



ILLINOIS SCIENCE &  
TECHNOLOGY COALITION

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EDUCATION

**STEM Challenge Teacher PD | October 2022**

# TODAY'S AGENDA

- **Pre-Session:** New Teacher Orientation
- **Session 1:** Welcome Back | 2022-23 Orientation
- **Session 2:** Mentor Matching Engine
- **Break**
- **Session 3:** Breakout Sessions
  - Process Journaling
  - Mapped out For Success
  - Design Thinking Overview
- **Lunch Break**
- **Session 4:** Meet Your Mentors
- **Session 5:** Wrap up and Next Steps





# **Pre-Session: New Teacher Orientation**

## **Agenda**

- **Introductions**
- **Overview**
- **MME Demo and Onboarding**
- **Challenge Statements**

# Goals and Questions

- What/Who is ISTC?
- What is the STEM Challenge Program?
- How to be set up for success!



# OUR MISSION

- STEM Education focused nonprofit
- Dedicated to building a more inclusive STEM talent pipeline
- Connector between industry and classroom
- Workforce development and exposure at the center of our programs

# Meet the ISTC Education Team



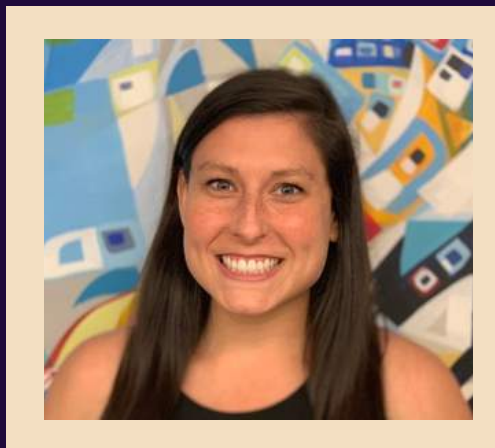
Tanvi Dharap (she/they)  
Program Manager of Mentorship



Julianna Grandinetti (she/her)  
Program Coordinator



Jackie Navigato (she/her)  
Program Manager of STEM Experiences



Becky Goldberg (she/her)  
Director of Education



# Meet the ISTC Coaches



Kristen Perkins  
STEM Challenge Coach



Liz Copper  
STEM Challenge Coach

# WHO ARE YOU?

**Unmute and share:**

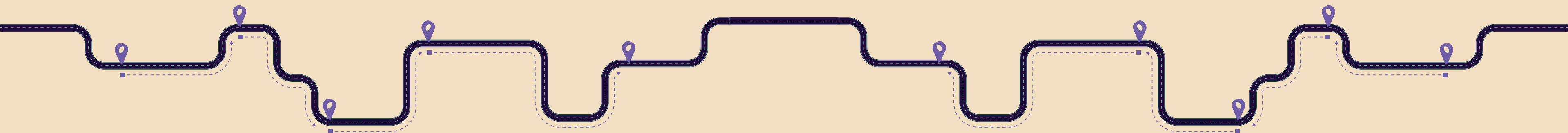
- **Your name & pronouns**
- **School & Course you teach**
- **A hobby or talent you have**

**HELLO**



# TERMINOLOGY AND TIMELINE

- **ISTC** - Illinois Science & Technology Coalition
- **MME** - Mentor Matching Engine
- **Kick-off** - When you start the program with your mentors
- **Mid-program experience** - Field Trip, Career Panel, Mentor Visit
- **Share out** - When all student teams present to the mentors
- **Showcase** - The big event at the end to celebrate student innovation
- **Teacher Toolkit** - Your online resource with tools and resources for the year



# STEM CHALLENGE PROGRAM

**Your students are now partnered with  
Company Mentors.**



**Collaborate with company mentors to come  
up with an innovative, unique solution to an  
authentic challenge statement.**

**Challenge Statement**

# CHALLENGE STATEMENT

- **Authentic real-world industry problem that your partner company faces/is working on solving**
- **The starting point for students**
- **No 1 right answer to these problems**
- **2 versions**
  - **Challenge Statement**
  - **Student Letter (student-friendly version)**

The Baxter logo is displayed in a bold, blue, italicized sans-serif font.

## **Baxter Challenge 2022-23**

Every day, millions of patients and care providers rely on Baxter's medical products for nutrition, renal, hospital and surgical care. At the critical intersection where innovation meets clinical providers that make it happen. With products used in over 100 countries, Baxter's employees work to bring our heritage of medical breakthroughs to a new generation of innovations.

Baxter also strives to make a meaningful impact in the communities where we live and work. Our Foundation helps advance our mission to increase access to healthcare for the underserved, who will lead the way in advancing healthcare for our communities globally.

Given the COVID pandemic, telehealth has become more than just a convenience, it's a necessity beyond what patients have experienced. Baxter's health-related services and information technologies. It allows long-distance patient education, intervention, monitoring, and diagnosis. Computers, mobile Devices, TVs, and more.

Baxter has been a leader in telehealth and home care. Baxter launched AMIA vantage Dialysis (APD) system with user-friendly interface for patients through home peritoneal dialysis.



# PHASES



## Baxter Challenge 2022-23

### Challenge Statement:

You are being recruited to assist in the development of new technologies to improve patient health outcomes through telehealth and access to clean water. Select one of the following options and challenge yourself to think creatively about the possible solutions.

**Option 1:** As technology improves and patients become more active participants in their health, you are being tasked to create the Sharesource 3.0.

### Phases

**Phase 1:** Understand the difference between telehealth, telecare, and telemedicine.

**Phase 2:** Explore how Sharesource is used currently to aid in patient care and treatment.

**Phase 3:** Explore patient engagement.

**Phase 4:** Storyboard your technology.

**Phase 5:** Pitch it!

**Option 2:** Expand Sharesource technology or alternative telehealth devices to personalize treatment for Diabetes and improve patient behaviors related to nutrition or exercise.

### Phases

**Phase 1:** Understand the difference between telehealth, telecare, and telemedicine.

**Phase 2:** Explore how Sharesource is used currently to aid in patient care and treatment.

**Phase 3:** Research current treatments for Diabetes.

**Phase 4:** Explore patient engagement.

**Phase 5:** Storyboard your technology.

- Phase 1: Research
- Phase 2: Synthesize
- Phase 3: Iterate
- Phase 4: Prototype
- Phase 5: Finalize

# CHALLENGE STATEMENT

## THINGS TO KEEP IN MIND:

- **Teachers should be familiar with their challenge document prior to the kick-off.**
- **Familiarize students with the document.**
- **You are not the expert. Mentors are.**
  - students can prepare questions
- **Think through the phases.**
  - Resources available in the Teacher Toolkit
- **Any questions? Ask ISTC and your Coach.**



### Baxter Challenge 2022-23

Every day, millions of patients and care providers rely on Baxter's expertise in nutrition, renal, hospital and surgical products at the critical intersection where innovation meets clinical providers that make it happen. With products used in over 100 countries, Baxter's employees work to bring our heritage of medical breakthroughs to a new generation of innovations.

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Given the COVID pandemic, telehealth has become more than just a convenience beyond what patients have experienced. It allows long-distance patients to access health-related services and information through various technologies. It allows long-distance patients to receive education, intervention, monitoring, and support through computers, mobile Devices, TVs, and more.

Baxter has been a leader in telehealth for many years, including at home care. Baxter launched AMIA vantage, a new Automated Peritoneal Dialysis (APD) system with user-friendly features that help patients through home peritoneal dialysis.

# WHO ARE THE PLAYERS?

WHO?





# ROLES AND SUPPORT

## ISTC

Coordinate between company mentors and teacher on all programmatic milestones, assist teachers with any troubleshooting needs, and ANYTHING ELSE.

## MENTORS

They are content experts! They are there to support your students in research, feasibility assessment, presentation skills, etc. They are also the best cheerleaders and champions!



## COACH

Support Teachers with implementation needs. Anything from “when should I get started” to “what do I want this to look like in my class” to “how do I know if this is going well”.

## TEACHER

Facilitator. Guide students through the phases, encourage students to dig deeper, to ask questions, to connect with mentors.

How?

# The Mentor Matching Engine

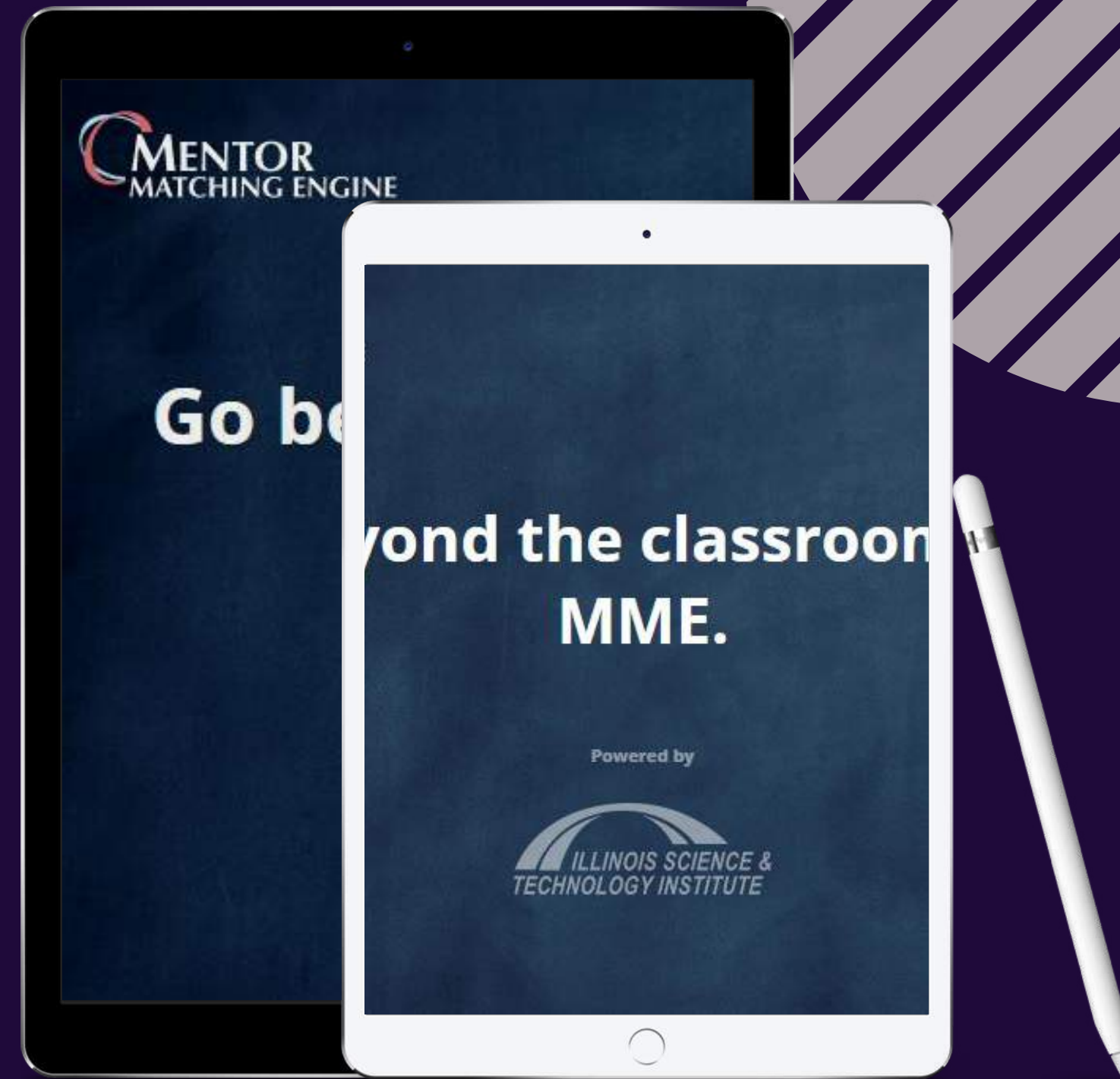


# The Mentor Matching Engine

The Mentor Matching is an online platform that connects students and company mentors.

1. Teacher Onboarding
2. Onboarding Students
3. Student project Creation
4. Teacher Approval
5. Creating Groups
6. Tracking Weekly Communication

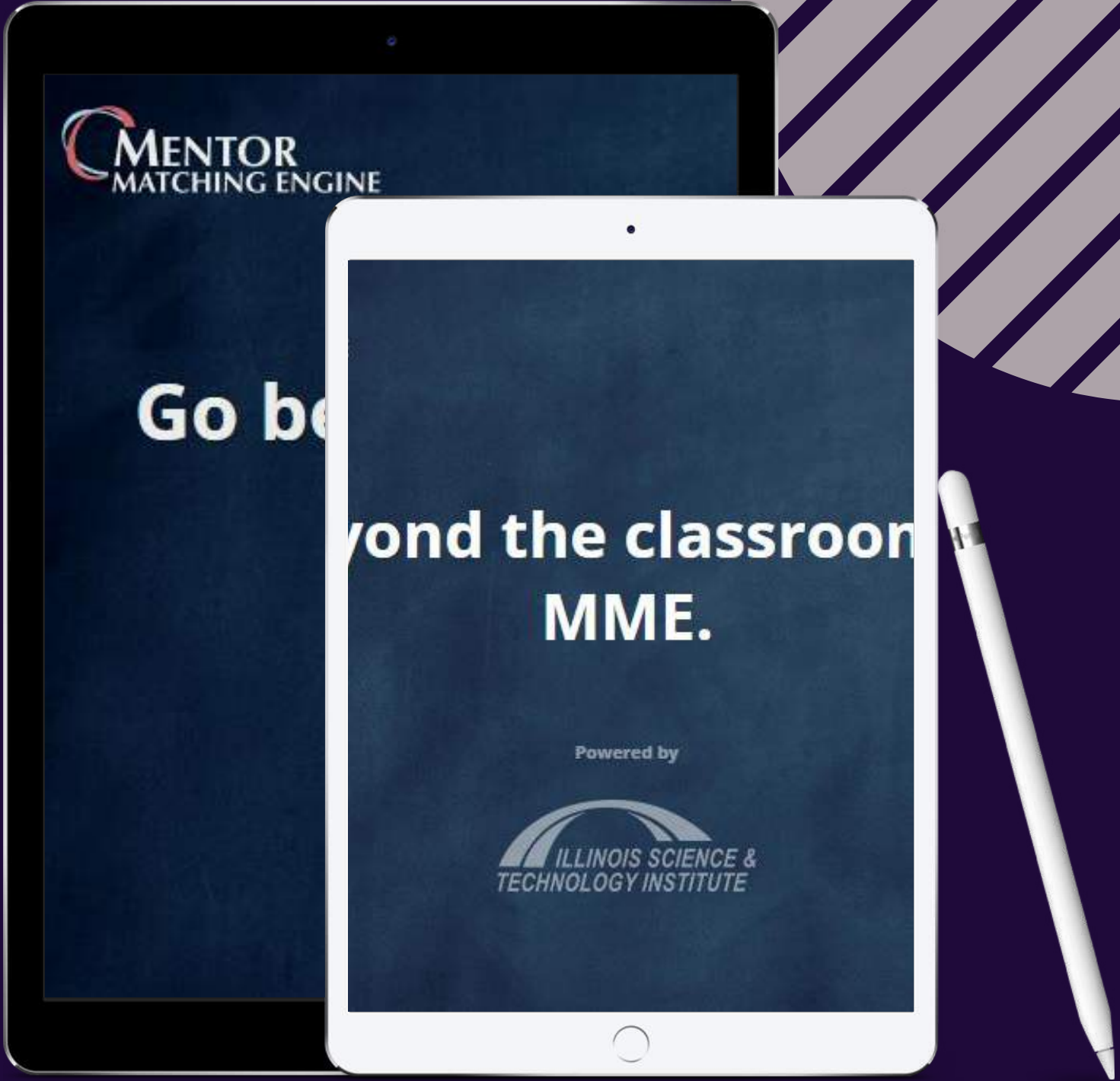
Resource Alert : Onboarding Checklist





# The Mentor Matching Engine

DEMO



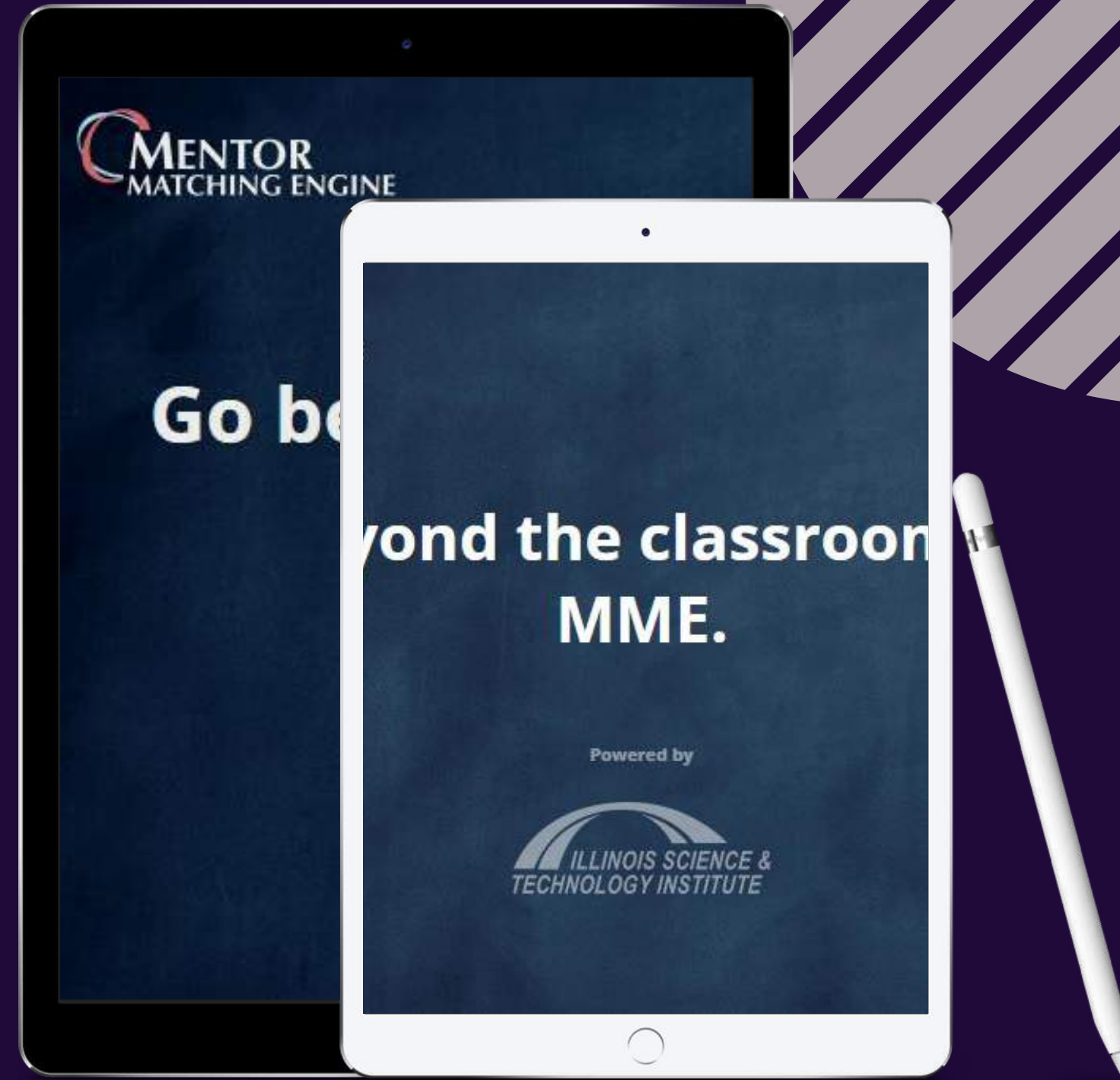
# The Mentor Matching Engine

Weekly Communication is Key.

High Dosage Mentorship

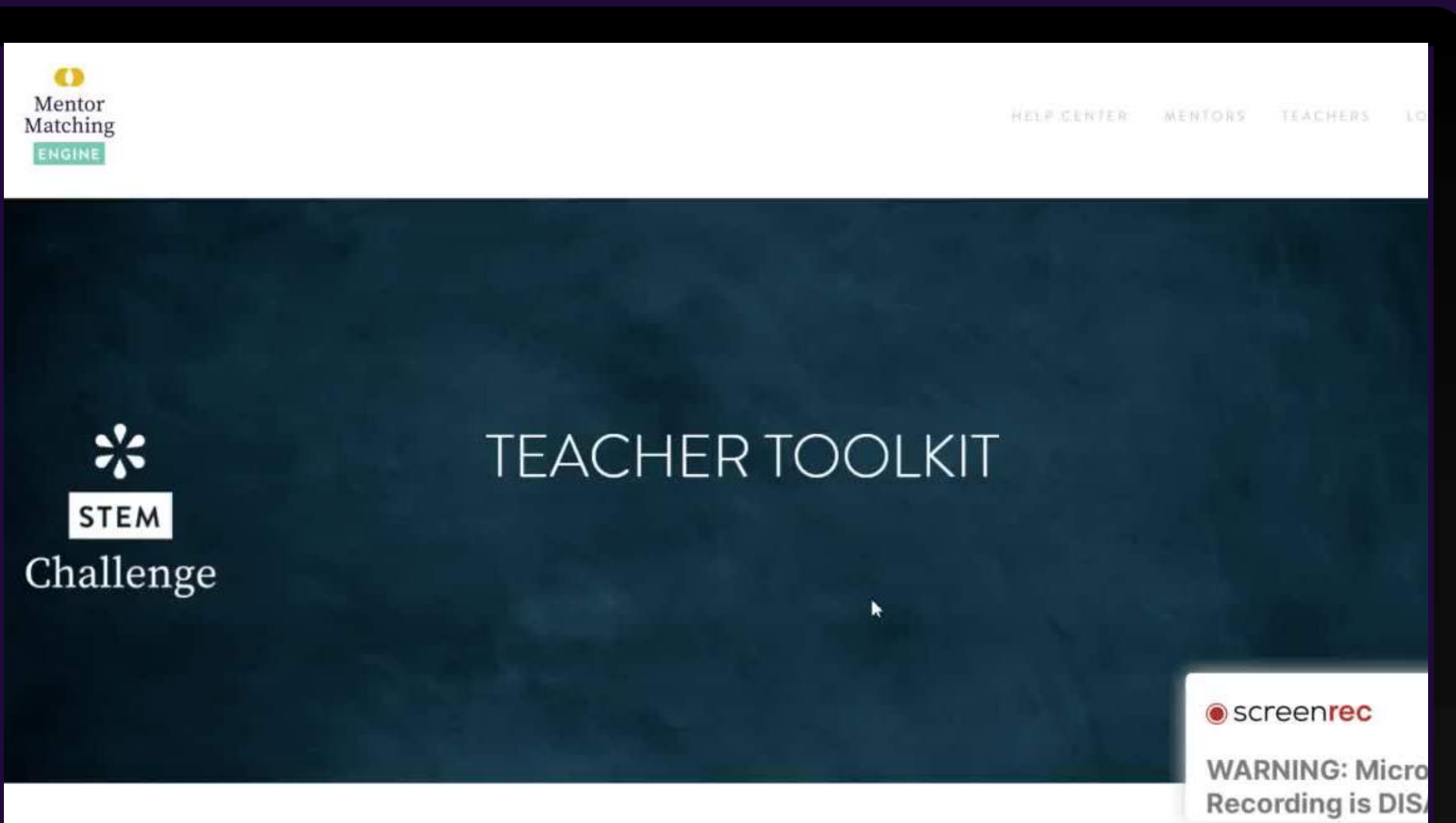
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Best Student Outcomes



# SUPPORT

The MME Help Page is your best friend here!



- How-To Video Demos
- Planning Resources
- Implementation Resources
- Past PD Presentations

# CREATE YOUR PROFILE

## **Step 1: Check your email.**

- We have invited you to the platform and should have received an email invitation from [admin@mentormatchingengine.org](mailto:admin@mentormatchingengine.org).

## **Step 2: Click on the invitation link.**

- Follow the link to create you profile.

## **Step 3: Fill in information**

- Fill in your information to complete your profile.



Questions...



**Return at 10:00 for the Main Teacher Session**



**New Teacher Session In Progress.**

**We will begin the All Teacher Orientation shortly.**





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# LAND ACKNOWLEDGEMENT





# LAND ACKNOWLEDGEMENT

## **Honoring the land and the people:**

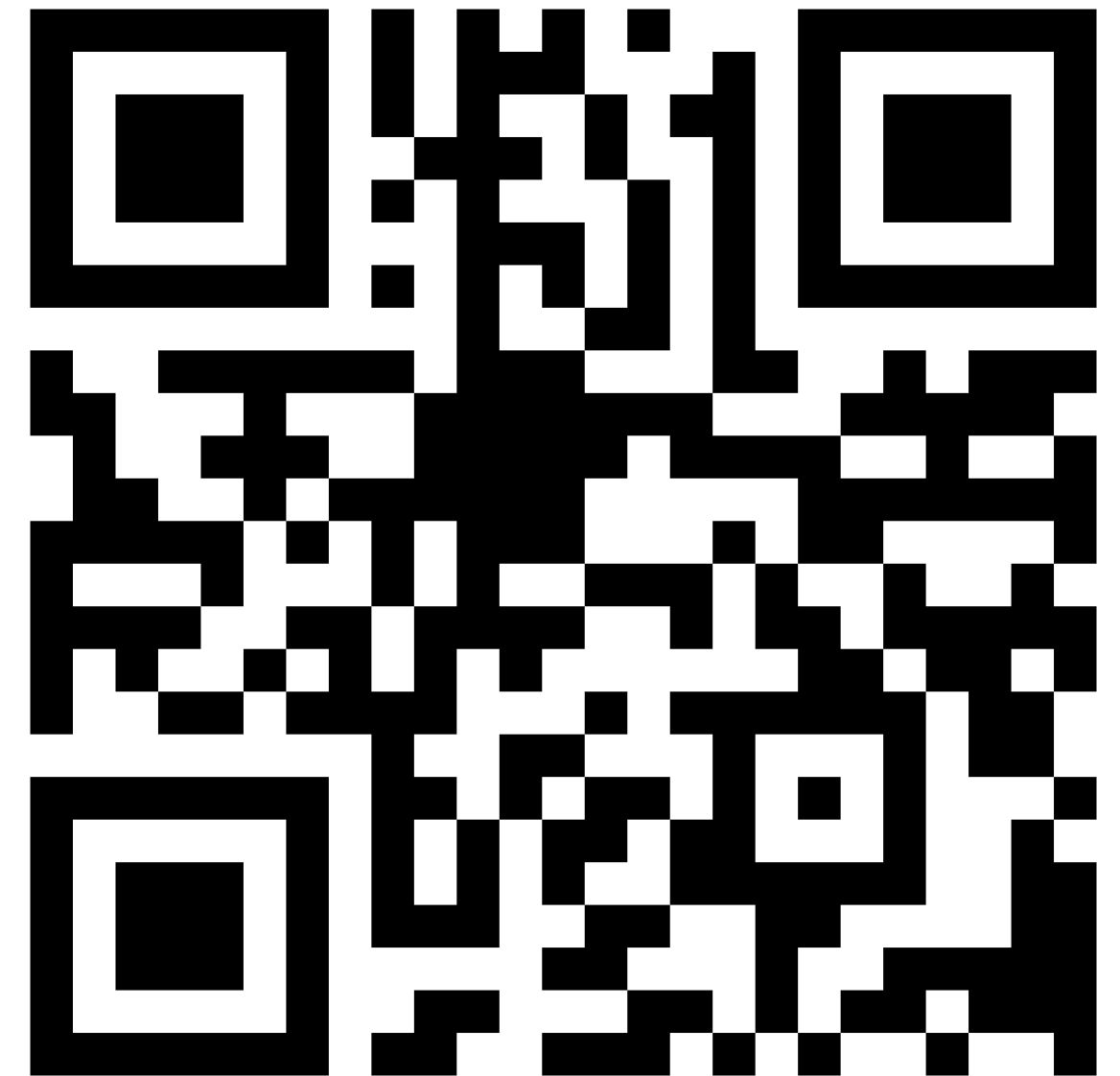
We are all on stolen land.

**Why am I talking about this?** This is an opportunity to learn about the indigenous communities, the work they are doing, and how we can support them.

**Who is in this space:** Mitchell Museum of the American Indian, Chi-Nations Youth Council

**First Step to take action:** Learn whose land you are residing on

Whose Land Do  
You Live On?





**Session 1:  
2022-23  
Orientation /  
Welcome Back!**

# **Agenda**

- **Introductions**
- **Program Overview**
- **Timelines**
- **Roles and Support**
- **Outcomes**

# Goals and Questions

- STEM Challenge Program Refresher
- How to be set up for success!
- Next Steps



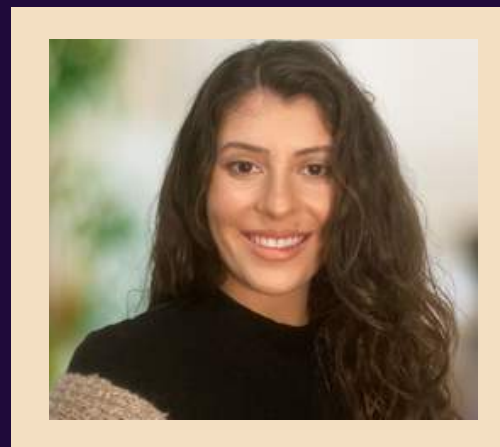
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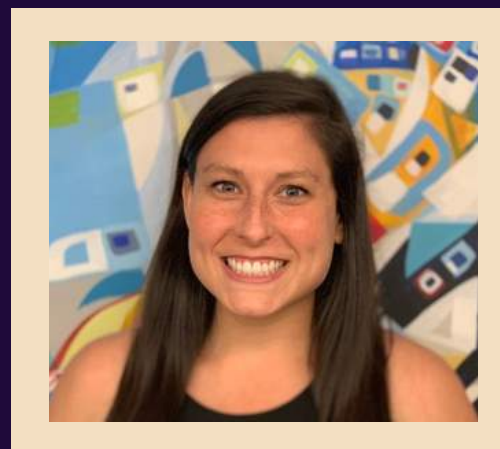
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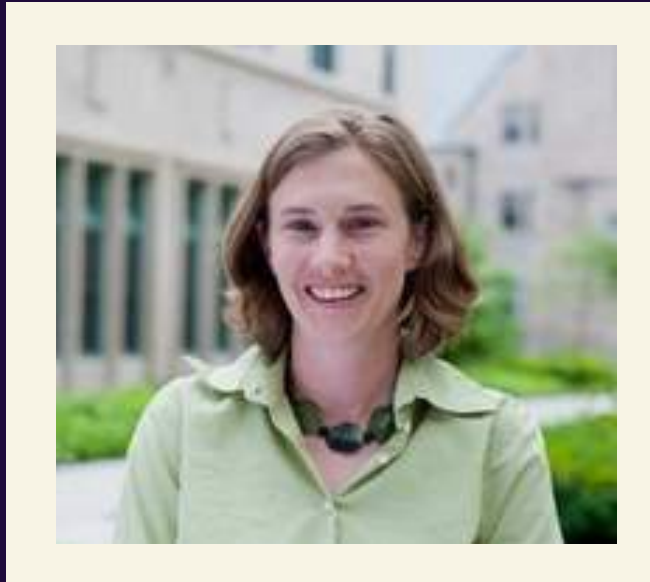
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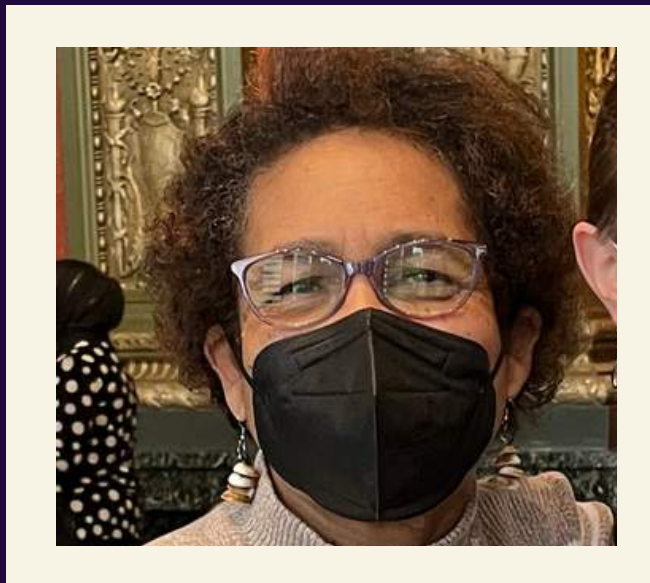
Becky Goldberg (she/her)  
Director of Education



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STEM Challenge Coach



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# Teachers, What is the STEM Challenge Program to you?

**In the chat, share:**

- **Your Name and pronouns**
- **Your School**
- **What is this STEM Challenge Program to you? OR What are you hoping to get out of the STEM Challenge Program?**



# STEM CHALLENGE PROGRAM

WHO?

Your students are now partnered with **Company Mentors**.

WHAT?

Collaborate with company mentors to come up with an innovative, unique solution to an authentic challenge statement.

WHERE?

Both in-person and virtually

WHEN?

Over the course of a semester

HOW?

Mentor Matching Engine



# CHALLENGE STATEMENT

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  - The starting point for students
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- **2 versions**
  - Challenge Statement
  - Student Letter (student-friendly version)
- **Keep in mind**
  - Teachers familiarized document
  - Familiarize students
  - Any questions? Ask ISTC and your Coach.

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# Roles and Support

- Support Systems
- Toolkit





# ROLES AND SUPPORT

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## MENTORS

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## COACH

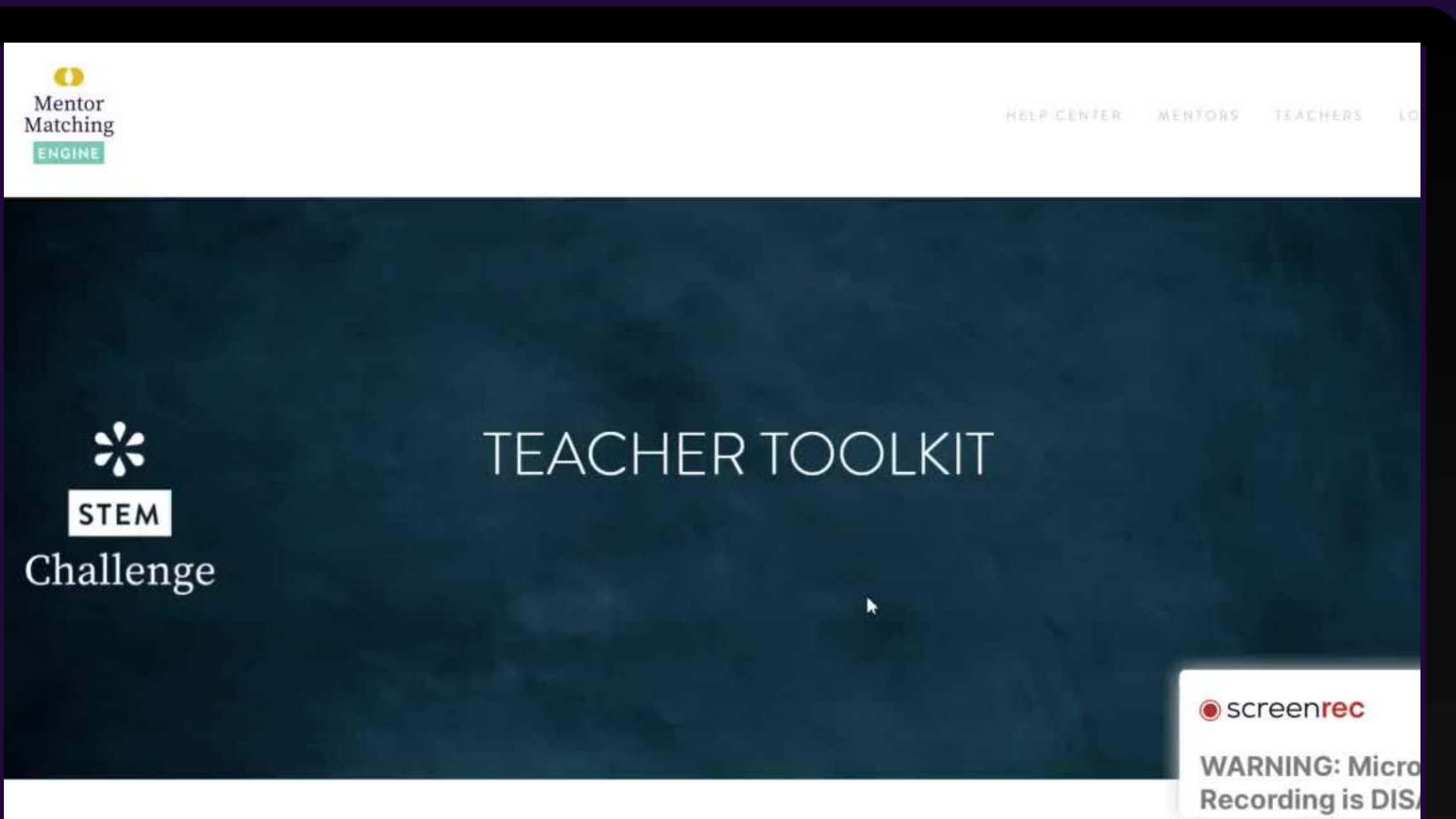
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# SUPPORT

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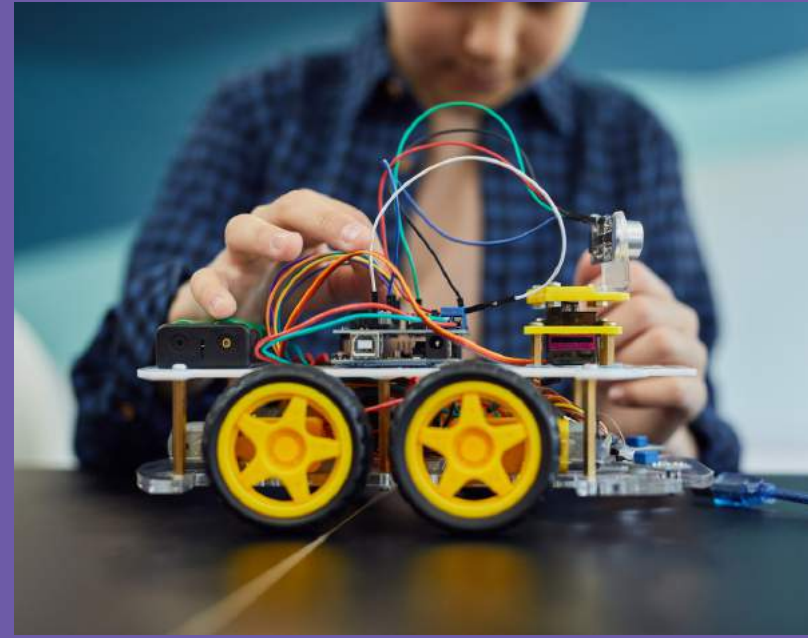


- How-To Video Demos
- Planning Resources
- Implementation Resources
- Past PD Presentations



Students and Mentors

Video Conference  
Weekly communication  
Warn of varying schedules  
(block scheduling, breaks,  
tests)



Teachers and Mentors

Communication schedule:  
(STEM Fridays, Mentor  
Mondays), & when they are  
available to video conference.



Teachers and ISTC

Monthly emails: project  
updates, deadlines, important  
tasks and awards!



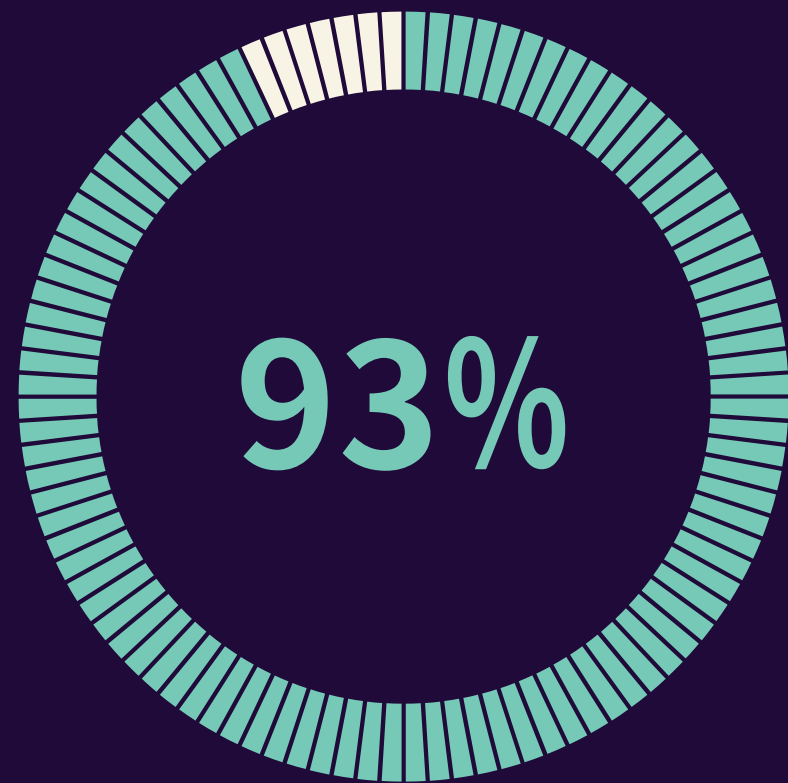
Teachers and Coaches

Monthly Touchpoints:  
planning, troubleshooting,  
support

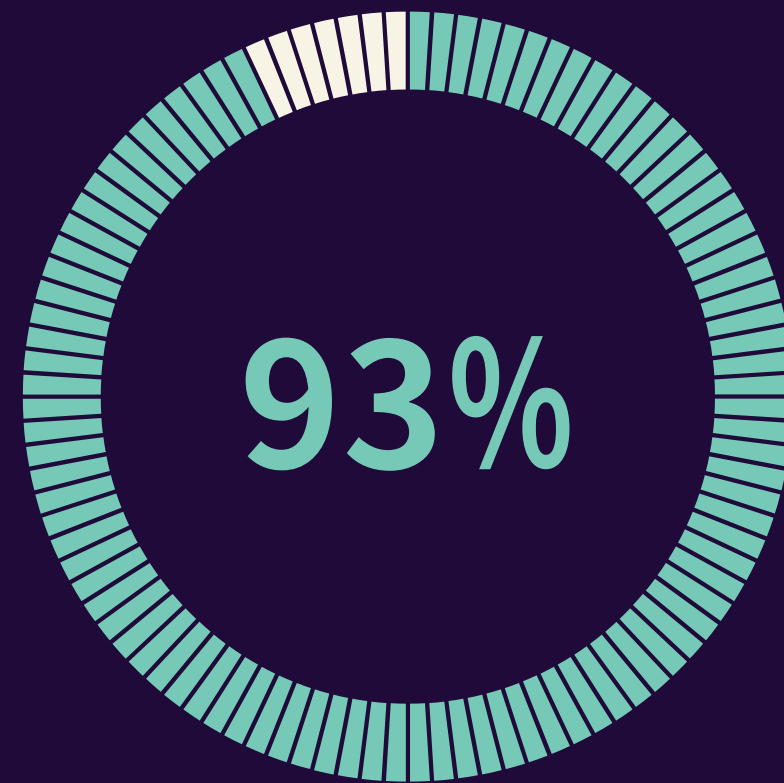
Communication is Key



# OUTCOMES



of students reported that they are more confident in their STEM/research skills



teachers reported students improved overall STEM skills

“As a class, from the start of the project vs. the end of the project, **student communications skills, ability to research, and problem-solving skills drastically improved.** Also, several groups were nervous about presenting because they had never presented in front of a class before and they all did well thus improving their presentation skills.”

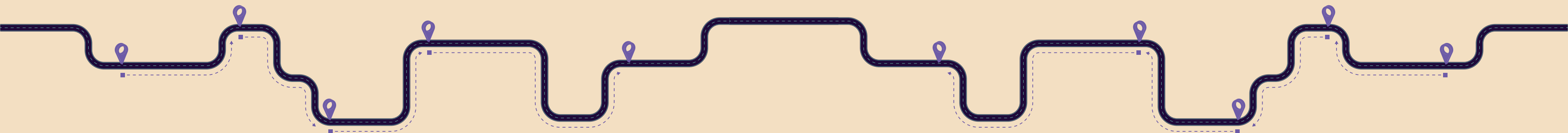
- STEM Challenge Teacher (2022)

Questions...



# Timeline

- **Kick-off** - When you start the program with your mentors
  - Kick-off Planning Form
  - Kick-off Agenda
- **Mid-program experience** - Field Trip, Career Panel, Mentor Visit
- **Share out** - When all student teams present to the mentors
  - Shareout Planning Form
- **Showcase** - The big event at the end to celebrate student innovation



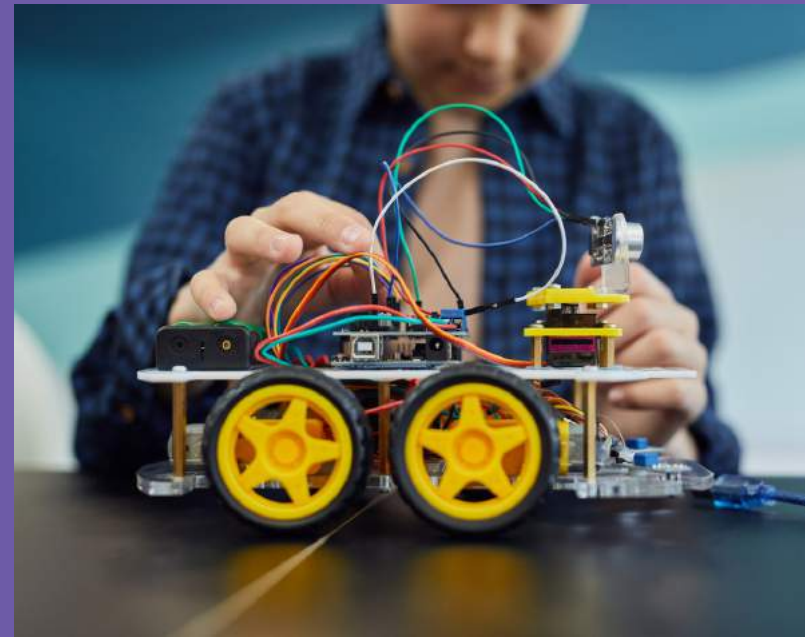
# What is needed for a Kick-Off to happen?



Teacher Contract

Completed at the end of the day.

- Planning dates and Milestones
- Teacher swag



Planning a Kick-off

Due Nov 16th

- Desired dates
- Logistics
- Needs from ISTC



Kick-off Agenda

Due Nov 16th

- Mentor's Role
- ISTC's Role



Students Onboarding

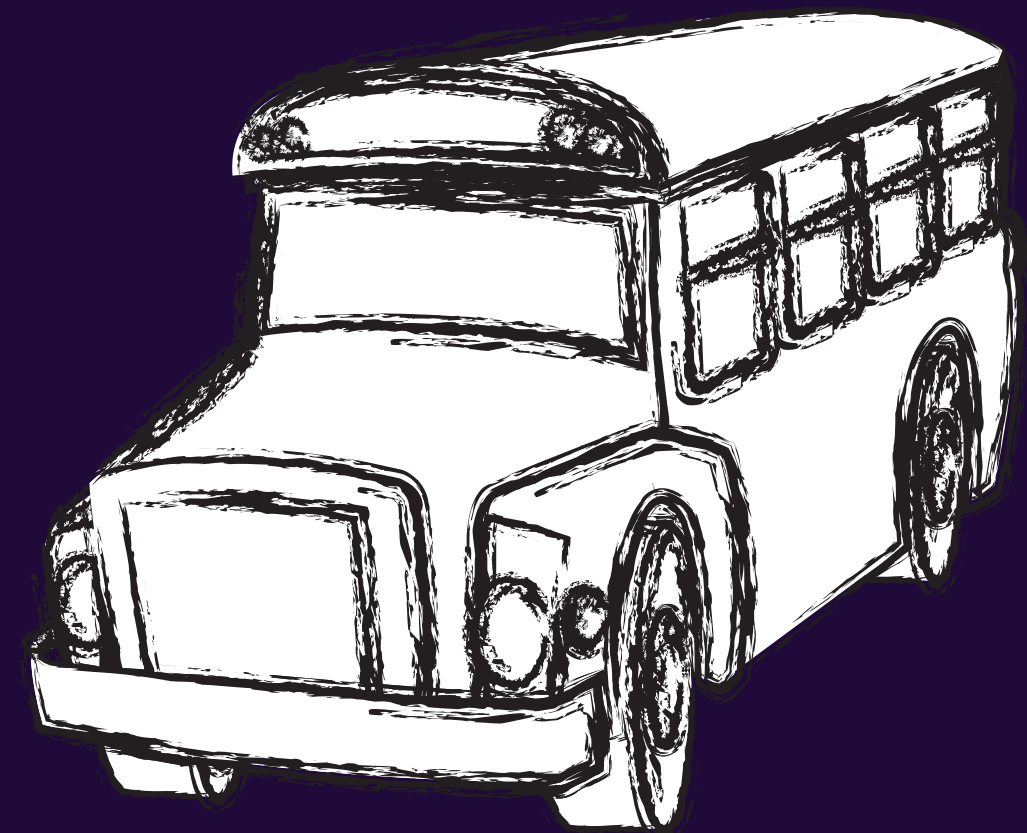
BEFORE KICK-OFF

- Students on MME
- In Groups
- Project Names and LOI



# Mid-program Experiences

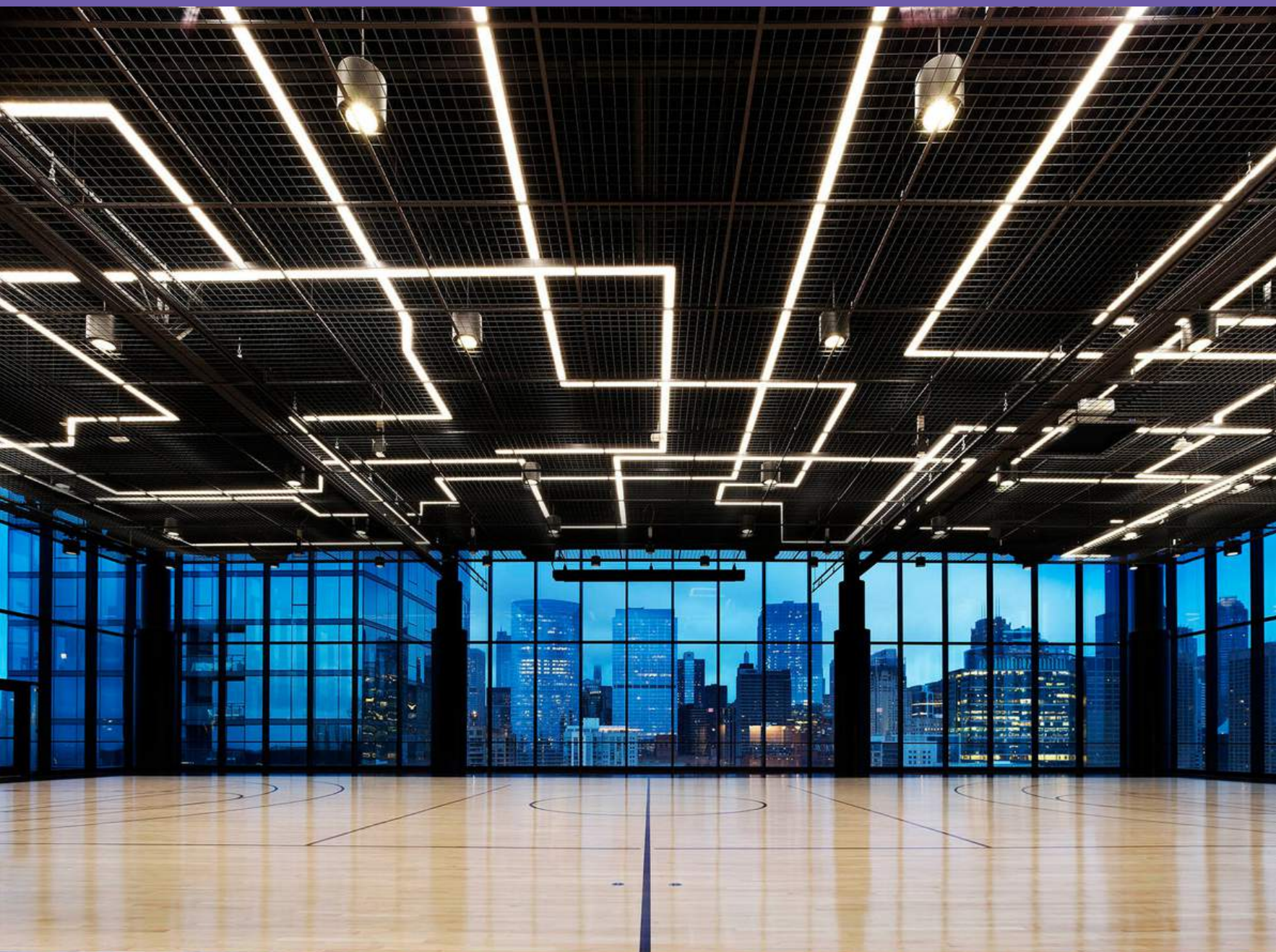
- Bring back fieldtrips
- More info to come





# Showcase

- April 27th @ 167 Green Street
- Timing is likely 9:30 AM





Questions...



# Session 2: Mentor Matching Engine

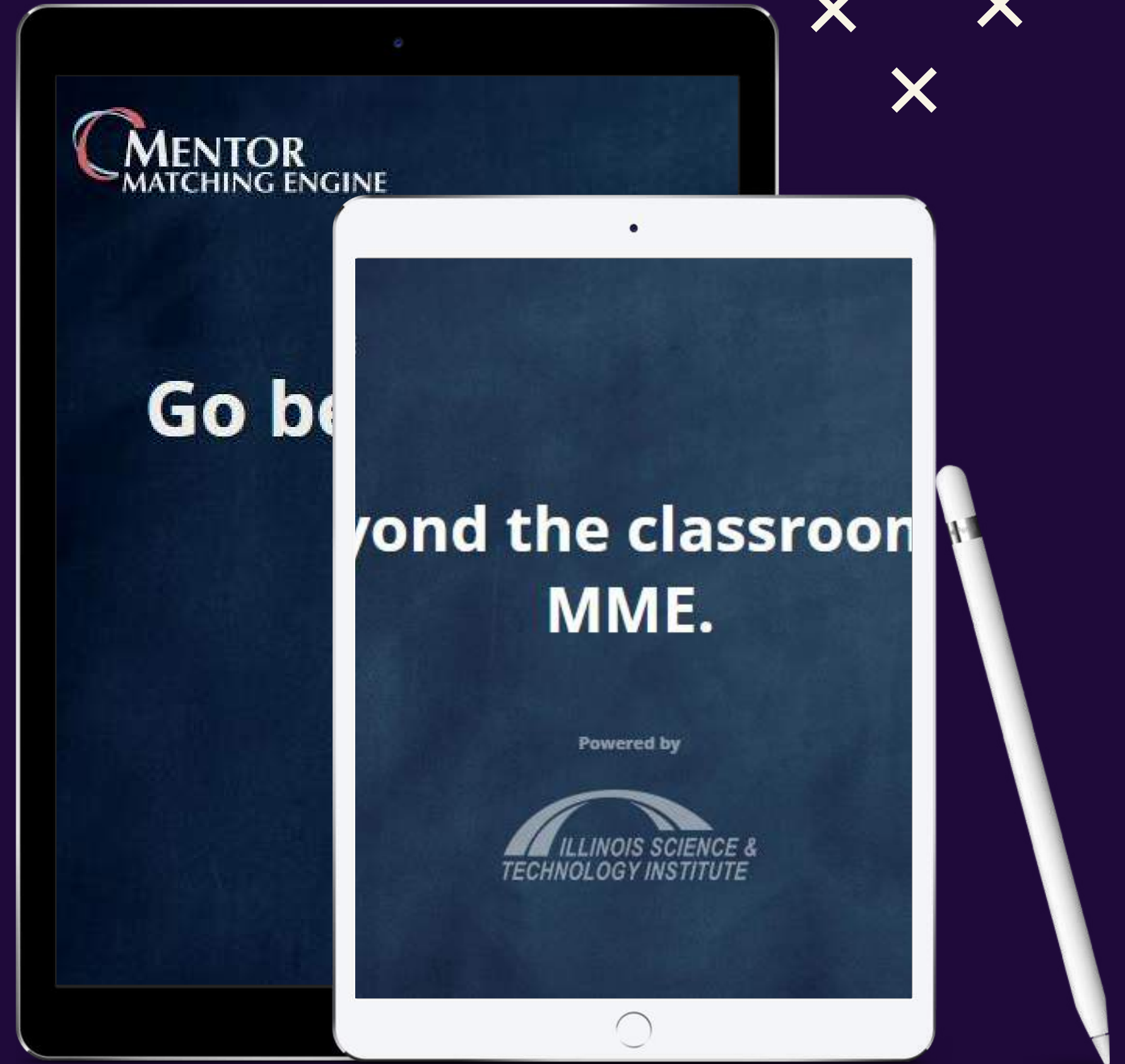
## Agenda

- Onboarding Refresher
- Video Conferencing
  - Benefits
  - Clarifying ISTC Policy
  - Resources



HOW?

# The Mentor Matching Engine

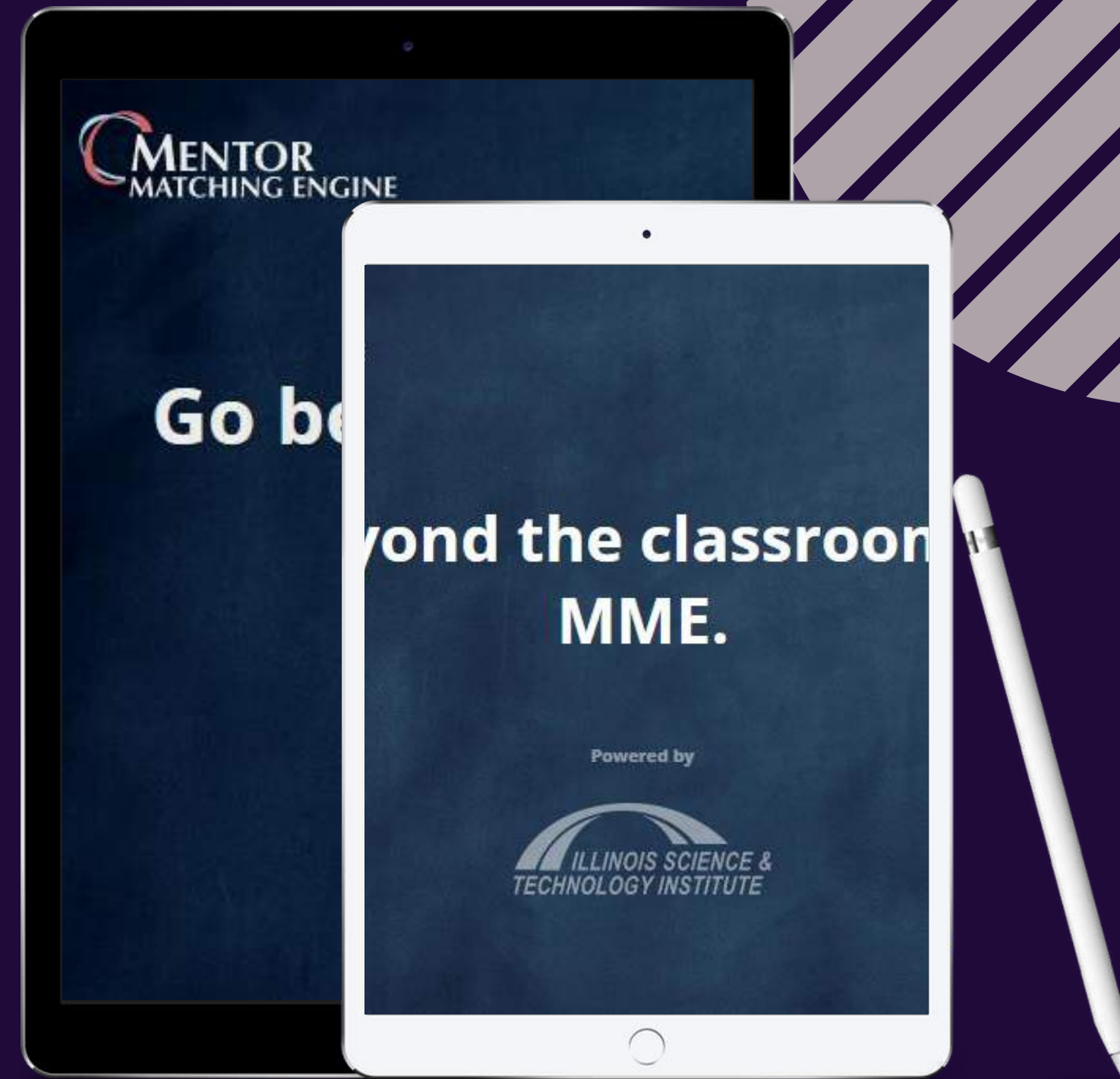


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Resource Alert : Onboarding Checklist



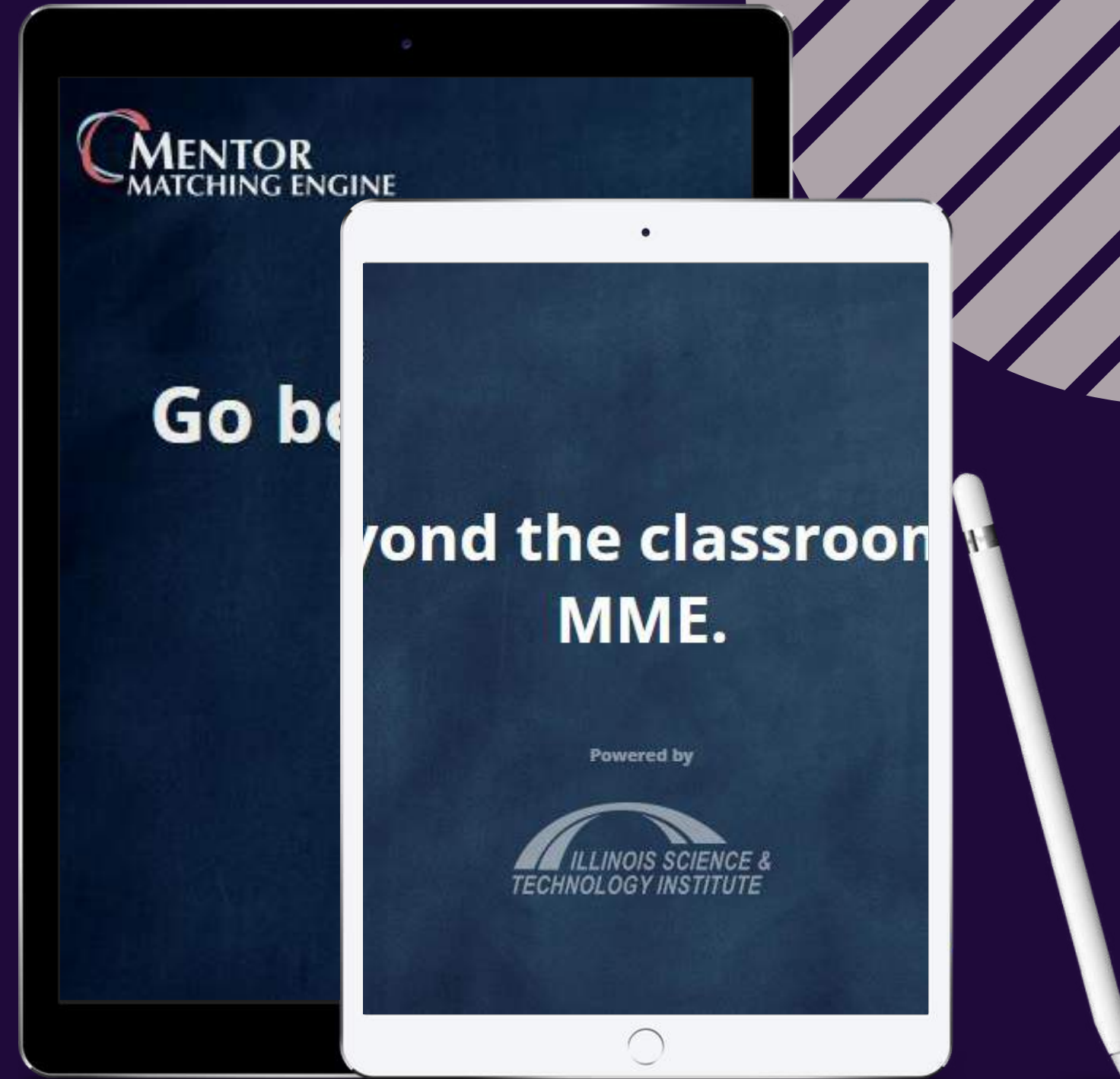
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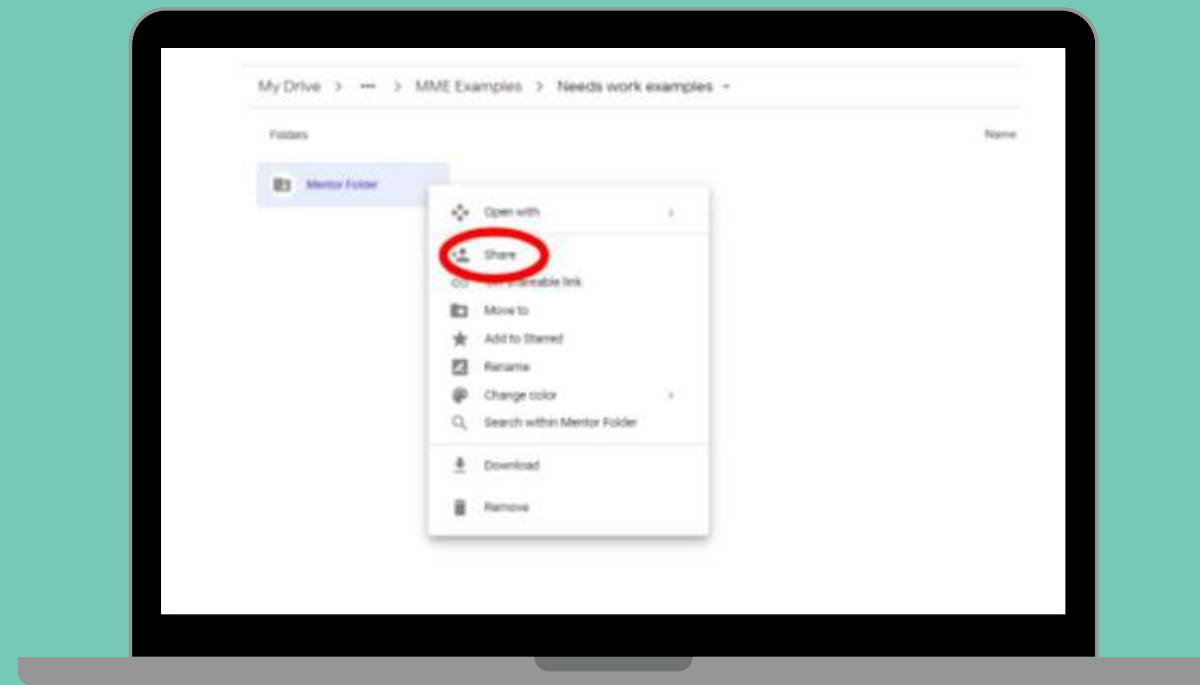
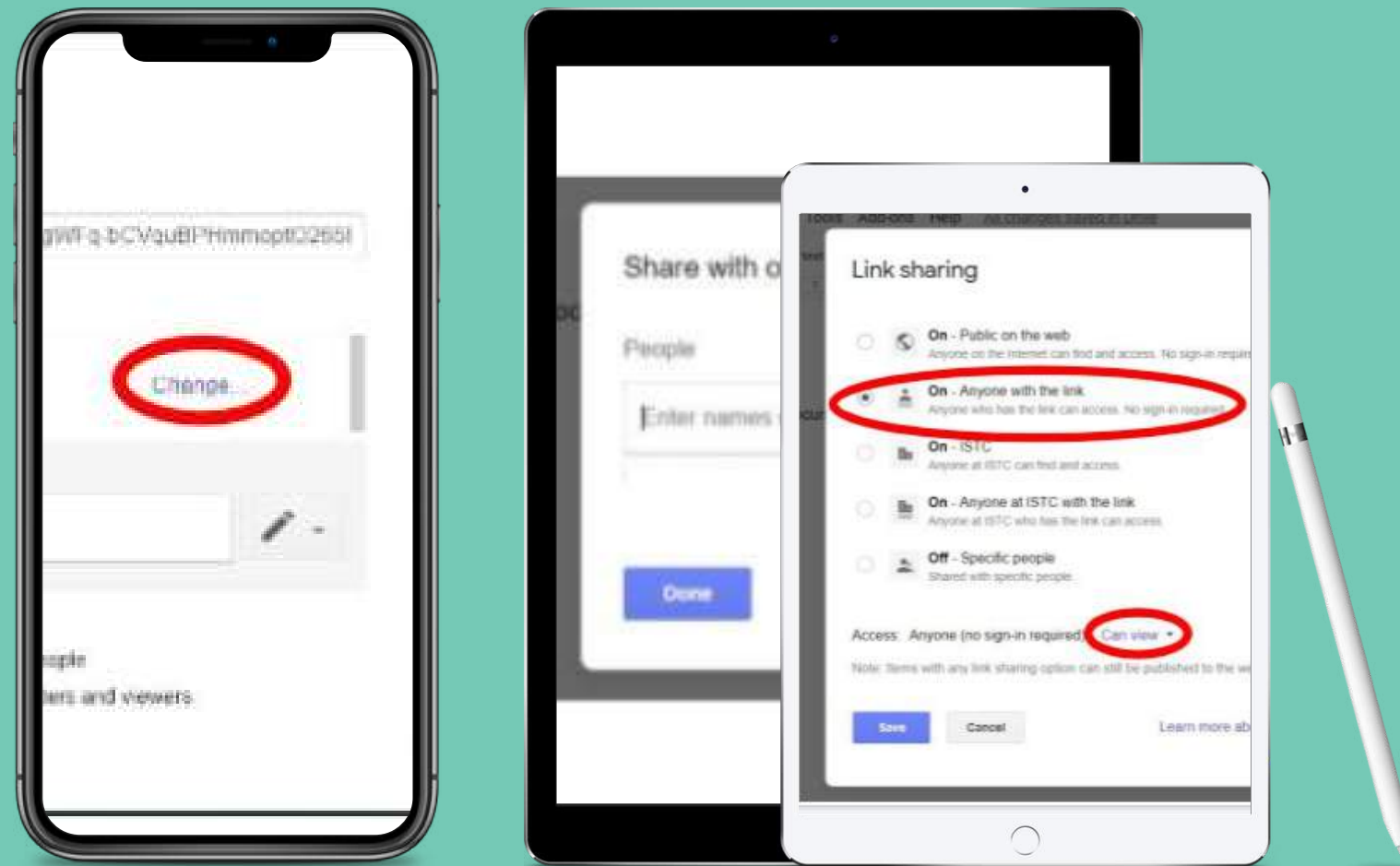
High Dosage Mentorship

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Best Student Outcomes

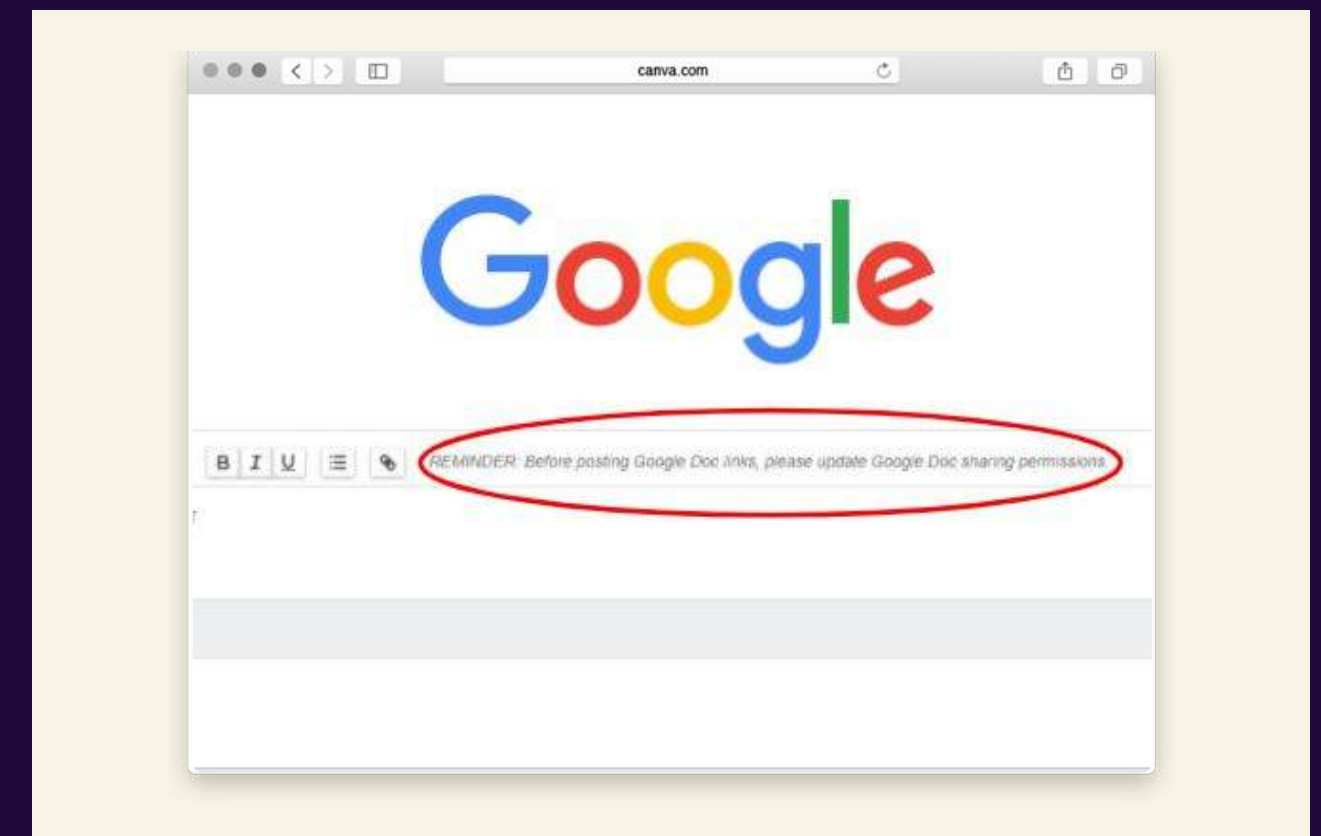






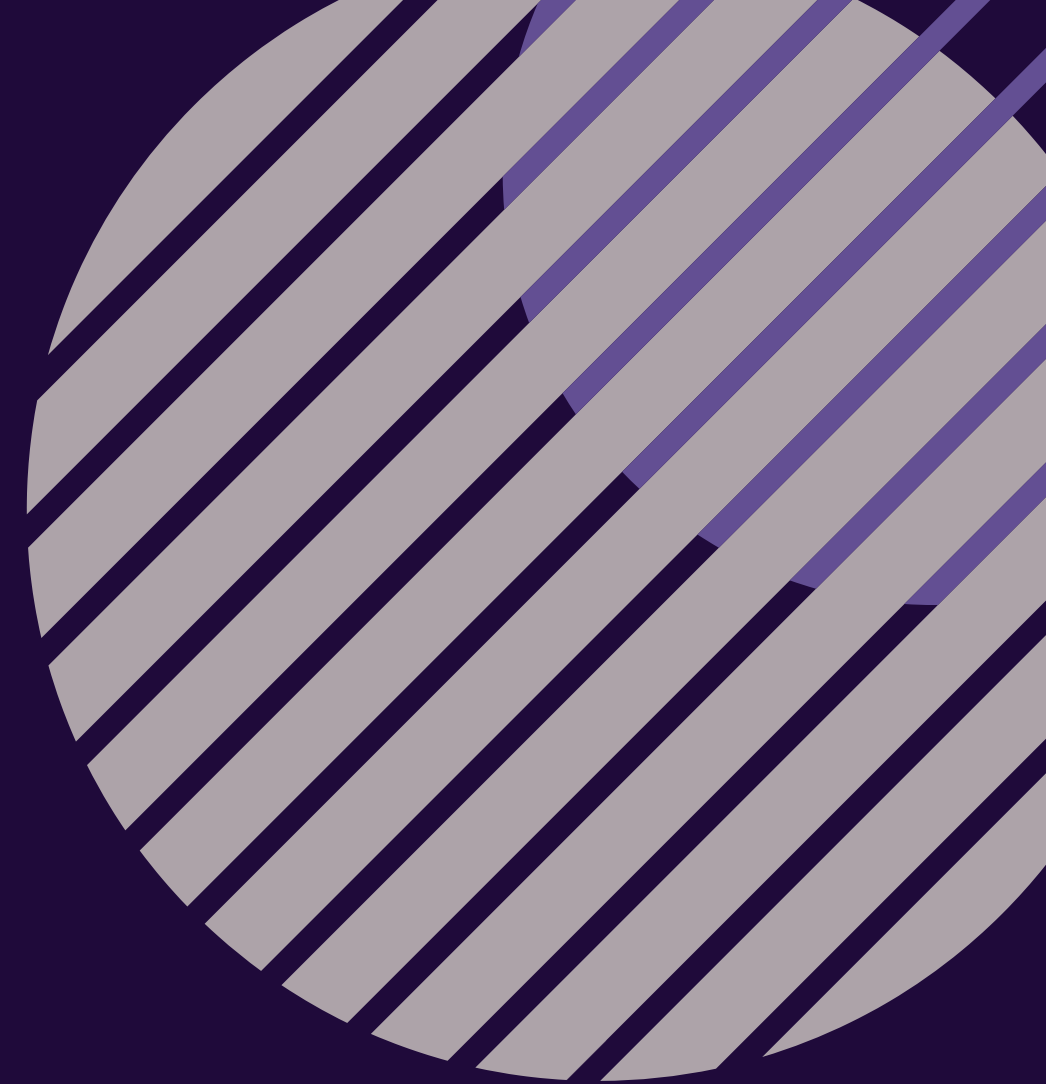
# Reminder

When posting links, PLEASE ensure that link sharing settings are set to "Anyone with the link can view".



# Video Conferencing

- Schedule one right away
  - Breaks the ice
  - Gets the ball rolling
  - Leads to more touchpoints ,deeper connection,  
better outcomes



# ISTC Video Conferencing Policy

- **Safety**

- No Personal Emails
- Teacher must be present
- Put the link on the discussion tab for students/mentors to access.

- **Platforms**

- What works best for your classroom
- Prefer MME
- Won't stand in the way of google meets
  - particularly for block scheduling

- **If preference is Google Meets**

- No Student Emails should be shared!
- 1 recurring meeting link for each group.



# Starting off Strong



## Ask in the first post.

- Give the next 3 class times available and ask which works best for them
- 15-30 minutes



## Meeting Link Sheets (Google Meets)

- Organize Meeting links for convenience



## Calender Invites

- Put a calender invite on your calender.
- ISTC can help invite mentors.
- Mentors accept or reject - see who is available



## When it doubt, Ask for Help

- ISTC is here to support!





# Resource Alert: Normal Weekly Schedule

	A	B	C	D
1	Team	Mentor Name	Time	Google Meets Link
2	** Enter the Group/Project Names. Link the project from MME for convenience.	**Populate mentors	**Class time in which students will be available to video conference	*Recurring Meeting Link
3	<u>Group 1</u>			
4	<u>Group 2</u>			
5	<u>Group 3</u>			
6	<u>Group 4</u>			
7	<u>Group 5</u>			
8	<u>Group 6</u>			
9	<u>Group 7</u>			
10	<u>Group 8</u>			
11	<u>Group 9</u>			
12	<u>Group 10</u>			
13				

# Resource Alert: Block Schedule

Team	Google Meets Link	Mentor Names	Date 1	Date 2	Date 3	Date 4	
** Enter the Group/Project	*Recurring Meeting Link	**Populate mentors	**Class time in which students will be	**Class time in which students will be	**Class time in which students will be	**Class time in which students will be	**Class time in which students will be
<u>Group 1</u>							
<u>Group 2</u>							
<u>Group 3</u>							
<u>Group 4</u>							
<u>Group 5</u>							
<u>Group 6</u>							
<u>Group 7</u>							
<u>Group 8</u>							
<u>Group 9</u>							
<u>Group 10</u>							

Questions...





**Return at 11:15 for Breakout Session**



# Session 3: Breakout Sessions

**\*\*If you want to switch you session,  
let us know in the chat and we will  
put you were you need to go**

**Mapped Out for Success**

*OR*

**Process Journaling**

*OR*

**Designing Thinking Overview**

**Return at 1:00 for *Meet the Mentors Session***



# Session 4: Meet the Mentors

## Agenda

- Introductions
- Activity: Mock ups!
- Mentors and Teachers small groups
  - Discussion and Planning





Welcome

# WHO IS IN THE ROOM

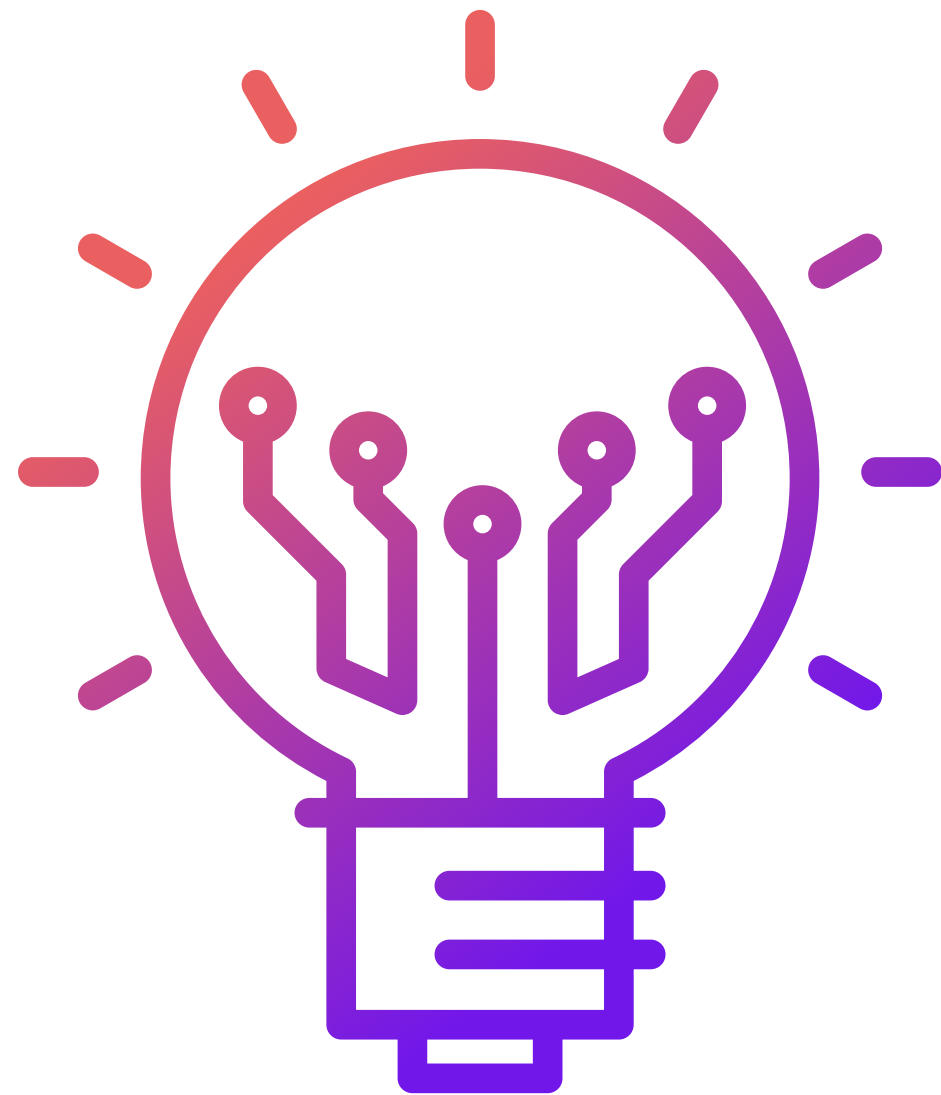
## Companies

- AbbVie
- Baxter International
- Caterpillar
- Caterpillar Digital
- CME Group
- Horizon Therapeutics
- Lenovo
- Microsoft
- Vistra

## Schools

- Chicago Tech Academy
- East St. Louis Sr. High School
- Gwendolyn Brooks College Preparatory Academy High School
- Lane Tech College Prep High School
- Lindblom Math & Science Academy
- Madison Senior High School
- Maine East High School
- North Chicago Community High School
- Perspectives/IIT Math & Science Academy
- Richwoods High School
- Richard T. Crane Medical Prep High School
- Solorio Academy High School
- Uplift Community High School
- Waukegan High School
- Williamsfield High School

# Game Time!



## MOCKUPS!

This game is a **fun, silly** way to begin to understand the **design thinking process**.

- **GOAL = BRAINSTORM**
  - Come up with different ideas
  - be creative.

There is no "**best**" solution here. So think outside of the box.



# Introductions

In Groups with Schools and Company Partners,

## Share:

- **Your Name and Pronouns**
- **Your School or Company**
- **Title**
- **Choose your icebreaker**
  - What was the longest flight you have ever taken?
  - What was your first concert?





# Mock Ups: Round 1

**In groups!**

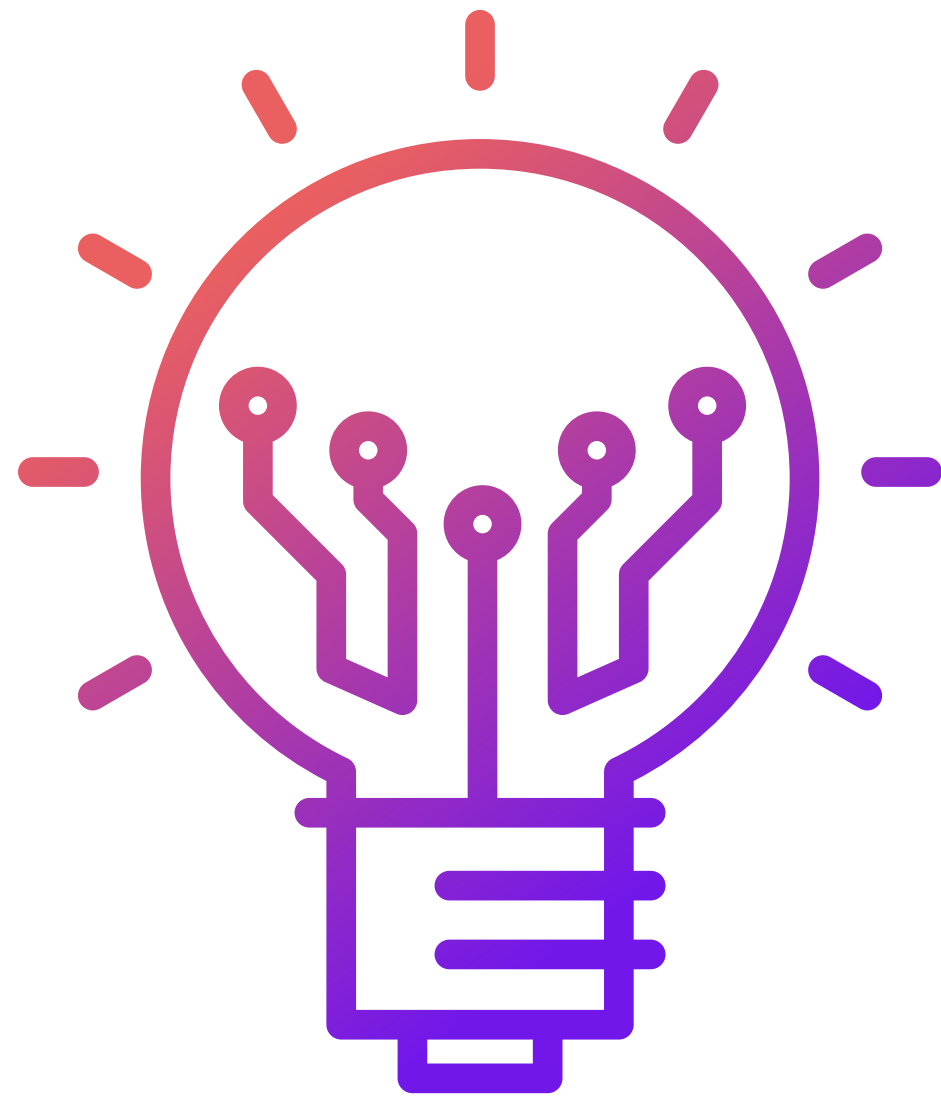
- User and Problem
  - 5 mins to come up with 10 ideas!



**Go!**

# Mock Ups: Round 2

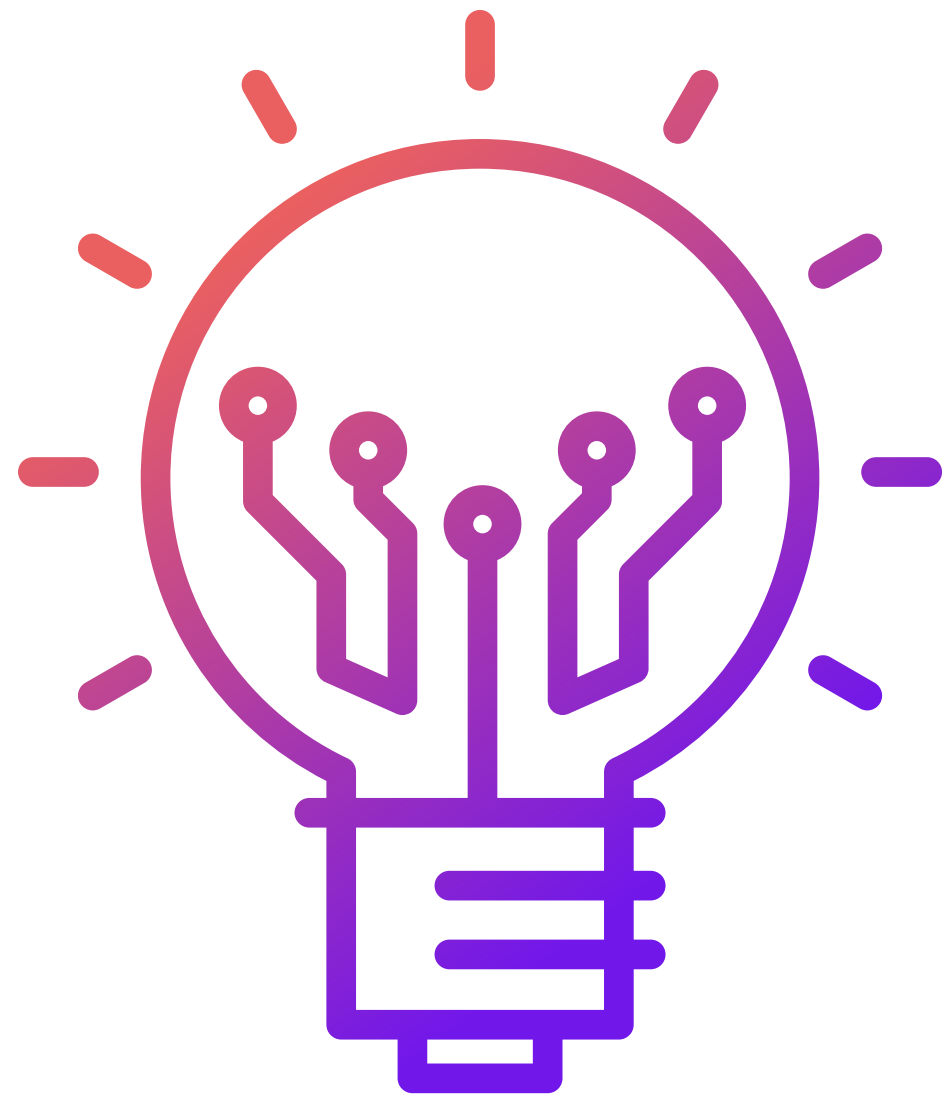
**In groups!**



- 5 minutes to discuss your ideas out loud with your group group.
- Work towards 1 idea to share with the room!



# Mock Ups: Round 2



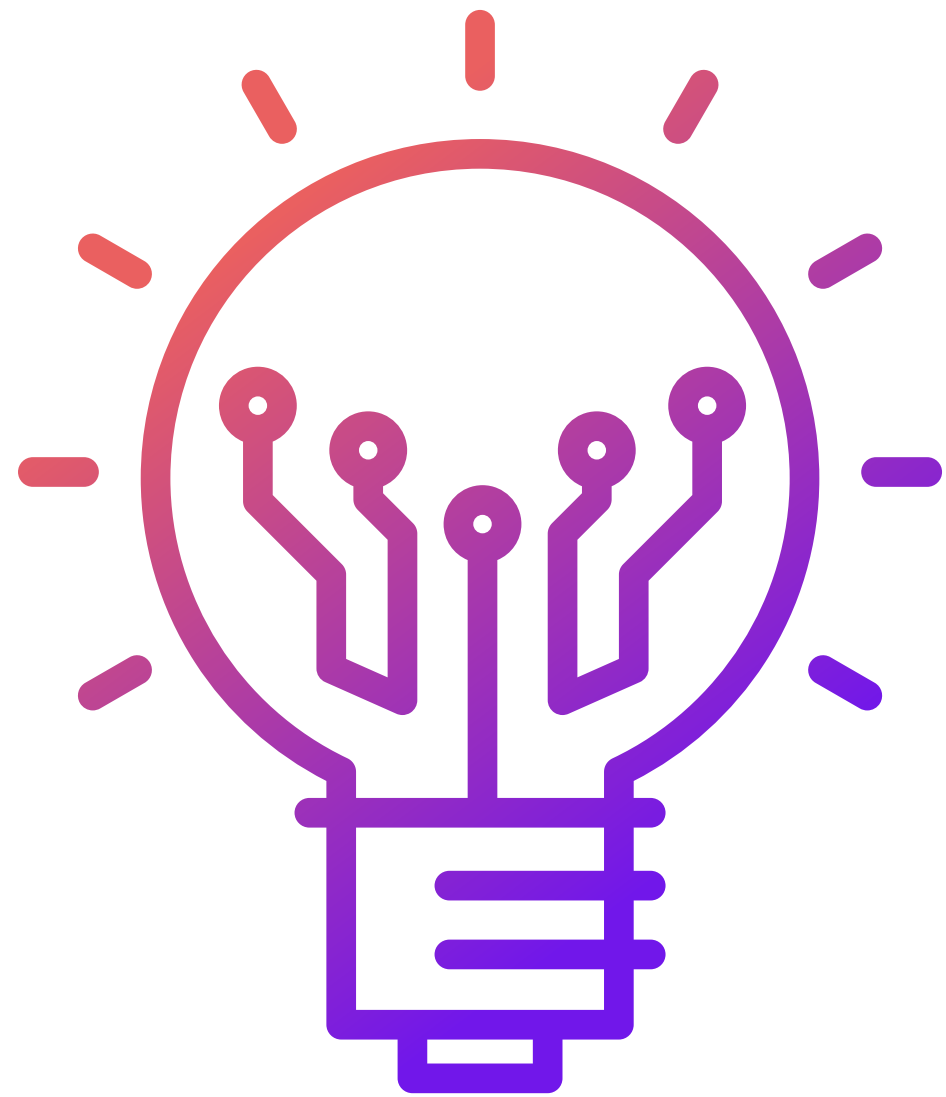
**In groups!**

Reflect

- What was helpful to group brainstorming?
- What was challenging?
- How did the group benefit you as an individual?

# Mock Ups: Round 3

## In groups!

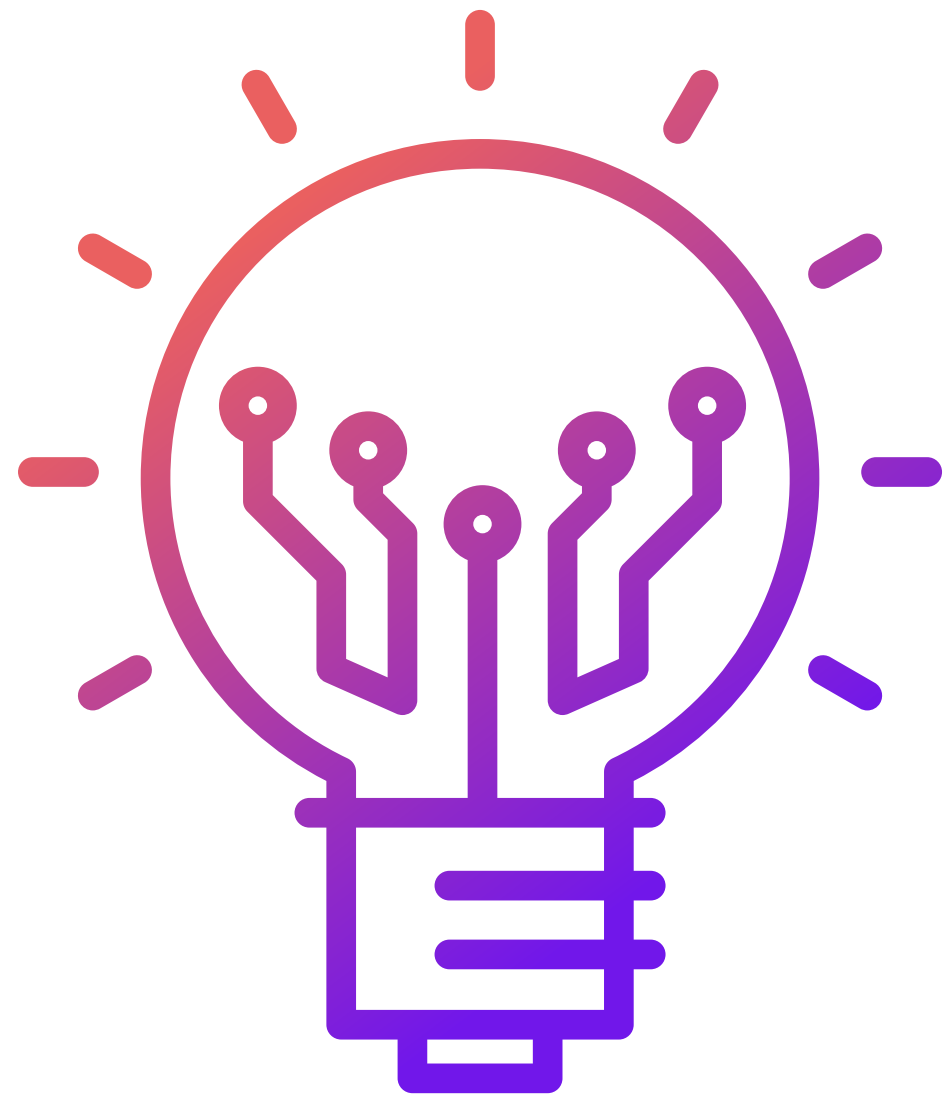


- Add the constraint!
- take 5 minutes to go back to the drawing board!
  - apply the constraint to your original ideas or come up with new ones
  - Select 1 idea to share with the room!





# Mock Ups: Round 3

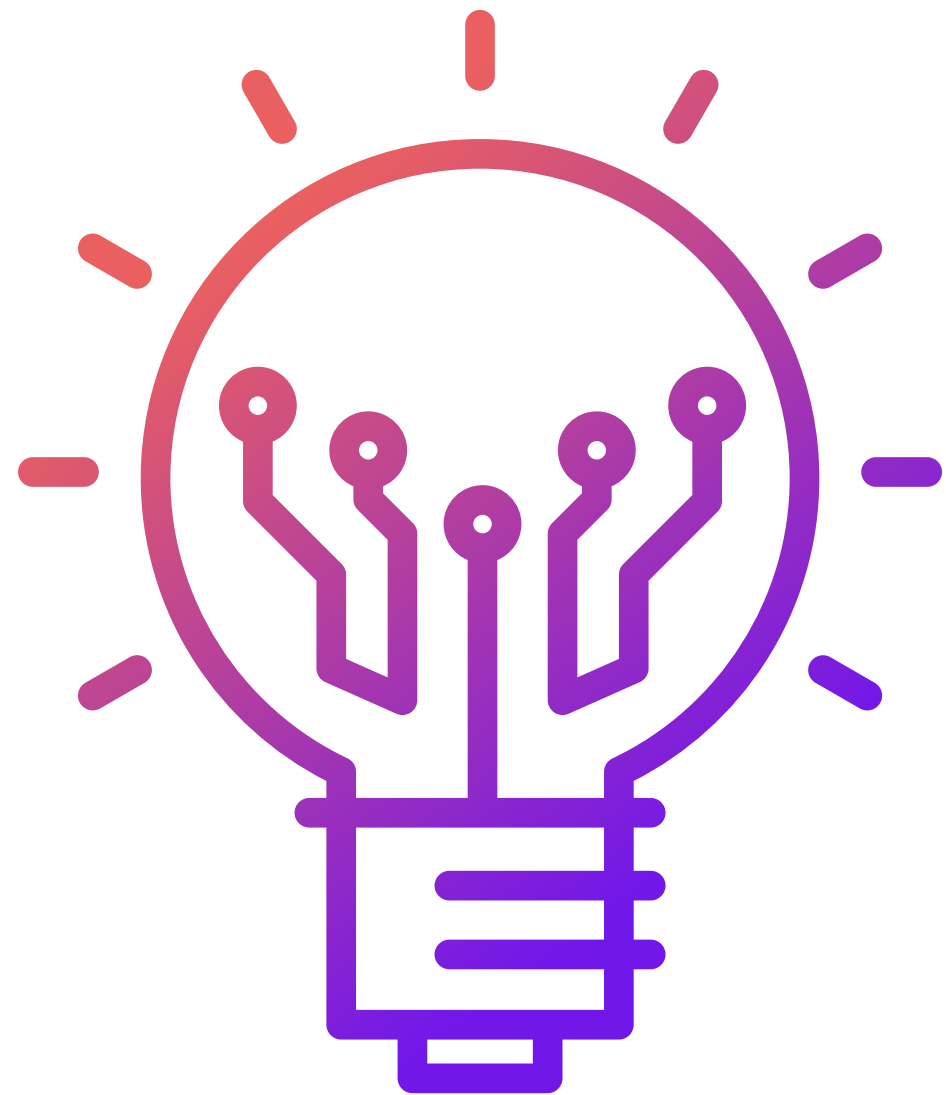


## In groups!

- Add the constraint!
- take 5 minutes to go back to the drawing board!
  - apply the constraint to your original ideas or come up with new ones
  - Select 1 idea to share with the room!

**Lets Hear Your Solutions!**

# Mock Ups: Round 3

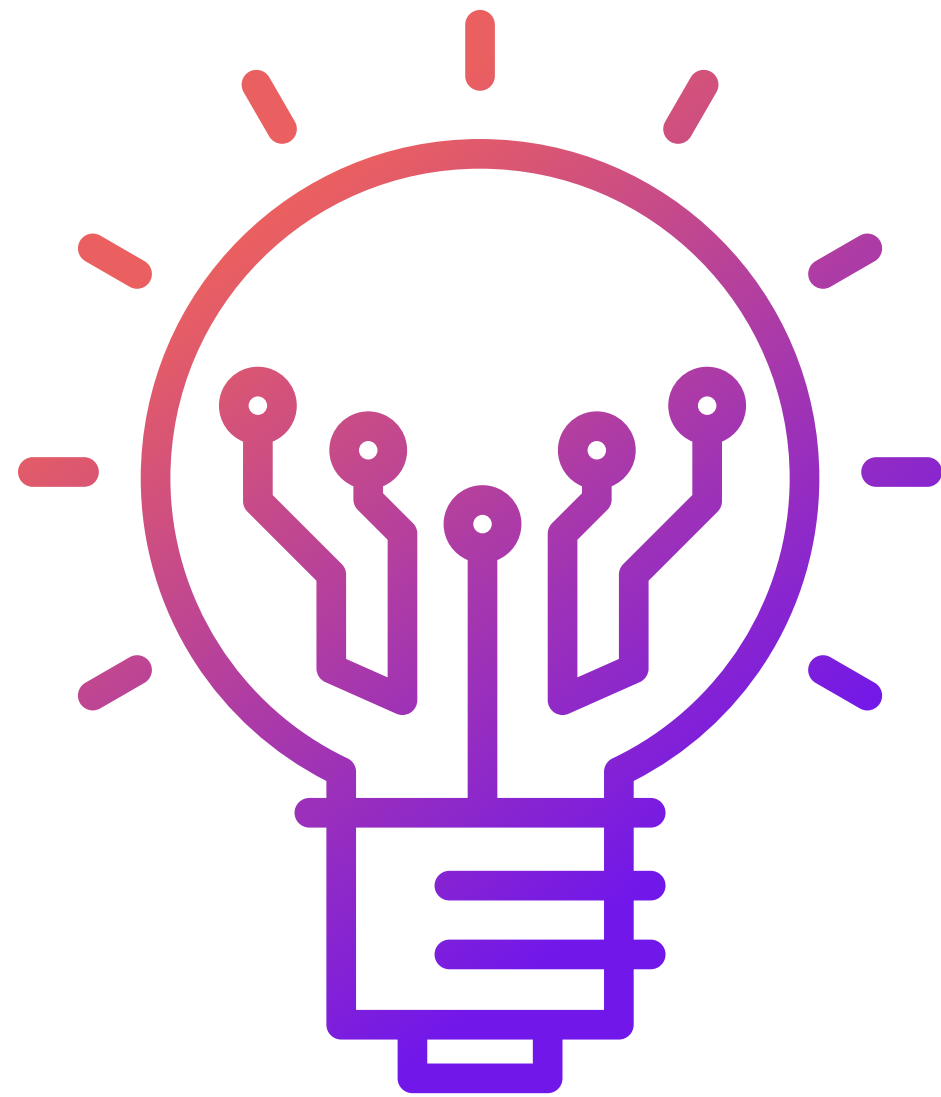


**In groups!**

Reflect

- How did the constraint impact your solutions?
- Did the constraint pose a challenge or offer an advantage?
- What was helpful?
- What was challenging?
- How did the group brainstorming benefit you as an individual?

# What is the point?



- Great way to think through the design process you'll be going through!
- It's all about **knowing, understanding, and empathizing** with your user.
  - What makes them unique? What brings them joy? Where do they feel challenged?
- Constraints can **help** us to narrow and focus in on what **will** work for the user.

**Just like with mockups, you may come up with ideas and then find out it won't work, or doesn't make sense for your particular user. And that's okay! It's all part of the process.**

# TALK WITH YOUR MENTORS

## Ask Mentors

---

What has worked well in past years?  
Are you able to come in person a few times?  
What is helpful to hear from the teacher/student right off the bat?

## Ask Teachers

---

What is your classroom like?  
What is the Schedule?  
What has been key in building a strong mentor-mentee connecting in the past year?  
What do you foresee as the biggest challenge or pain point for the upcoming year?



# SHARE

## Ask Mentors

---

What has worked well in past years?  
Are you able to come in person a few times?  
What is helpful to hear from the teacher/student right off the bat?

## Ask Teachers

---

What is your classroom like?  
What is the Schedule?  
What has been key in building a strong mentor-mentee connecting in the past year?  
What do you foresee as the biggest challenge or pain point for the upcoming year?



*Thank  
you!*

# Session 5: Wrap up and Next Steps

## Agenda

- Questions
- Announcements
- TLDR
- Next Steps
- Teacher Contract

Questions...







- **Student Advisory Board**

- Application are open! Due Oct 27th

- **Teacher PD Series**

- Improv for Creative Problem Solving with Creative Education Foundation
- AI EDU with The AI Education Project
- Trauma Informed/ SEL Practices with ISTC

- **Showcase**

- April 27th @ 167 Green Street

## Power Of 10



- **ISTC is celebrating 10 years of Impact**
- **Teachers have been and are instrumental**
- **We need your help**
  - **Campaign supports scholarships, transportation cost, etc.**



- COMMUNICATION
- COMMUNICATION
- COMMUNICATION
- We are here to help!

# NEXT STEPS

## **Step 1: Teacher Contract Form**

- Due before you log off today!

## **Step 2: Planning a Kick-off Form**

- Due November 16th

## **Step 3: Onboard students to MME**

- In approved groups on MME 1 week before Kick-off



**EXIT TICKET:**

**TEACHER  
CONTACT**

