



Increasing Mathematical Opportunities

Splash 2025

Agenda

- **Introduction**
- **Ideas**
- **Creating a plan**
- **Implementation**

About the instructor

- **First year MIT student studying math (course 18)**
- **In middle & high school, was involved in several math-related initiatives**
 - Founder of MA chapter of Mustang Math
 - Associate Director at Sharon Math & Sci Tournament
 - Co-teacher at local math enrichment program
 - Volunteered at various organizations tutoring math
 - Developed curriculum and outreach for math initiatives

Why is creating math opportunities important?

- **The future – a strong foundation in math is required for fields such as computer science, engineering, artificial intelligence, design, and more**
- **Bridging the gap for students in your area who might otherwise not have access to quality math programs**
- **Sharing your love of problem solving with your community**

Coming up with ideas

- **Find a need or gap in your local area**
 - **Are elementary students not exposed to fun and challenging math content at school?**
 - **Are high school students feeling unprepared for the math section of the SAT because their classes don't cover all the material?**
 - **Do your friends from a younger grade want to learn to code games, but don't have the math skills yet to do it?**
 - **Do you wish there was a program to help 6th graders get into competitive math?**

Coming up with ideas

- **What have you heard parents/friends/teachers say about the availability of opportunities in your area?**
 - **If you're not sure, reach out to people!**
- **What kind of programs do you wish you had when you were younger?**

Getting together a team

- **Great, now you have an idea – who do you ask for help?**
- **Collaborators:** Your friends or peers who could work together with you to run your program idea – what unique contribution would each of them make
- **Mentorship:** Who can you ask for mentorship? A teacher, older student, maybe even your parents or another adult you know

Finding Resources – space

- **What are places in your town/community where you could host an in person program?**
 - **School**
 - **Public library**
- **How about remotely? What technology might you need?**

Finding Resources – funding

- **Does your town / area offer grants for initiatives?**
- **Will the participants of the program pay a small fee to cover costs**
- **Will you use your school or local library resources to reduce the cost**
- **How can student volunteers help out**
- **How will you get materials?**

Outreach and Advertising

- **What type of advertising is appropriate for your idea?**
 - **Website about the program**
 - **Flyers and an announcement at your school**
 - **Blurbs sent in different parent group chats**
 - **Emailing teachers to share with their students**

Example plan

- **“math enrichment” program for elementary school students to teach them interesting concepts not taught in school**
 - Will talk to my math teacher to see if they or anyone in the department is willing to supervise
 - Use school resources (classroom space, fellow student volunteers etc)
 - Delegation of tasks such as curriculum development, outreach, teaching, logistics

Example plan

- **Remote tutoring for students taking geometry**
 - Ask parents to supervise/mentor
 - Recruit your friends who have already taken the class
 - Fundraise through a bake sale to cover the cost of zoom premium features and a website to advertise the tutoring
 - Look into school and state curriculum standards for 9th and 10th grade geometry classes to help plan lessons

Example plan

- **Event that informs students/parents about the different math AP class options**
 - Find a space (your school library?)
 - Research the different classes (prerequisites, differences, concepts taught, difficulty etc.)
 - Advertise through flyers and on your high school's morning announcements

Your turn!

- **In groups of 2–3, pick one of your ideas to discuss and write down or type up a DETAILED plan**
 - Who will you collaborate with? Who will be your mentor?
 - Where will you find space, funding, materials, other resources?
 - How exactly will you advertise to participants?
 - How will you create the materials for your program?
- **Plans should be much more detailed than the example plans**
- **If you are finished, create a plan for another idea**