

## Student Reflection Tool: Getting to Know Your Students



Gathering information about students' experiences in math is an important part of establishing and maintaining an equitable learning community. Incorporating student reflection into your practice involves thinking about what questions to ask and when and how to ask them.

- ▶ What do you want to know about your students at this point in time?
- ▶ What type of question(s) would best support students in reflecting on a specific component of the math community? Of their math identity?
- ▶ How can you encourage students to reflect on themselves as math learners?

Questions fall into four Areas of Focus:

- ▶ **Area 1: Students' prior experiences with mathematics**
- ▶ **Area 2: Students' reflections on themselves as math learners**
- ▶ **Area 3: Students' beliefs about math and expectations for math class**
- ▶ **Area 4: Students' participation in math class**

Each Area of Focus includes several categories for reflection, sample questions to use with students, and links to sample questionnaires that you can use as is or adapt as needed. These questions (see pp. 3-7), or others you develop that fit your own needs and context, can be used in a

variety of ways to gather student feedback. For example, questions can be included on exit tickets, written on feedback forms or surveys, or posed to students verbally.

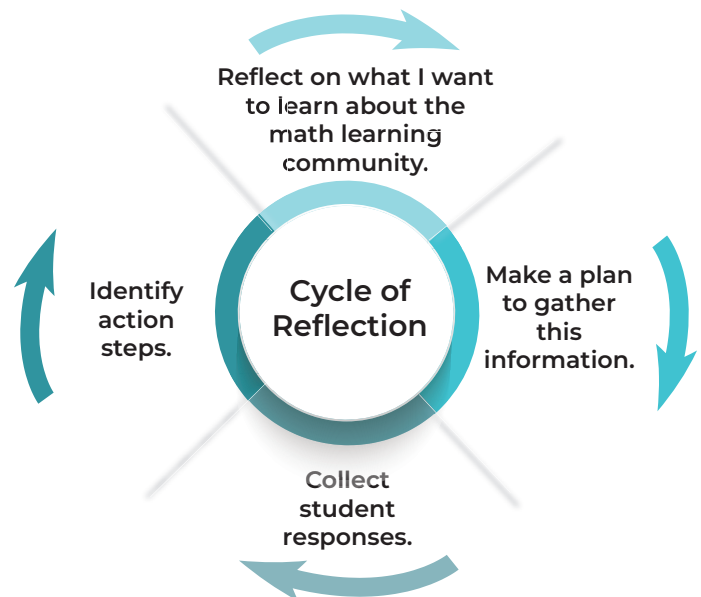


Different insights into how students are experiencing math class emerge depending on the methods used for gathering this information. For example, you may:

- ▶ Ask a question mid-lesson to encourage your students to reflect on the ways partner talk can help them understand the math ideas of a game.
- ▶ Pose a question(s) at the end of a lesson to give you feedback on student engagement.
- ▶ Note that a student's identity or status seems to be impacting their engagement and decide to use a one-to-one interview to better understand their strengths and perspectives.

The questions you ask, and when and how you pose them, will depend on your goals and your knowledge of your students. The [\*Planning, Analyzing, and Taking Action Form\*](#) can be used to identify goals, select specific questions that focus on those goals, analyze student(s) responses, and reflect on next steps.

If used regularly, this cycle of reflection can help you see how students' thoughts about mathematics, and about themselves as learners, are changing over time (or not). This choice to pay attention to and respond to students' needs and current dispositions is a critical step in developing an equitable learning environment. Using the Student Reflection Tool and the related planning document, can support you in this work, making this process of reflection a habit that is part of your teaching practice.



## Area of Focus 1: Students' Prior Experiences with Mathematics

### Math in School

- ▶ What has math class been like for you in school so far?
- ▶ What have you liked/disliked about school math?
- ▶ When do you feel good about doing math? When don't you feel good about doing math?
- ▶ What is a positive math memory you'd be willing to share? What is a negative math memory you'd be willing to share?
- ▶ Do your friends like math class? What do they say about math?
- ▶ What kinds of things do math teachers do or say that help you learn?
- ▶ What does a classroom that helps you learn math best look and sound like?

 [Prior Math Experiences](#)

 [Reflecting on Math Class](#)

 [Math in School](#)

### Math Outside School

- ▶ When do you do math outside of school? How is it similar to or different from the math you do in school?
- ▶ Who do you know who uses mathematics in their lives? How do they use math?
- ▶ Who do you do math with outside of school? What kind of math do you do together? What do you enjoy?
- ▶ How do you share your math learning at home? What are some ways that your family helps you with math homework?

 [Math Outside School A](#)

 [Math Outside School B](#)

 [Math in My Family/Community](#)

## Area of Focus 2: Students' Reflections on Themselves as Math Learners

### Own Math Identity

- ▶ What do you think makes a “good” math student? Why do you think that?
- ▶ What makes you feel like you are a capable mathematician? What makes you feel not capable?
- ▶ What makes someone feel like they can do math? What makes some feel like they cannot do math?
- ▶ What is an example of something you have done in math class that made you proud?
- ▶ I wish my teacher knew that during math class I \_\_\_\_\_.
- ▶ I learn math best when \_\_\_\_\_.
- ▶ What are your strengths as a mathematician?
- ▶ What is your favorite way to show what you know?
- ▶ How do you feel that your ways of learning are valued and supported in our classroom?
- ▶ How does the math we do in school connect to your family? Your community?

 [Thinking About My Math Identity](#)

 [Math Identity Exit Ticket](#)

### Status in Math

- ▶ What makes you want to share ideas with your classmates? What stops you from sharing your ideas?
- ▶ Whose math ideas do we focus on in discussions?
- ▶ What are some ways that you learn from your classmates?
- ▶ Who is a classmate you think is “good” at math? Why is that?
- ▶ I wish my classmates knew that during math class I \_\_\_\_\_.

 [Thinking About Our Math Community](#)

 [Listening to Ideas in Math Class](#)

### Mistakes and Perseverance

- ▶ Do you ever make mistakes or get confused while solving math problems? How does that make you feel? What do you do?
- ▶ What do you do if you get stuck on a math problem?
- ▶ What is one way your teacher helps you when you are stuck on a problem?
- ▶ What should the teacher do if a student makes a mistake on a math problem? What should other students do?
- ▶ When I get stuck or confused I \_\_\_\_\_.
- ▶ When I need help, I want the teacher to \_\_\_\_\_. I don't want the teacher to \_\_\_\_\_.
- ▶ When I see a challenging math problem I \_\_\_\_\_.

 [Reflecting on Mistakes and Perseverance](#)

## Area of Focus 3: Students' Beliefs about Math and Expectations for Math Class

### Beliefs About Math

- ▶ What do you think makes someone "good" at math?
- ▶ What do you think math time should be like?
- ▶ What makes a math problem challenging?
- ▶ How do you find tools helpful when you are doing and talking about math?
- ▶ Who do you think should be talking about their ideas in math class? Why is that?
- ▶ What are different ways that we can share our thinking? Which ways do you prefer? Why?

 [My Favorite Math Class A](#)

 [My Favorite Math Class B](#)

### Expectations About Math Class

- ▶ What do you think the teacher should be doing while students are working on math problems?
- ▶ What do you think the teacher should be doing while students are discussing their ideas during whole group discussions? While students are working in small groups?
- ▶ What should students be doing during math class?

 [Reflecting on Expectations for Math Class](#)

 [Designing our Best Math Class](#)

### Reflecting on Classroom Agreements (Norms)

- ▶ Is there a classroom agreement you don't yet understand?
- ▶ Is there a classroom agreement you are still working on?
- ▶ Is there a classroom agreement our class is really good at? One that we need to work on?
- ▶ Is there a classroom agreement you think we need to add?
- ▶ Which is your favorite classroom agreement and why?
- ▶ Is there a classroom agreement that you made use of today? How?
- ▶ Do you feel that our classroom agreements make our classroom a better place for you to learn?

 [Classroom Agreements Exit Ticket](#)



## Area of Focus 4: Students' Participation in Math Class

### Independent Work

- ▶ How do you feel about working alone in math class?
- ▶ What helps you work independently?
- ▶ What makes working independently challenging?

 [Independent Work Exit Ticket](#)

### Partner/Small Group Work

#### Partner Work:

- ▶ How do you feel about working with a partner in math class?
- ▶ What helps you work cooperatively with your partner in math class?
- ▶ What are some ways you can help your partner as a learner when working together in math class?
- ▶ When working with partners, what are some difficulties that you have had to work out?
- ▶ What helps you share in the work of solving a problem?

#### Small Group Work:

- ▶ How do you feel about working in a small group during math class?
- ▶ What are some ways you help your group
  - ▶ share their ideas
  - ▶ share tools and materials
  - ▶ work together to solve problems

#### Reflecting on Cooperative Work

- ▶ What do you do if there is a disagreement in your partnership or small group?
- ▶ How did you work with your partner/group today? Did you share your thoughts? Did you revise or expand your thinking?

 [Working with Others Survey A](#)

 [Working with Others Survey B](#)

## Area of Focus 4: Participation in Math Class

### Whole Group Discussions

- ▶ Do you like to participate in whole group discussions? Why or why not?
- ▶ How do you feel about sharing your ideas in the whole group? In small groups?
- ▶ What is an idea you shared that you think the class found interesting? What idea(s) do you wish you had shared?
- ▶ What are some ways in which you feel invited to share your ideas?
- ▶ Have there been times that you were hesitant to share your ideas or respond to someone's idea? Why was that?
- ▶ How do you make use of the ideas from your partner/small group work in the whole group?
- ▶ What helps you make sense of others' math ideas during our math discussions? What confuses you?
- ▶ Do you feel that your ideas make a difference? If so, how?

 [Sharing My Ideas](#)

### Reflecting After Our Work

- ▶ What made you happy today?
- ▶ What were you proud of today?
- ▶ What was joyful about your math work today?
- ▶ Can you describe a time you felt challenged? Can you describe a time you have not felt challenged?
- ▶ Was there a time you felt uncertain, not heard, or unseen?
- ▶ What are your goals? What do you want to get better at?

 [Today in Math Class](#)

 [My Goals](#)