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EDUCATION

Mapped Out For Success

Waukegan HS/ Baxter STEM Challenge
2022-23

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Baxter



Mapped Out For Success

Objective:

To share ideas about how to plan and execute an ISTC STEM Challenge.

Before we begin...

What brings you here?



WHS/Baxter STEM Challenge

Challenge Options:

1. As technology improves and patients become more active participants in their health, you are being tasked to create the Sharesource 3.0.
2. Expand Sharesource technology or alternative telehealth devices to personalize treatment for Diabetes and improve patient behaviors related to nutrition or exercise.
3. Create a home-based or portable device that can be used to filter water used in PD solutions.

Waukegan Participants:

- 3 Teachers
- 6 Anatomy and Physiology sections
- 120 students
- 24 projects



Begin with the end in mind.

STEM Challenge Objective:

Engage students in the process of design thinking.

Commitment Needed:

Two periods/week (47 min each) for 12 weeks.

WHS STEM Challenge Timeline

JANUARY 10, 2022

Invite students to MME.

Kickoff Event

JANUARY 21, 2022

ISTC / Baxter mentors present STEM challenge to WHS students.

FEBRUARY 17, 2022

Phase 2: Define

MARCH 3, 2022

Phase 4: Prototype

MARCH 31, 2022

Assemble Presentation

ISTC Showcase

APRIL 28, 2022

ISTC STEM Challenge representatives share their winning designs.

JANUARY 14, 2022

Project Creation/Approval.

JANUARY 27, 2022

Phase 1: Empathize

FEBRUARY 24, 2022

Phase 3: Ideate
Mid-Program Experience

MARCH 18, 2022

Baxter mentors demonstrate how dialysis equipment is used.

WHS Showcase

APRIL 12, 2022

WHS students present their projects to ISTC staff and Baxter mentors.



Put the First Things First

- Kickoff Event
- Mid-Program Experience
- WHS Showcase
- ISTC Showcase



Kickoff Event

When? 1:30-3:10pm on Friday, January 21, 2022 (2 sessions)

Where? WHS-Washington Campus Auditorium

Who is going? WHS Students/Teachers (in person)

ISTC Staff (in person)

Mentors (in person/virtual)

Travel? Send parking information to ISTC Staff + Mentors

Food/Beverage? Bottled water

Who will pay for it? Science Department

Who needs to know/approve: Principal + Dept. Chair



Mid-Program Experience

When? 12:30-2:30pm on Friday, March 18, 2022 (2 sessions)

Where? WHS-Washington Campus Auditorium

Who is going? WHS Students/Teachers + ISTC Staff +
Mentors + Admin

Travel? Send parking information to ISTC Staff + Mentors

Food/Beverage? Bottled water

Who will pay for it? Science Department

Who needs to know/approve? Principal + Dept. Chair



WHS Showcase

When? 8:15am-3:10pm on Tuesday, April 12, 2022 (3 sessions)

Where? WHS Classroom 303 (+work order for tables/chairs)

Who is going? WHS Students/Teachers + ISTC Staff +
Mentors + Admin

Travel? Send parking information to ISTC Staff + Mentors

Food/Beverage? AM: Coffee/Donuts,
PM: JJ Sandwiches/Bottled water

Who will pay for it? Science Department

Who needs to know/approve? Principal + Dept. Chair



ISTC Showcase

When? 8:15 am-1:00 pm on Thursday, April 28, 2022

Where? Chicago Cultural Center

Who is going? 2 Teachers and 1 Student Team
(Admin? Family?)

Travel? Metra (AM: 6:30-7:30a; PM: 1:40-2:40p) +
Walk (20min from/to Oglevie)

Food/Beverage? Breakfast + Lunch provided by ISTC

Who will pay for it? Science Department

Who needs to know/approve? Principal + Dept. Chair



Before Our Kickoff...

1. **Invite students to Mentor Matching Engine (MME).**
(January/Start of Semester 2)
 2. **Form student groups (+ assign roles).**
 3. **Create Project Proposal** (team leader)
 - a. Project Description
 - b. Letter of Introduction (1 paragraph per student)
 4. **Approve Projects / Add Participants** (teacher)
- ★ **Invite Parents** (Parent Letter | ISTC Photo Release Form)
 - ★ **Background Research** Who is Baxter?



After our Kickoff...

Thursdays:

1. Check MME for mentors' feedback.
2. Students work on challenge.

Fridays:

1. Continue group work.
2. Video conference with mentors.
3. Weekly [MME post](#)

A screenshot of the Mentor Matching Engine (MME) website. The page has a dark blue background. In the top left corner, there is a logo for "Mentor Matching ENGINE". In the top right corner, there are links for "About", "Help Center", and "Contact Us". The main heading reads "Go beyond the classroom with MME." Below this, it says "Powered by ILLINOIS SCIENCE & TECHNOLOGY COALITION EDUCATION" with a logo consisting of three overlapping circles. On the right side, there is a white login box with the heading "Log In". It contains two input fields: "Email Address" and "Password". Below these fields is a checkbox labeled "Remember me" and a red "Sign In" button. To the right of the button is a link for "Forgot password?". At the bottom right of the page, it says "In collaboration with IMSA" with the IMSA logo.

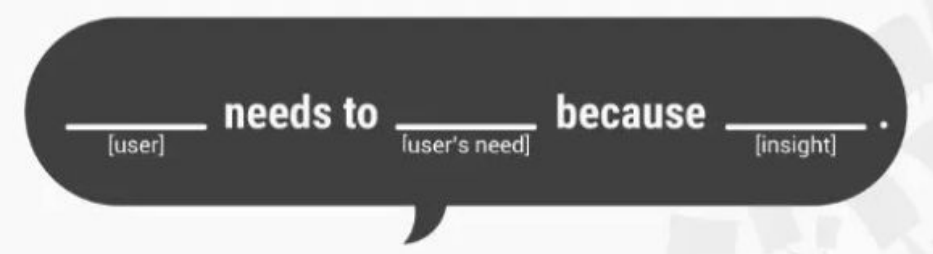


Phase 1: Empathize

Timeline	2-3 weeks
Instructor Scaffolds	<u>Phase 1 - Empathize Template</u>
Mentor Support	Probe students about depth of research.
When to move on?	Students can identify stakeholders, existing solutions, and unmet needs.



Phase 2: Define the Problem

Timeline	1 week
Instructor Scaffolds	<u>Phase 2/3 - Define/Ideation Template</u>
Mentor Support	Help students identify the user, their need(s) and why meeting it would be significant.
When to move on?	 A dark grey speech bubble containing the text: "[user] needs to [user's need] because [insight].". The words "user", "user's need", and "insight" are enclosed in brackets and positioned below their respective blank lines in the template.



Phase 3: Ideation

Timeline	1 week
Instructor Scaffolds	<u>Phase 2/3 - Define/Ideation Template</u>
Mentor Support	Probe students about how/why they narrowed down their choices the way they did.
When to move on?	Students select their Final Solution



Phase 4: Prototyping

Timeline	3 weeks (may need to revisit previous phases)
Instructor Scaffolds	<u>Phase 4 - Prototyping Template</u>
Mentor Support	Help students focus on how their designed product addresses the problem. Is it feasible?
When to move on?	The prototype solves the defined problem.



Preparation for WHS Showcase

Timeline	2 weeks
Instructor Scaffolds	<u>Phase 4 - Prototyping Template</u> <u>STEM Challenge: Presentation Rubric</u>
Mentor Support	Provide soft presentation feedback.



Preparation for ISTC Showcase

Timeline	1 week (2 weeks prior to ISTC Showcase)
Instructor Scaffolds	<u>STEM Challenge: Presentation Rubric</u> Access to recorded presentation Rubrics/feedback from WHS Showcase
Mentor Support	Provide soft presentation feedback.



If you have any questions, feel free to contact:

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