*MathHappens Summer Experience - Elijah Williams*

*Overview*

*1)* ***Learn basics of digital fabrication*** *- that is, how to make a design using graphics software and how to cut materials with a laser cutter. Making a MathHappens Nametag from ⅛-inch wood will be one of the assignments.*

*2)* ***Identify a math concept to model and make that model.*** *Recreate one of our existing designs, improve it or work on a new one inspired by reading classic math problems, current events, visiting museum sites or pursuing a personal favorite.*

*3)* ***Mentoring and Guidanc****e. Meet via phone/Skype and email with a MathHappens mentor to review your current resume, interests and availability. Goals of this interaction are detailed below*

*4)* ***Partnerships and Experts****. A staff coach will help you learn to design in CorelDraw. Based in part on your geographic location we may identify a partner location either makerspace or informal education institution.*

*This internship and course will prepare you to* ***apply for funding with MathHappens*** *for a project.*

*Schedule your meetings with Lauren* [*on Calendly here.*](https://calendly.com/mathhappens-foundation/remote-internship)

*Contact Lauren via email:* [*lsiegel@mathhappens.org*](mailto:lsiegel@mathhappens.org) *or phone: 5126631680*

*Schedule your meetings with* [*Quan for Corel Training here*](https://calendly.com/qqnguyen/corel-intro)*.*

*Be A Maker Training (for Tinkercad and other software)* [*select trainer Jason Strong.*](https://beamakerclub.com/enroll-now/)

*Submit Expenses for* [*Reimbursement here*](https://app.smartsheet.com/b/form/b7f76db8616f4c289b3002406ebc3505)*.*

*Introduction*

***To Do before we meet:***

* ~~Get to know MathHappens Foundation website~~
* ~~Reviewing the blog and our current work~~
* ~~Send your resume to~~ [~~info@mathhappens.org~~](mailto:info@mathhappens.org)
* ~~Sign up with~~ [~~Parker Dewey for payment and reimbursements~~](https://app.parkerdewey.com/talents/new)~~.~~
* [~~Request your kit~~](https://app.smartsheet.com/b/form/0ff266e5ba514bfea0766753ada7e46b)  ~~Allow time for us to mail.~~
* Download a trial version of CorelDraw

***Zoom meeting 1 (30 min):***

Introduction Topics

* ~~Discuss a work plan based on review of resume, interests and availability~~
* ~~Schedule future zoom meetings on Calendly~~
* ~~Review MathHappens work practices~~
* [~~Review kit projects, c~~](https://docs.google.com/document/d/1VDDb9MbEFfs6lkY8Jibi7Q5_TiDsUE6nULTj6z5jev8/edit?usp=sharing)~~onfirm contents~~
* ~~CorelDraw - if needed, purchase a student copy and schedule intro session with coach~~
* ~~Questions~~

***Follow up:***  Submit a work plan with dates and goals

*Goal I: Make some things*

**To Do:**  Learn the basics of digital fabrication, that is, how to make a design using graphics software and how to cut materials with a laser cutter.

* ~~Get to know CorelDraw - download education edition~~
* Meet with a Corel Coach from MathHappens for Corel orientation.
* Create your own CAD Files for the Kit Projects.

Identify a makerspace with laser cutter you can access

* + Join and complete basic orientation, add link to safety guidelines here. [Example](https://drive.google.com/file/d/1pPaA43A4tJ3kzKc2XPsyh1G-l3evxWpA/view?usp=sharing)
  + Select a project from the kit or of your CAD files to make.
  + Make your nametag

**Zoom Meeting 2 (30 min):**

* Present your project(s) with description and photograph
* Discuss List of skills needed existing and new ones you’ve acquired
* Include Positives and negatives of your makerspace experience
* Review and Revise Work plan
* Questions

**Follow up:**  Submit Initial Project Summary and Reflection

Goal II: Outreach Opportunity

**To Do: Develop an outreach opportunity**

* Survey outreach opportunities.
* Visit public spaces in your community
* Consult community event calendars
* [https://www.jrmf.org/events/engaging-children-in-math](https://www.jrmf.org/events/engaging-children-in-math.)
* Contact local institutions and event coordinators
* Reach out to libraries, other educators and even farmers markets.

**Zoom Meeting 3 (30 min):**

* + Review your survey of outreach opportunities - do you need help?
  + Discuss options, opportunities and barriers.
  + Answer these questions: What’s your presentation?; where will you be located?; who is your contact on site?; when will you do this?
  + Any permissions or background checks needed?
  + Consider and describe the visitor experience on site
  + Review MathHappens Guidelines and best practices for working in informal education.
  + Generate a list of supplies needed
  + Questions?

**Follow up:** Submit Outreach Plan with presentation schedule

Goal III: Have fun

* record the event(s) and submit a reflection on the experience.

Plan to return any table coverings or other durable materials for reuse.

**Submit final reflection with photographs for blog post.**

**Zoom Meeting 4 Final (30 min):**

* With the three Goals achieved you should have:
* Experience making and introduction to CAD
* Gained access to a laser cutter
* Made at least one connection in Informal Education.
* Enjoyed a positive experience sharing math with the public.

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Post Internship Options:

Plan A Larger Project and Extensions

* Develop a scope of work and cost estimate for a new project - permanent exhibit or installation, series of public events or math workshops, research and create a new project.

Communicate your experience

* Conference Presentations.
* Mentor others in your peer groupNewspaper.

Work Remotely going forward.

Additional Information, Resources and Details.

**Compensation:** All MathHappens remote interns for the introductory program will be compensated via the Micro Internship Program at Parker Dewey. This job will be posted there as well as available to those who express interest via other job listing outlets.

**After the MicroInternship:**

The introductory program can be completed in as few as three- four weeks, or spread across a longer period of time depending on your other time commitments and interest. Follow up projects should be submitted for consideration with a scope of work and cost estimate along with other details.

**Kits**: Each participant will receive a kit containing the following:

| **Items and Supplies** | **Five Making Practice Projects** | Software / Other Supplies |
| --- | --- | --- |
| Canary knife, Scissors | Folding Triangle | www.mathhappens.org |
| 4 colors daubers\*markers\*Pen | Circle - Heart- Square | Event Day Protocol(below) |
| wood\*cardboard\*cereal box | Golden Ratio Spiral | [Readings](https://drive.google.com/drive/folders/1MbGnRyE49XFmWoxlWWWcL3Ek0NTfxnMy?usp=sharing) |
| Gaffer tape\*brads\*rubber bands\*tinfoil\*glue\*foam brush | Proportional Calipers | Clockshark [(request access](mailto:info@mathhappens.org)) |
| Golf tee and eraser | Seed of Life Challenge | MathHappens T-shirt |
| MathArt Activities book | Sierpinski Gasket | \*[CorelDraw student edition](https://www.coreldraw.com/en/product/education/?topNav=en) |
| MathHappens T-shirt | **Name tag with magnet** | MathHappens Logo |

[**Texas Educators Code of Ethics**](https://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=19&pt=7&ch=247&rl=2) **or identify similar in your state.**

[**National Tutoring Association Guidelines**](https://drive.google.com/file/d/18YZibI5yllMzGS4pMpyhezvvqTJ0IE2V/view)

**Identify Lasershop Guidelines in your community** [**(Example from MakeATX**](https://drive.google.com/file/d/1pPaA43A4tJ3kzKc2XPsyh1G-l3evxWpA/view?usp=sharing)**)**

| [**Timesheet Submission Form**](https://app.smartsheet.com/b/form/46b48d98fc14450eb088b2bfb7c70f4a)  Track time using this form: [Log of Hours](https://docs.google.com/spreadsheets/d/17GYCNQ4HBD7PrIxLSEKjwWAiXdGV-fXBBkuhM2tu_r4/edit?usp=sharing) and also clockshark  Submit hours and rideshare reimbursements [here](https://app.smartsheet.com/b/form/d05b23fe32fe4371b63497d7002a3688)  Please include car miles at 58 cents/ mile on expenses - this will be added to your paycheck,if you are on payroll otherwise will be a separate reimbursement. | |
| --- | --- |
| **Event Preparation/Day of protocols:**   * Dress neatly - no gym clothes * Wear nametag and/or MathHappens shirt if you have them. If you do not have a nametag, we'll have one for you. * Bring water and a snack if you need it. * Introduce yourself by name to anyone you interact with. * We are here for people of all ages. Don't assume anyone knows more or less of your content based on their age/background. * May use clicker to count visitors, but don't let the counting get in the way and impact your visitor interactions. * Stay professional and if any issues come up, call for help * Don't get flustered if you are approached while cleaning up at the end and you're tired from the event. Often, the event organizers and professional staff will try to talk to you then (maybe even during the event). Be professional and courteous during these interactions and thank them for letting us use their space for our activities. * As you near the end time of your event, it is okay to gently start cleaning up and remind visitors that the activity will be ending in a few minutes. * Clean up in a tidy way. Please pack everything neatly as it was packed when you received the materials. * Lastly, have fun!   RECORD checklist: Photograph table when set up, take photo by event hosts sign, photograph what kids make as you go. Use clicker to record number of visitors. Note any quotes or feedback that would be good in the blog. | |