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## Guidelines for setting up a Maths Club

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The idea of a maths club is to give interested students the space and time to think about problem solving math together.

In problem solving math, we don't have teachers, we have trainers. You shouldn't teach the students, you should just guide them a little, like a coach guides a football team. Most of the work should be done by the students.

**In general, in one session of the maths club, the students are given some questions to work on, and they work in groups of twos or threes to figure them out. The trainer (you!) answers questions to individual students, and walks around and asks students to explain their answers (only to you, not to the entire room).**

One of the sheets from the webpage might take two or three sessions, and it's ok not to finish each sheet - the students can think about questions in their own time too!

For the first few sessions, it's a good idea to play one of the games at the start - see the pdf called games. The games are designed to improve students ability to spot patterns and think critically about a problem.

**We say there are two rules for students in math clubs:**

- 1. If you know the answer, you can't tell people who don't know the answer. Everyone should be allowed to find the answer for themselves.**
- 2. If you don't understand a question, or you are confused, you should ask the trainer for help.**

### Setting up a maths club

Math clubs should be around an hour or two a week, either after school or during lunch time. If you can only do once every two weeks, this is also ok!

To get students interested, it's a good idea to give them some of the questions from the sheet ParityParty during class. For example, you could give the first question at the end of class on Monday, give the students 10 minutes to discuss it, and then challenge them to write the solution by the next day. You can do this a few times, and then tell the students if they enjoyed this, they should come to math club!

### Do's and Don't's of training

Training is not like teaching. It's more like guiding. The students are allowed to talk to each other, and you don't stand at the blackboard to teach. You walk around and ask the students what they

are doing, and to explain their solutions. You answer questions, but you don't tell students the answers.

It can be hard to change from the role of a teacher to the role of a trainer, so here's a quick guide of important things to do/not do!

## **Do**

1. Ask students what they're working on, and ask students to explain a question they claim they've done
2. Encourage them, and tell them well done
3. If you don't know the answer to a student's questions, say that. It's good for them to realise that we don't know everything, and to realise that the problems they are doing are challenging for everyone.
4. Tell students they have to struggle to get the answer -the questions are hard! It's ok if students don't get the answer correct, part of the process of problem solving is going wrong.
5. Smile when people have questions - you want to encourage them to ask more!
6. Ask the quieter students for their answer. Usually in a group one person will answer, the next question you ask, direct it at one of the other students in the group.
7. Check the solutions beforehand so you can help students - email [jessica.weitbrecht@aims.ac.rw](mailto:jessica.weitbrecht@aims.ac.rw) for the solution sheets.
8. Encourage the students to compare answers.
9. Give the students enough time to think about the questions - there is no time limit of how long to spend on a question.

## **Don't**

1. Don't give someone an answer
2. Don't undermine student confidence - the questions are hard and it's ok if they don't know how to do it at first.
3. Don't use calculators
4. Don't compare students to one another - problem solving is about collaboration!
5. Don't teach the students, they have to do the work themselves!

If you are setting up a maths club and using our material, we would like to know ! Please email us at [jessica.weitbrecht@aims.ac.rw](mailto:jessica.weitbrecht@aims.ac.rw), telling us about your school and your plan!