



It is important to have a Math Club in one's school. It offers a forum to bring together students and teachers who share a love for mathematics.

Let it be emphasized right from the start that a Math Club is not meant only for gifted students. Nor is it a forum for coaching students for math competitions. Rather, it is a forum for 'doing' and exploring mathematics, in an atmosphere of freedom and sharing. As such it should be open to anyone who has an interest in the subject and wishes to see math ideas in action, learn about mathematicians, hear about new areas of application, and so on.

In the same way, the Club should not be restricted only to mathematics teachers. Indeed, it would be good if the convenor of the club goes out of the way to persuade interested colleagues to join the club.

We list here some ideas for running such a Club.

Convenor :

The Club should have a teacher convenor. The convenor could change after one term or one year.

Weekly meeting :

The Club should meet once a fortnight (or once a week if there is enough interest), for 1 to 1½ hours. The time slot should be chosen so that it does not get cut into by other activities.

Presentations :

Presentations can be made at the meetings. These could be of short duration (20–30 minutes); maybe one presentation per meeting, made by either a teacher or a student. The rest of the time can be spent in problem solving, done in small groups, collaboratively. Or it can

be spent making some artefacts, using paper, wood or straw.

Bulletin board :

Maintain a bulletin board. It can be of a modest size, but its contents should be updated regularly. *Do not start too ambitiously and then allow the club to decay.*

The bulletin board should feature a problem corner and also a math news corner (with news from the math world).

The problem corner should have separate sections for senior and junior students. Having a single mixed problem set could lead to negative consequences.

Do not set problems which are 'straight from the textbook'. The problems should be mildly challenging. Try to set non-routine problems.

Ideas for problems :

- Cryptarithms
- Coin weighing problems
- Logic puzzles
- Problems on divisibility and numbers
- Problems on triangle and circle geometry

Ideas for presentation :

- Paper folding
- Lives of mathematicians: Ramanujan, Newton, Gauss, Euler, Riemann, Pascal, ...
- Ancient Indian mathematics – work of individuals like Aryabhata, Brahmagupta,

Bhaskara I, Bhaskara II (*Lilavati*)

- Mathematics behind cryptography
- Mathematics behind GPS
- Mathematics behind a CT scan
- Mathematics of astronomy
- The story behind Fermat's Last Theorem
- Pythagorean triples and their properties
- Fibonacci numbers and their properties
- Prime numbers, perfect numbers, amicable numbers
- Ideas of infinity
- Use of math software

Sample resource :

Wolfram Math World, <http://mathworld.wolfram.com/>
Plus Online Magazine, <http://plus.maths.org/content>
NRICH, <http://nrich.maths.org/public/>

Note : This will be an ongoing column in this magazine, and teachers are invited to write to us and share their ideas. We will discuss a few ideas in some detail in each issue. Once our web portal is set up, some of these discussions will be continued online.