

Creating the initial AM-ME



Adapted Measure of Math Engagement Research Group,
August 16

Child Trends.

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Agenda

- Team Building
- Defining Math Engagement
- Creating the Initial AM-ME
- Gathering Input from Students and Teachers on Survey Items

Welcome



Quick Updates

Share some quick updates on the project progress and future happenings.



Norms and Expectations

Review and discuss norms and expectations.

Today's Objectives

1

Begin to define math engagement for the AM -ME research group.

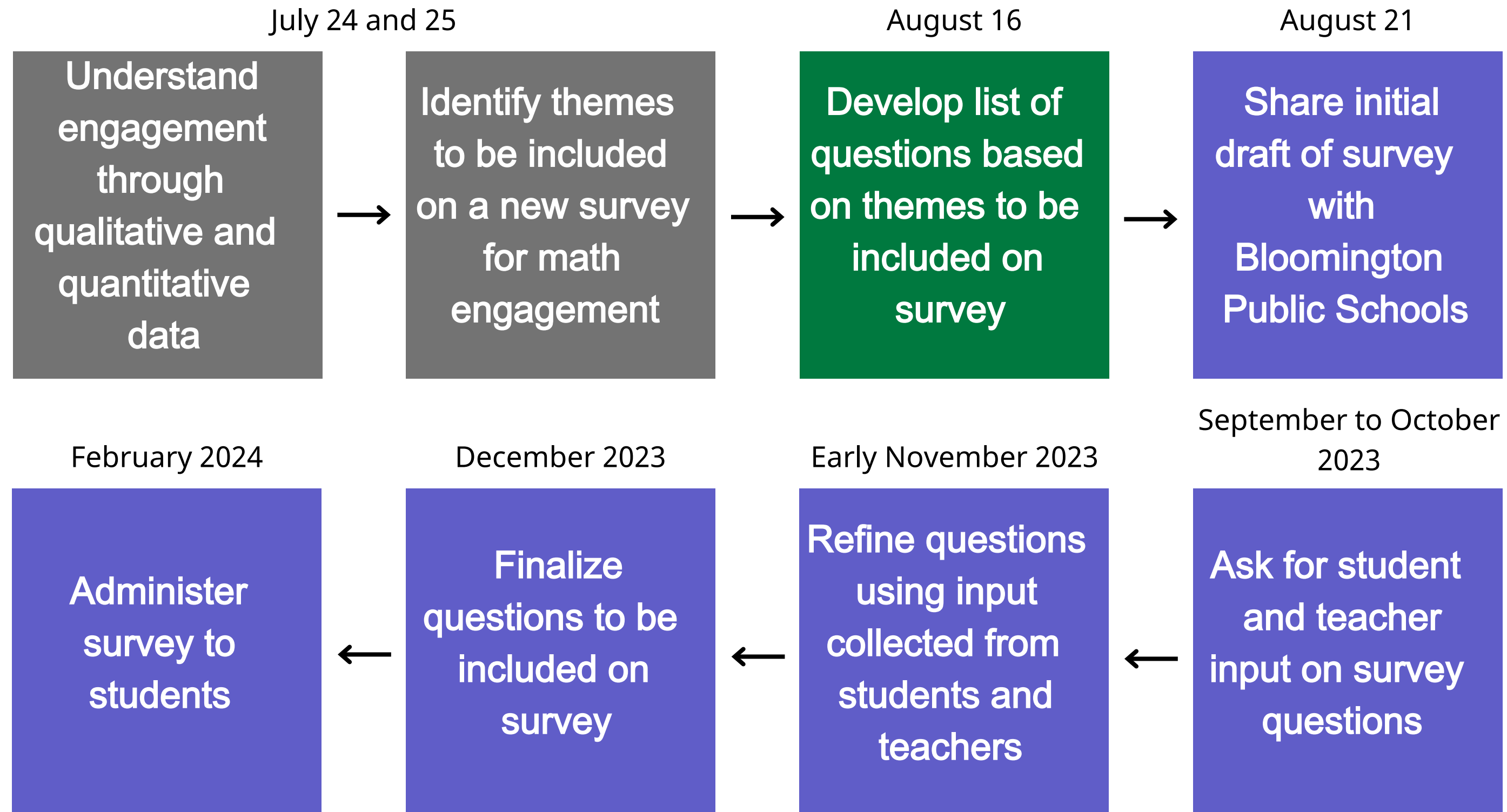
2

Begin to create the initial AM-ME.

3

Discuss how we will gather student and teacher input on the initial AM -ME.

What will this process look like?



Group Norms



Team Building



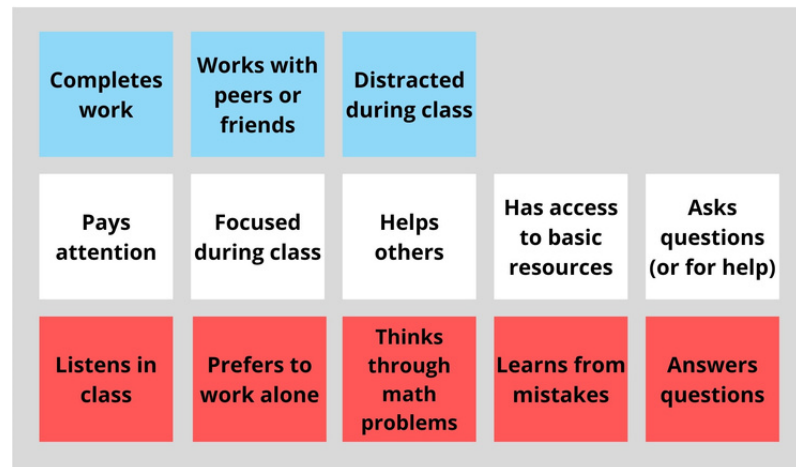
Get to know each other

Create space to get to know the members of the AM-ME Research Group.

DRAFT AM-ME Categories

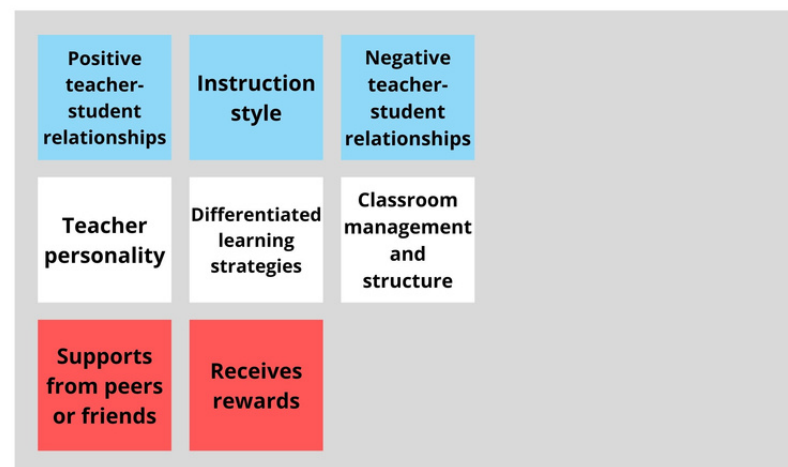
In Class Engagement

The ways in which students visibly show and teachers encourage engagement. These occur mostly in the classroom, but could also show up in study halls, afterschool programs, or at home when students are learning math. *This form of engagement contains ideas similar to behavioral, cognitive, and social engagement.*



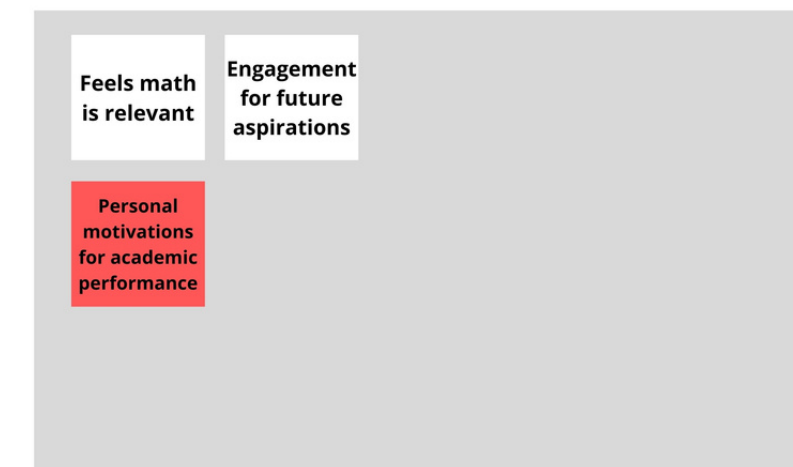
Classroom Culture

The ways in which classroom instruction, rules, norms, expectations, setting, and relationships shape engagement. These are often created by both students and teachers. *This form of engagement contains several ideas similar to social engagement. It is seen as a new dimension of engagement.*



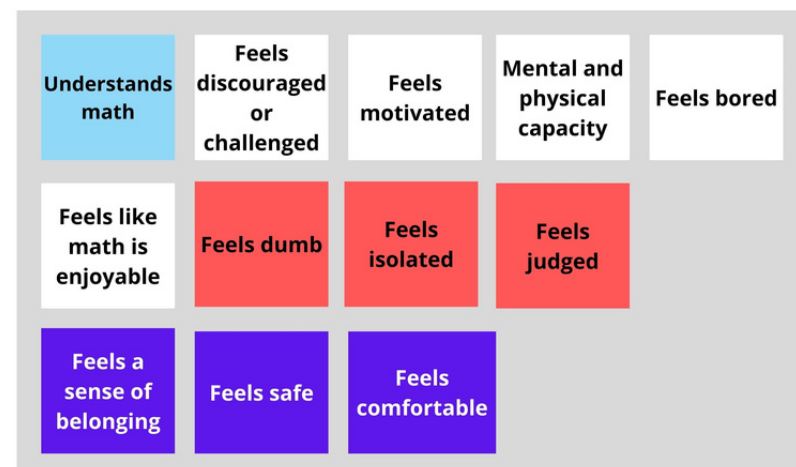
Future Aspirations

The ways in which students' future hopes and dreams (for example, ideas for success or future careers) shape engagement. While students may develop these independently of teachers, they can also be shaped by teachers. *This form of engagement is seen as a new dimension of engagement.*



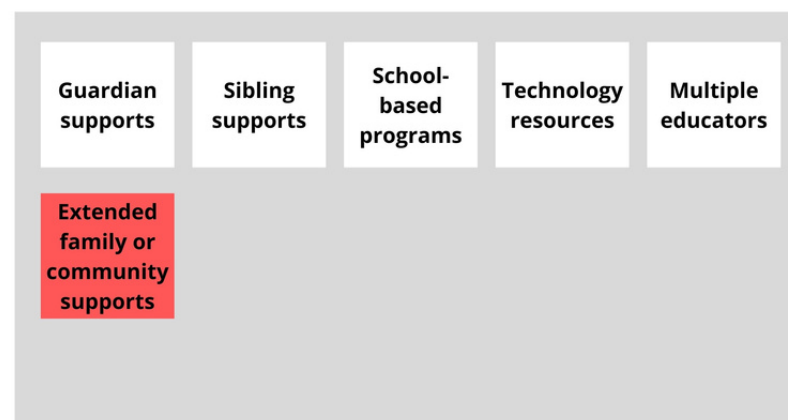
Feelings

The feelings students have towards math or their math classrooms that shape engagement. While these are held within students, they can be influenced by teachers and peers. *This form of engagement contains ideas similar to emotional engagement.*



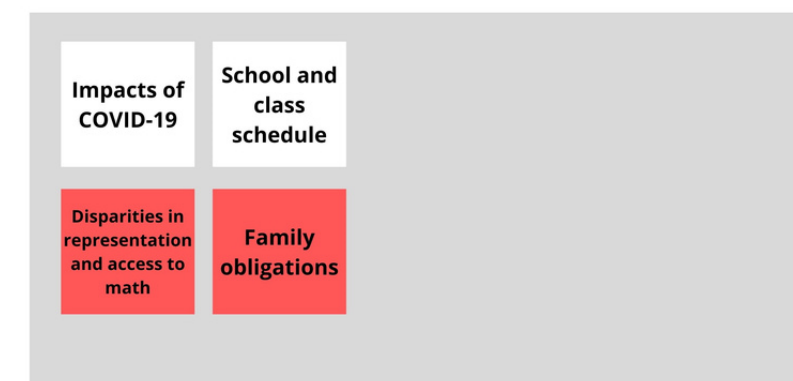
External Resources

The ways in which external resources (for example, family, programs, or technology) outside of the classroom shape engagement. These resources often support engagement. Students or teachers can choose to use them, if they are available. The availability of these resources is not necessarily controlled by students or teachers. *This form of engagement is seen as a new dimension of engagement.*

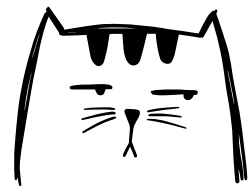


External Factors

The ways in which external factors (for example, school structure or family obligations) outside of the classroom shape engagement. These external factors are not controlled by students or teachers. These are often systemic barriers (for example, practices, events, or decisions that result in unequal access or exclusion for students) to engagement. These external factors often decrease engagement. *This form of engagement is seen as a new dimension of engagement.*



Team Building Activity



This doesn't
feel very
important for
math
engagement

In-Class Engagement



This feels very
important for
math
engagement!

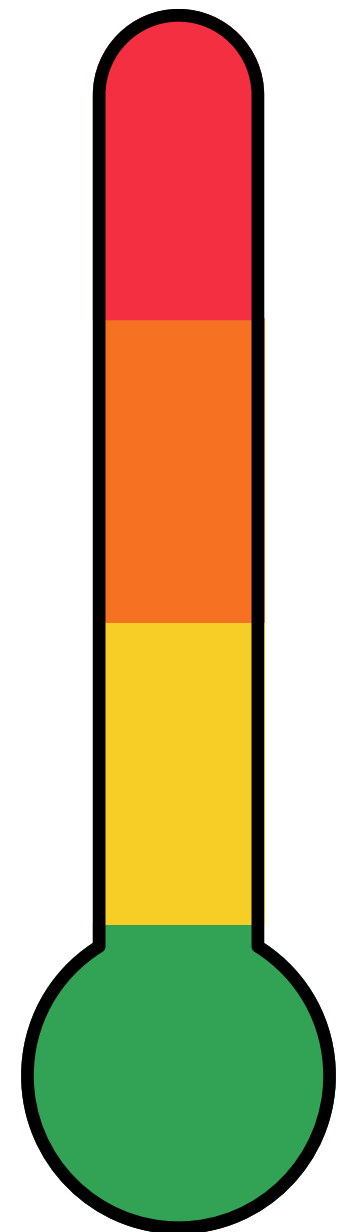


Find a partner near you and share:

- 1) Your name.
- 2) What was a highlight of your summer break?

Team Building Activity

Classroom Culture



This is a really important category of math engagement

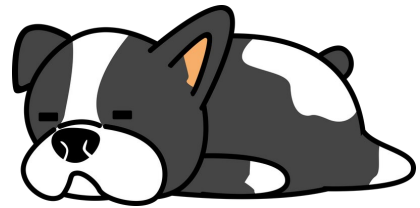
This is not as important as other math engagement categories

Find a *new* partner near you and share:

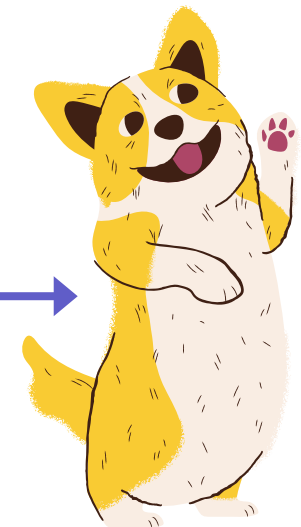
- 1) Your name.
- 2) On a scale of 1-10, how much do you enjoy back to school shopping?

Team Building Activity

Future Aspirations



This doesn't
feel very
important for
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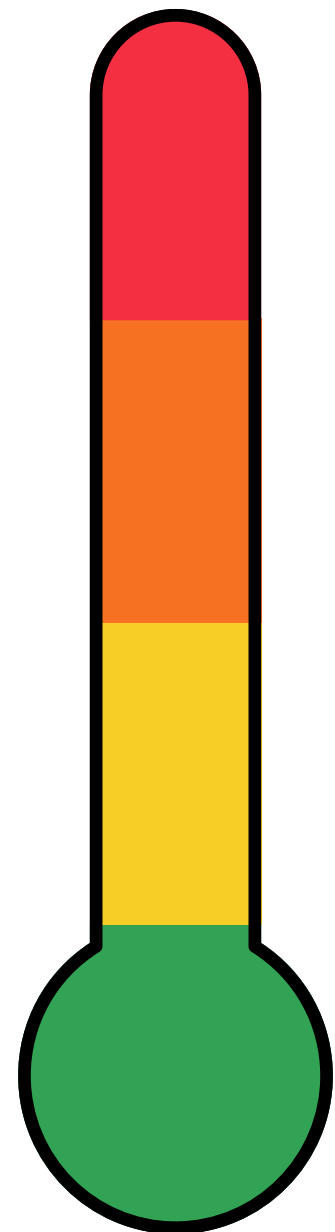
This feels very
important for
math
engagement!

Find a *new* partner near you and share:

- 1) Your name.
- 2) What is your favorite lunch to eat during the school year?

Team Building Activity

Feelings



This is a really important category of math engagement

This is not as important as other math engagement categories

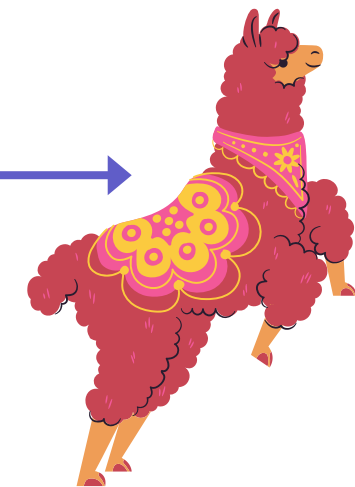
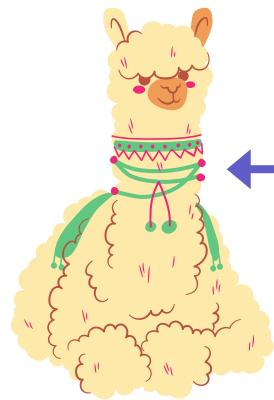
Find a *new* partner near you and share:

- 1) Your name.
- 2) If you had to eat one thing for the rest of your life, what would it be?

Team Building Activity

External Resources

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feel very
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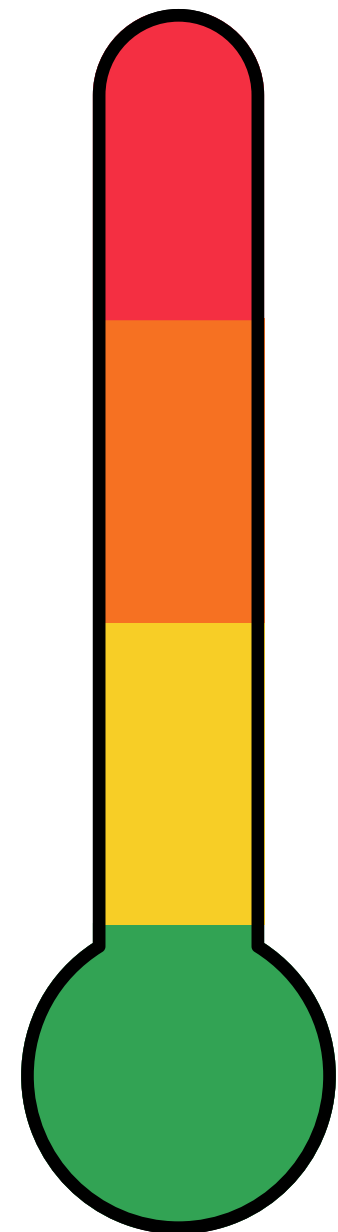
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Find a *new* partner near you and share:

- 1) Your name.
- 2) What is your favorite sport (to play or watch)?

Team Building Activity

External Factors



This is a really
important category of
math engagement

This is not as important
as other math
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Find *someone you haven't talked to yet* and
share:

- 1) Your name.
- 2) Beach or mountains?

Let's Define Math Engagement



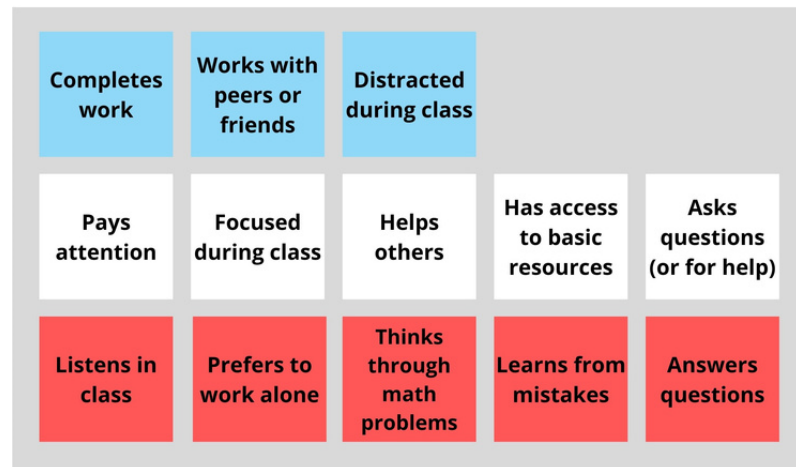
How are we defining math engagement?

Let's begin to define math engagement for us as a team!

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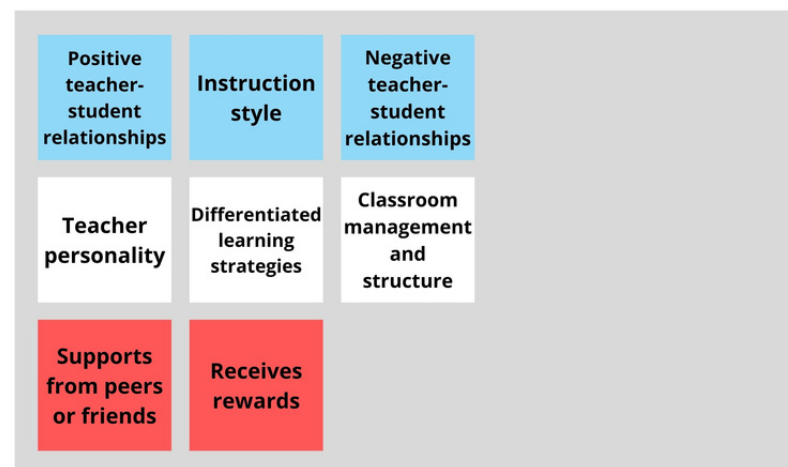
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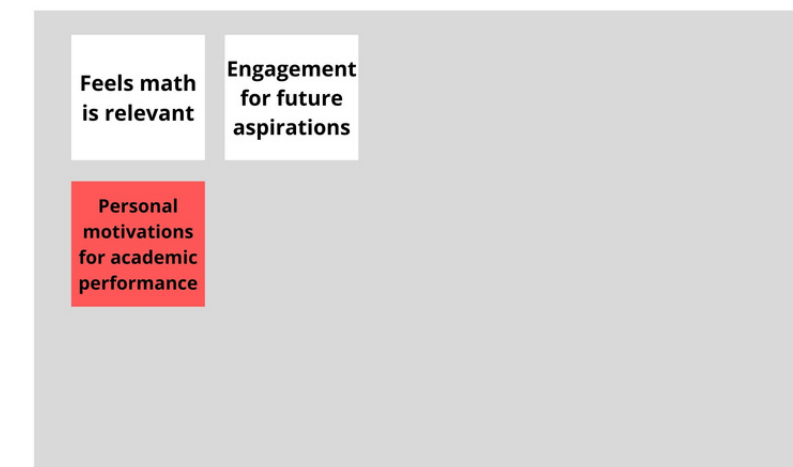
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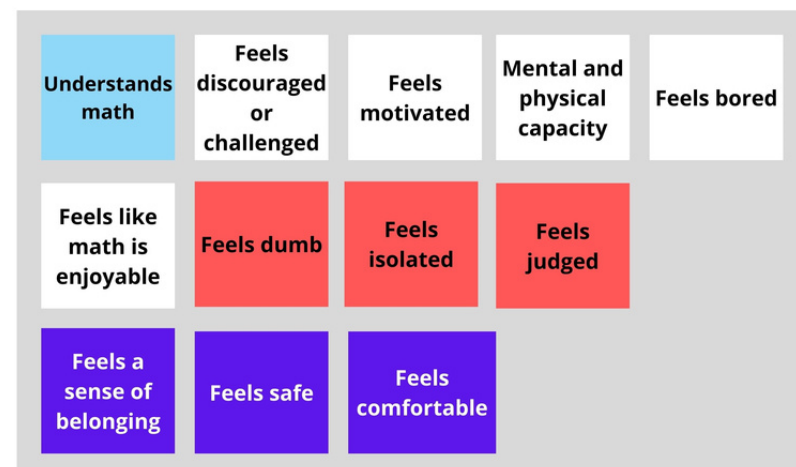
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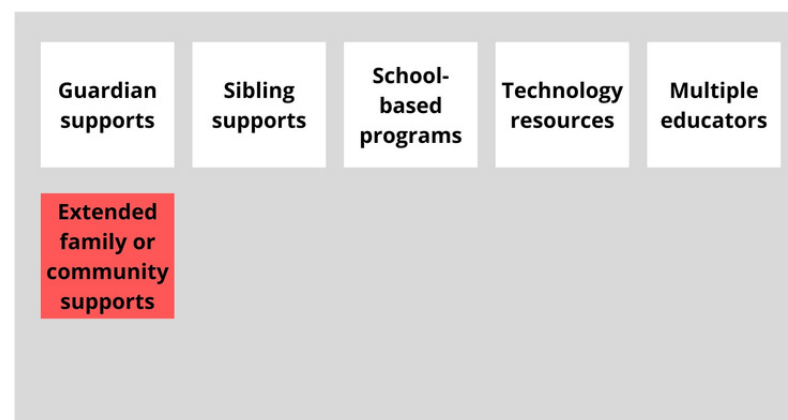
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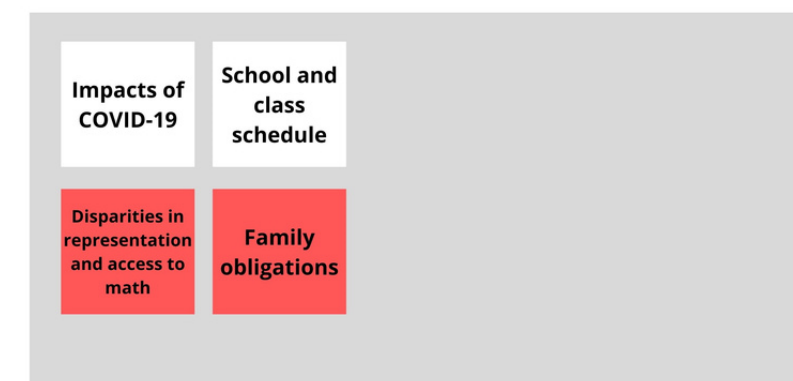
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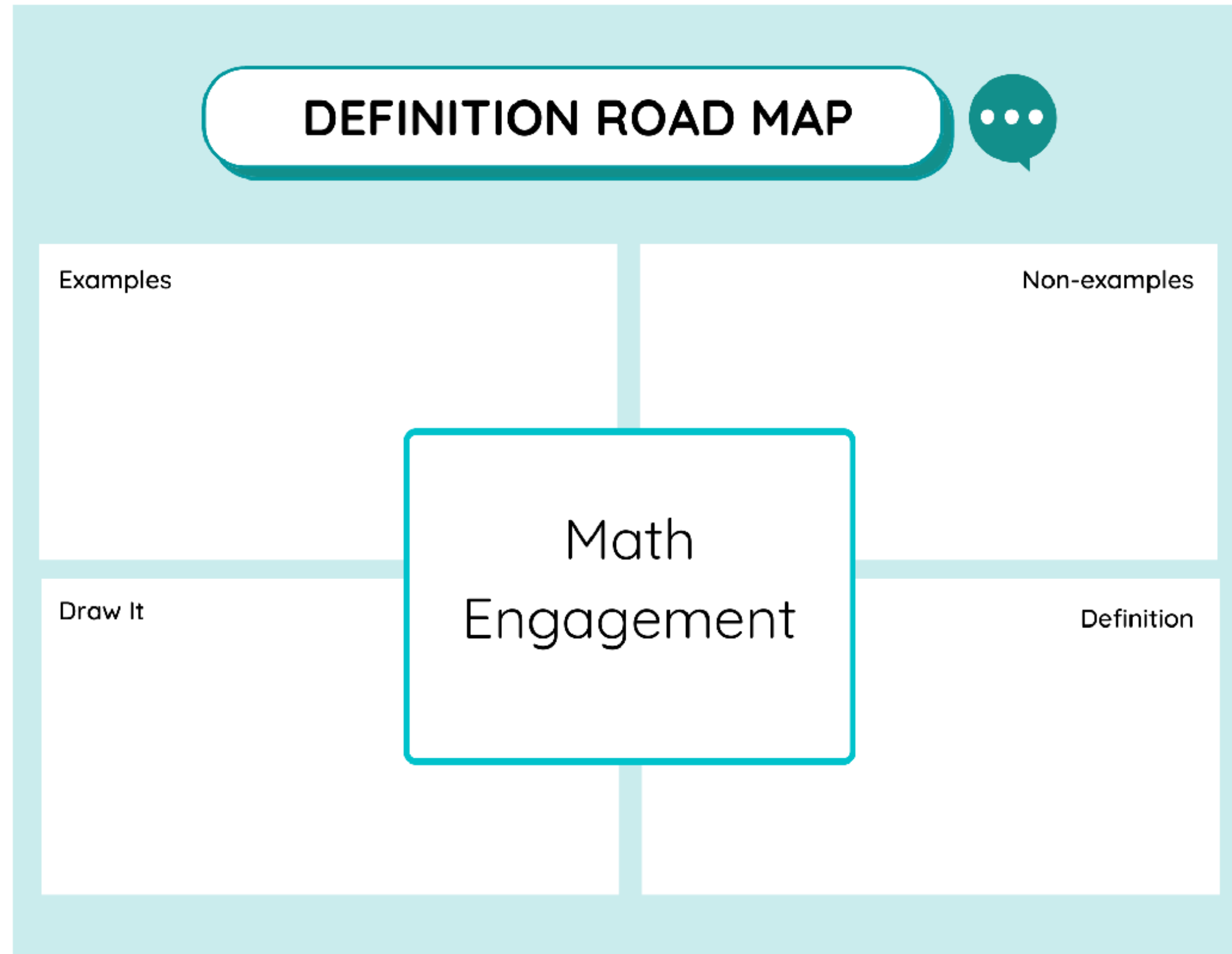
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Activity Sheet

We will use this model to guide our thinking to form a shared definition.





BREAK

Let's Start to Create the Initial AM-ME



Learning about survey design

We are going to begin by talking about survey design, such as types of questions and length.



Choosing items for the draft initial AM-ME

We are going to begin choosing items for the draft AM-ME that will be shared with Bloomington.

Why are we creating a new survey to start with?!?!

The “old survey” (the one with 38 questions that we did last time as homework) is how researchers typically measure how engaged a student is.

From talking to Bloomington students and teachers, however, we know that the survey is missing a few important things about engagement



For example...

We need to add things:

- Bloomington teachers talked about having basic resources as an important part of engagement, but the “old survey” asked nothing about basic resources.
- Bloomington students talked about ‘feeling judged’ as a barrier to engagement, but the “old survey” asked nothing about being judged.



For example...

We need to drop or revise things:

- In our last meeting, we broke into small groups and went through each of the questions on the “old survey” one by one. Each of you gave right ideas for how to make the questions better:
 - "I often like to be challenged in math class." --> "I enjoy solving hard math problems."

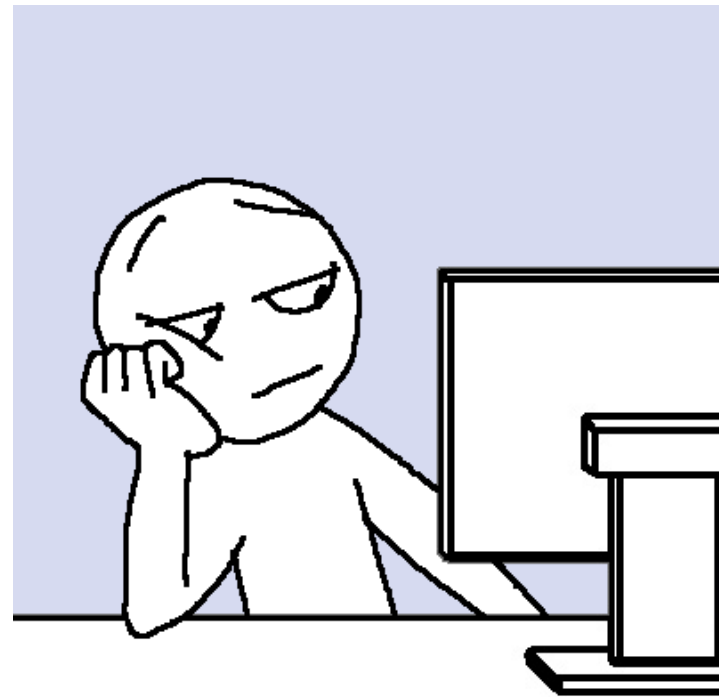


6 general guidelines for creating the new survey

1

Survey length:

We want a survey that can be completed within *15 minutes*, otherwise students will likely not take it, or be upset that it's too long. We need to cut around 25 questions out of the current 97 questions.



6 general guidelines for creating the new survey

2

Reverse coded:

We want some questions that ask about engagement, and some questions that ask about the opposite of engagement. This will help us catch people who say “strongly agree” for all questions.

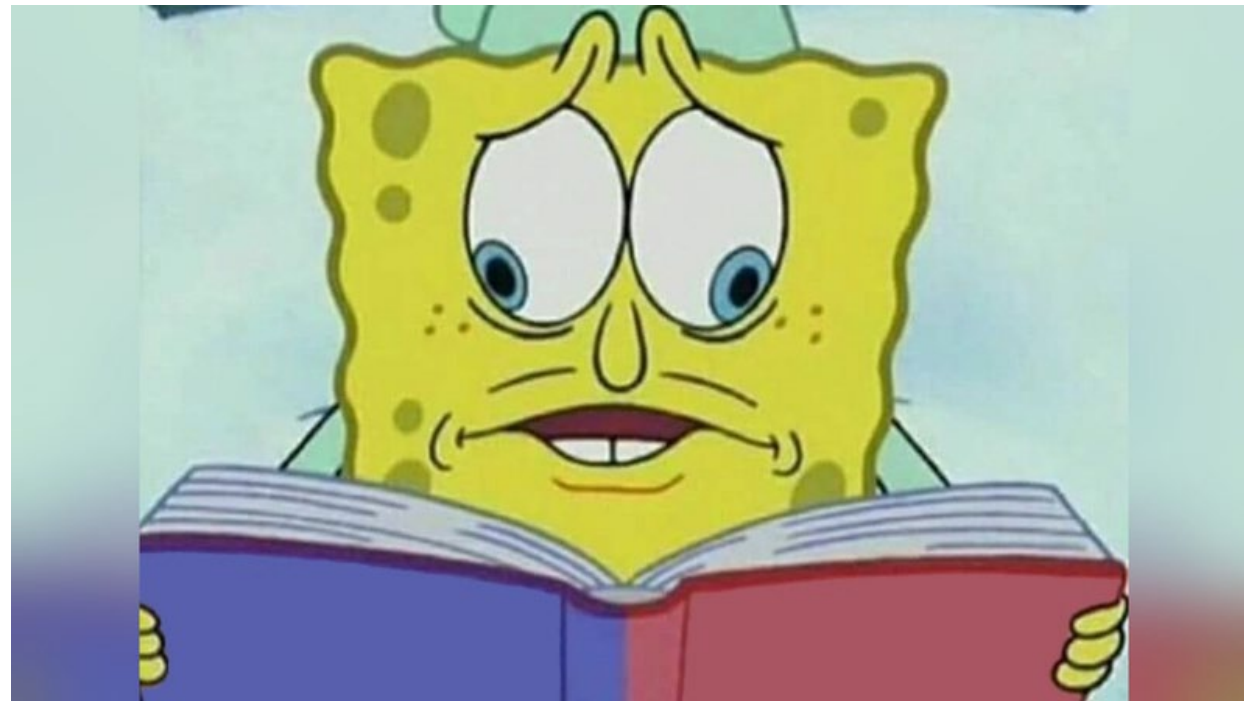


6 general guidelines for creating the new survey

③

Double barreled questions:

In the same questions, we don't want to ask two or more things that are actually different (for example, "I feel discouraged or challenged in math").

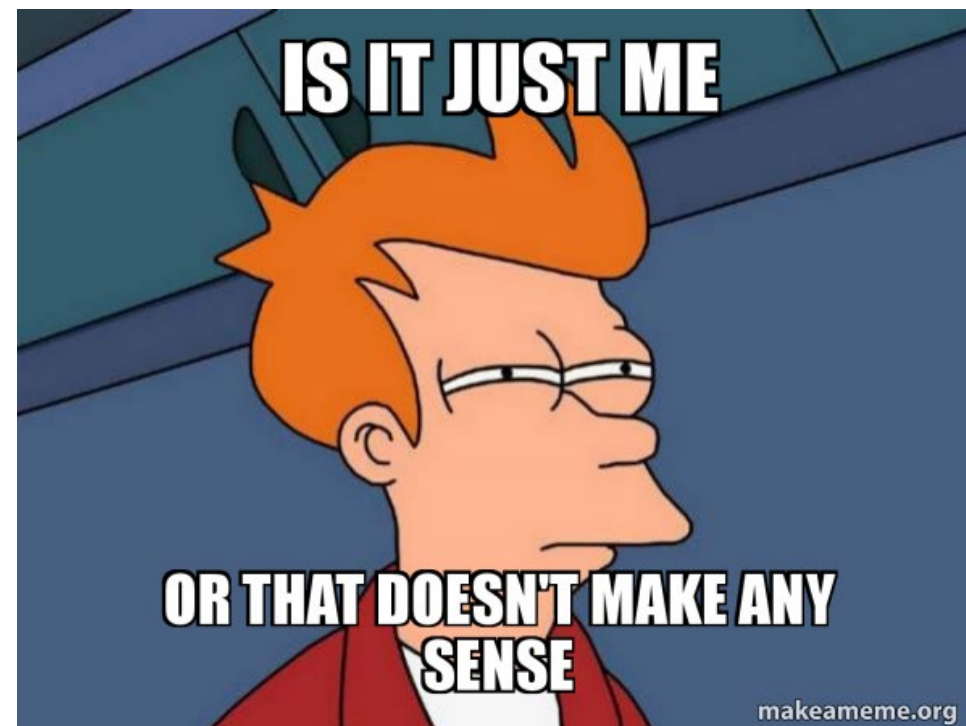


6 general guidelines for creating the new survey

4

Questions need to be specific enough for the people and place.

This survey will be used by Bloomington students and teachers, so we need to ask questions that make sense for Bloomington. *For example, is completing homework a good measure of engagement when homework doesn't count toward student's grade?*



6 general guidelines for creating the new survey

5

Need to cover some variations

We want students who are highly engaged in math to answer “strongly agree”, whereas we want students who are not as engaged to answer “strongly disagree”. If they answer the same thing, then we have a problem.

6 general guidelines for creating the new survey

6

Don't stress too much!

Creating a survey is not a simple task, we'll keep working on it, and there will be opportunities to gather more input (Sammy will talk more about this at the end of this meeting)!



Alright, let's start to create the initial AM -ME!

Since the last time we met, we reviewed all the engagement themes to identify if the “old survey” already had a question related to them.

Of the 42 themes, 16 already had questions related to them and 27 did not already have questions related to them.

For the **16 themes that already had questions**, we used your feedback from July 25 to revise these questions to make them better.
("I enjoy solving hard math problems")

For the **27 that did not have questions**, we reviewed previous research and the qualitative data to identify questions that are related to the theme.
("My math teacher listens to my ideas and takes them seriously")

This left us with **97 possible questions** across the six AMME Research Group Math Engagement Categories.

Alright, let's start to create the initial AM -ME!

Today, we are going to begin to review and revise the 97 questions to create the initial AM-ME!

Similar to how we did with the “old survey” on July 25. The purpose of this activity is to create the first draft of the initial AM-ME, or the “new survey.” We will continue to refine the initial AM -ME throughout the Fall.



Alright, let's start to create the initial AM -ME!

We will now divide into three groups:

- **In-class engagement + external factors** : [RG member names] *facilitated by Alyssa*
- **Classroom culture + External resources:** [RG member names] *facilitated by Diane*
- **Feelings + Future aspirations:** [RG member names] *facilitated by Sammy*

In your group, share what you think about each theme and its survey questions:

- Survey questions prompts:
 - *Is this survey question clear? If not, how can we make the survey questions better?*
 - *Should this question be removed?*
- Theme group prompts:
 - *How does this theme group help us understand math engagement?*
 - *Should this theme group be removed?*

Gathering Input from Students and Teachers on Survey Items



Input on the draft initial AM-ME

We are going to talk about how we are going to gather input to further refine the drafted initial AM-ME.

Ways to Gather Input

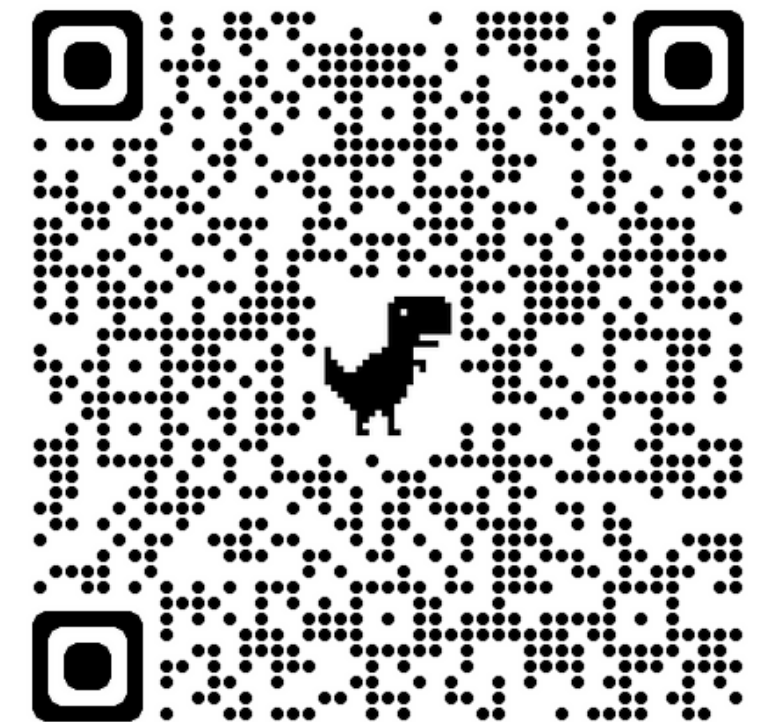
1:1 Conversations	Group Conversations	Electronic Feedback
<ul style="list-style-type: none">• 1:1 conversation• In-depth responses to specific questions• Many questions• Private – easier to ask about sensitive or controversial topics• Data analysis is more time consuming• Participants must complete at a specific point in time	<ul style="list-style-type: none">• Ideally 4 to 8 participants• Responses not necessarily in-depth• Fewer questions• Not private – can build community around shared experiences• Data analysis is more time consuming.• Participants must complete at a specific point in time	<ul style="list-style-type: none">• Ideally at least 10 participants.• Responses generally less in-depth• Many questions• Private• Takes less time to analyze data• Participants compete on their own time

Interest in Gathering Input

If you would like to gain experience collecting data, we would be excited to have you as part of that team. From September to October 2023, participation would include:

- One-hour small group meeting to develop an input protocol (i.e., how we are going to collect the input).
- One-hour small group meeting to learn how to collect input.
- One-hour creating recruitment flyers for gathering input from students and teachers.
- Two to five hours collecting input from students and teachers.

This is entirely optional and could be a fun learning experience! This would be covered in your current responsibilities as part of the AM-ME Research Group. For those who do not opt-in, we will have other tasks. If you would like to opt-in, sign up using the QR code.



Closing



Feedback for Us

Let us know what you liked and what you hope is changed for the next meeting.



Next Meeting

- Maybe September 25 & 26 (Monday & Tuesday) *after school*

Stay Connected



Diane Hsieh



Email

dianeh@search-institute.org



Instagram (DM)



Samantha Holquist



Email

sholquist@childtrends.org



Instagram (DM)

