoint for calculation, observation and measurement, inference and reporting.

2 Why multiple grades

Our experience with several schools has pointed out the voids in understanding that persist with children all the way to Grade 10. These can be major obstacles to intellectual growth at the University level. We have children's written comments pointing this out at Grade 10 level. Feel free to ask for these comments.

3 What is Maths in the Modern Age about?

Modern Age Mathematics forms the basis for knowledge in many fields. It is becoming increasingly hard to imagine literacy without it. Maths is the basis for the artist's tools and a critical component of the Moon mission. Today Maths is an enabler in biology and physics and industrial design and architecture. We ignore its relevance at our peril.

Yet Maths is taught like a religion while it is actually born of the union of logic and the hustle of economic strife and gain. It is hard to separate the need for maths from the need to observe, the ability to calculate, the responsibility to make reasoned inferences, and the necessity to describe the outcomes of mathematical processes. This is what your child will need, to find success in the world to come.

This course is designed to fulfill that need.

4 The history of this project

4.1 Development

These ideas for education have been developed over a 37 year period. In the last twelve years the author started two well known schools in Bangalore from scratch, served as a consultant to University of Cambridge International Examinations (CIE) for evaluating schools across the country, worked with rural children after the Tsunami in Tamil Nadu and the Earthquake in Kashmir, worked with HIV affected children in five of the worst affected states in India, and worked in the area of child rights for countries including Burkina Faso and Vietnam. This was preceded by 25 years of work in academia overseas during which time the author was a Visiting Professor in China and Sweden, a consultant to governments and industry in several countries, as well as giving lectures and presentations in many parts of the world.

4.2 Performance levels at beginning and end - A Pilot project

Between Nov., 2009 and March 2010, we conducted a Pilot study at Maria Niketan School. We taught the foundations of mathematics to a group of 22 students for a total period of about 30 hours. Before commencing our teaching, the 22 students which we will call the taught group answered 113 test questions. At the end of the course the taught group and 41 other students answered a subset of 65 test questions. The test questions are produced by a reputable US company to determine levels of mathematical ability. The broad results are as follows:

	Test Score Statistics (%)		
	Mean	**Max**	**Min**
Taught group - Pre Test	24	50	5
Taught group - Post Test	75	89	46
Rest of the class - Test at end of session	61	82	35

Table 1: Comparison of group statistics for taught group and the rest of the class.

4.3 Performance at end of term school examinations - Pilot Project

We commenced our teaching after the end of Term 1 examinations. Term 2 examinations were conducted shortly after we finished our teaching. Although our teaching had nothing to do with the school syllabus, we believed we may have impacted the students' abilities in Term 2 in three areas viz. Maths primarily, and English and General Science peripherally. We decided to test how the Taught group had done as compared to the rest of the class. We subtracted the Term 2 results from the Term 1 results.

The taught group on average scored 7.5% higher in Term 2 than Term 1. The rest of the class averaged an increase of 2.7% between Term 1 and Term 2. Should you wish to know more, please go to Reports and download one or more of several reports on this subject.

5 What is on offer

A free demonstration will be held at a time convenient to the largest number of respondents. Please indicate your preference for the timing of a sample class by emailing:

To: samar@agem.in

Preferred Day of Week:

Preferred time of Day

We will then arrange one or more sessions which you can attend and evaluate this program.