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# Module 1: Overarching Design Structure

## Topic 1: Course Design Structure

### Connect to Your Practice

How is the course structure similar to and different from what you have taught in the past?

Familiarize yourself with the Scope and Sequence and Pacing Guide, located in the Course Guide. Explore the different topics that are addressed across the course and answer the following questions:

- What do you notice about the length of each unit?
- How are the units sequenced across the school year? What do you notice?
- How will you decide if the optional lessons are needed?

## Topic 2: Unit Design Structure

### Connect to Your Practice

Now that you know what content will be in Unit 1, what do you already know about teaching this concept, and what are some potential benefits and challenges that may arise with teaching this content first?

Read the unit and section narratives for Unit 1. Make note of the strategies and representations that are used, and how they build upon each other to support sense-making.

## Topic 3: Lesson Design Structure

### Connect to Your Practice

How does your teaching style fit with the lesson structure? What do you already do? What will be new to you?

Select a lesson from Unit 1 to read. Make note of the structure and content that is used in the Warm-up, Activities, Lesson Synthesis, and Cool-down.

## Reflect

What new insights did you gain about the overarching design structure?

Use the sentence starters if they are helpful.

- Remember that students will have an opportunity to revisit \_\_\_\_\_ in Unit \_\_\_\_\_.
- In Unit 1, students are introduced to \_\_\_\_\_ and they build on it in Unit \_\_\_\_\_ when they \_\_\_\_\_.
- I want to learn more about why \_\_\_\_\_ is used as a representation and how it helps students make sense of \_\_\_\_\_.
- In the lesson video, I noticed that the teacher \_\_\_\_\_. I would like to try that.

## Module 2: Planning

### Topic 1: How Do I Plan for a Lesson?

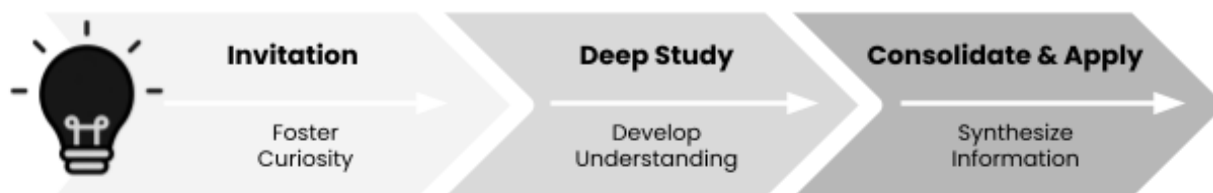
#### Connect to Your Practice

Lesson planning involves examining the learning goals, considering how students build understanding, and deciding what to prioritize. How have you made decisions about prioritizing content in the past?

Choose a lesson from Unit 1 and use the following Lesson Planning & Prioritization Tool and the Planning for a Lesson [video](#) for support. Consider printing out the lesson plan or taking notes in your teacher's guide.

## LESSON PLANNING & PRIORITIZATION TOOL

Use this tool to support thoughtful lesson planning and prioritization decisions while preserving the integrity of IM's overarching design structure.



### WHAT IS THE PRIORITY LEARNING?

- ▶ Examine the learning goals and how they relate to the cool-down.
- ▶ Anticipate student responses to the cool-down.

### HOW DOES STUDENT UNDERSTANDING BUILD?

- ▶ Examine the progression of the activities and how they build toward the lesson synthesis.
- ▶ Consider the strategies, representations, and tools that students use to show understanding of the learning goal.
- ▶ Identify opportunities to enhance access and challenge for your students.
- ▶ Find opportunities to clarify or connect concepts from a previous lesson.

### WHAT DO I PRIORITIZE?

- ▶ Select questions or problems that are essential for your students to engage with in order for the lesson synthesis to be successful.
- ▶ Decide what to highlight or amplify.

## Topic 2: When Do I Assess?

### Connect to Your Practice

How are the assessment opportunities the same as and different from those you have used in the past?

Choose an upcoming unit. Review the end-of-unit assessment to understand what skills are assessed. Then, look at each section checkpoint and take note of how the strategies and representations build towards the end-of-unit assessment.

Use the sentence starters if they are helpful.

- One progression of understanding I see building across assessments is \_\_\_\_\_.
- In the section checkpoints, the Responding to Student Thinking guidance suggests \_\_\_\_\_ whereas in the end of unit assessment guidance \_\_\_\_\_.
- There are multiple opportunities to assess \_\_\_\_\_.

## Reflect

What new insights did you gain about lesson planning, prioritization, and assessment guidance?

Use the sentence starters if they are helpful.

- When I am reviewing a lesson, I should remember to prioritize \_\_\_\_.
- One way I can incorporate the Responding to Student Thinking suggestions into my lesson is to \_\_\_\_.
- I want to learn more about \_\_\_\_.

## Module 3: Instructional Routines

### Topic 1: Warm-up Routines

Which warm-up routines are unfamiliar to your teaching style or may require practice?

Use the lessons provided in your grade-level table below to examine how warm-up routines are embedded.

| Algebra 1       |                          | Geometry        |                          | Algebra 2       |                          |
|-----------------|--------------------------|-----------------|--------------------------|-----------------|--------------------------|
| Lesson          | Warm-up Routine          | Lesson          | Warm-up Routine          | Lesson          | Warm-up Routine          |
| Unit 1 Lesson 2 | Notice and Wonder        | Unit 1 Lesson 4 | Notice and Wonder        | Unit 1 Lesson 1 | Which Three Go Together? |
| Unit 1 Lesson 4 | Which Three Go Together? | Unit 1 Lesson 7 | Which Three Go Together? | Unit 1 Lesson 2 | Math Talk                |

Make note of how the routines support student learning and discourse within the activity. A warm-up doesn't always feature a specific routine, but it will always be an invitation to the math described in the learning goal and an opportunity to contribute to mathematical conversations.

## Topic 2: Math Language Routines

Which math language routines are unfamiliar to your teaching style or may require practice?

Use the lessons provided in your grade-level table below to examine how math language routines are embedded.

| Algebra 1       |                                | Geometry        |                                | Algebra 2       |                                |
|-----------------|--------------------------------|-----------------|--------------------------------|-----------------|--------------------------------|
| Lesson          | Math Language Routine          | Lesson          | Math Language Routine          | Lesson          | Math Language Routine          |
| Unit 1 Lesson 1 | Collect and Display            | Unit 1 Lesson 1 | Stronger and Clearer Each Time | Unit 1 Lesson 1 | Stronger and Clearer Each Time |
| Unit 1 Lesson 2 | Stronger and Clearer Each Time | Unit 1 Lesson 2 | Discussion Supports            | Unit 1 Lesson 2 | Compare and Connect            |

Make note of how the routines support student learning and discourse within the activity.

## Reflect

What new insights did you gain about instructional routines?

Use the sentence starters if they are helpful.

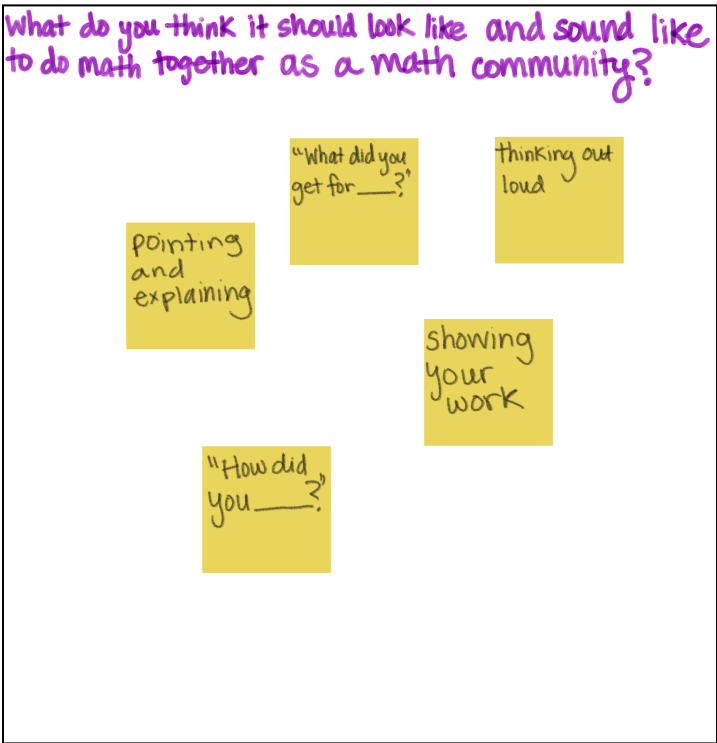
- I am excited to try \_\_\_\_\_.
- I want to rehearse \_\_\_\_\_ with a colleague so I can practice \_\_\_\_\_.
- A question I still have about \_\_\_\_\_ is \_\_\_\_\_.
- When recording student thinking during routines, I want to remember \_\_\_\_\_.

## Module 4: Building Math Community

### Topic 1: Establishing a Positive and Inclusive Math Community

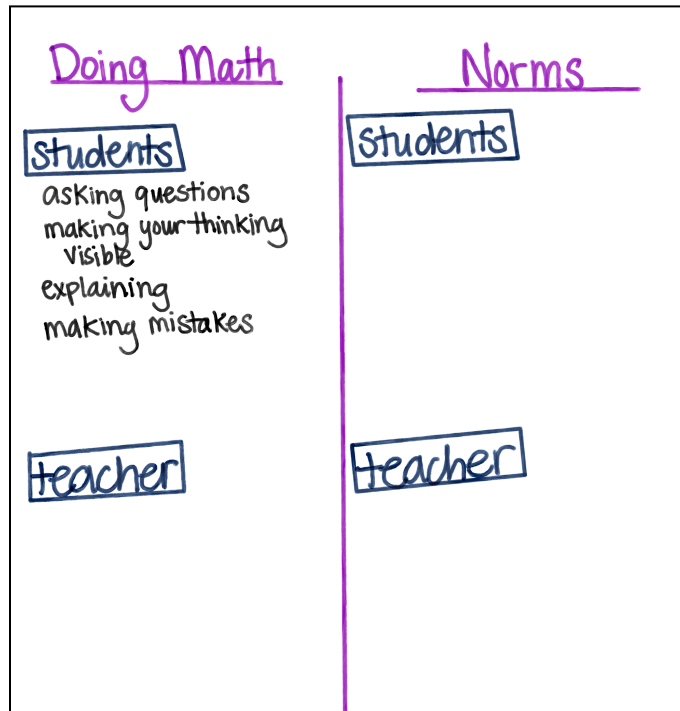
#### Building Community in Units 1 and 2

Throughout Units 1 and 2, students across all grades are invited to establish a shared understanding of their math classroom norms. Explore the following example of how an anchor chart evolved across the lessons. Make note of how the teacher incorporates students' ideas into the development of the norms.

| Community Building Task                                                                                                                                                                          | Anchor Chart                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <p><b>Brainstorm About Doing Math as a Community</b></p> <p>Discuss what a math community is and share initial thoughts of what it looks and sounds like to do math together as a community.</p> |  |

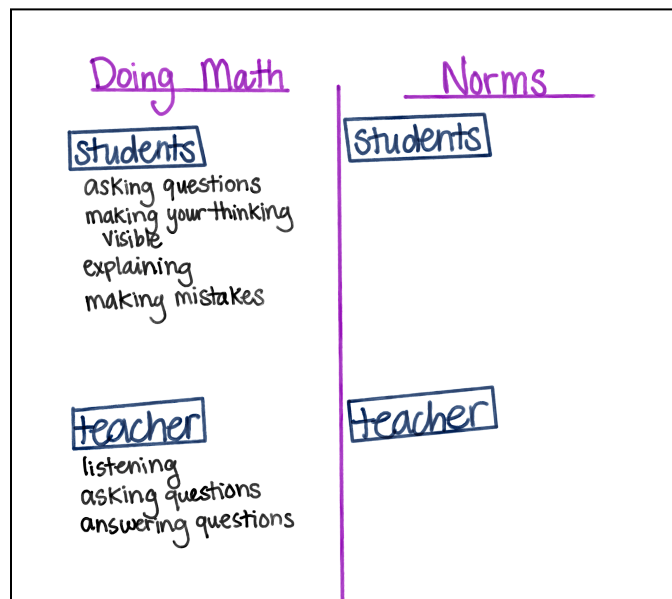
### Review Themes that Arose During Brainstorming

Review, affirm, and add ideas about what it looks like and sounds like to do math as a community.



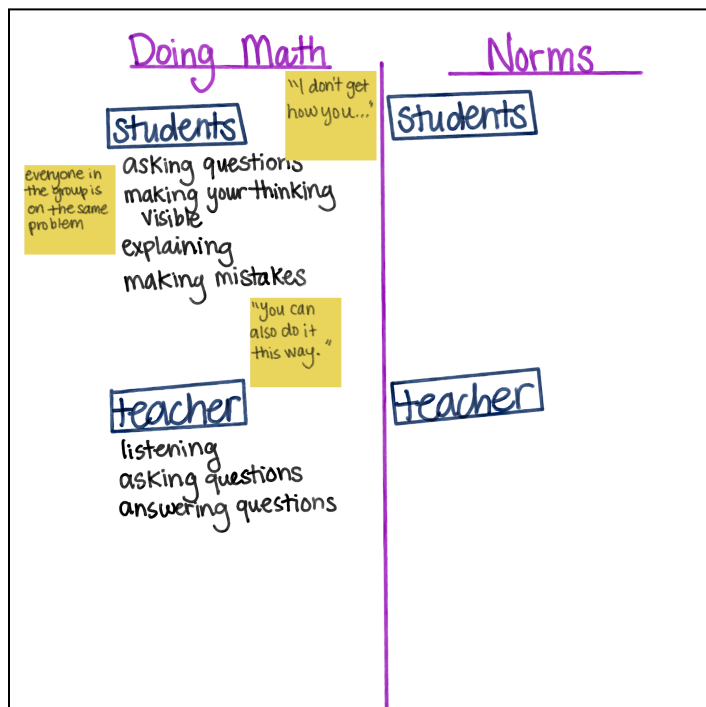
### Review Teacher Commitments

The teacher shares their draft commitments as part of the mathematical community. Students are invited to suggest additions to the teacher sections of the chart.



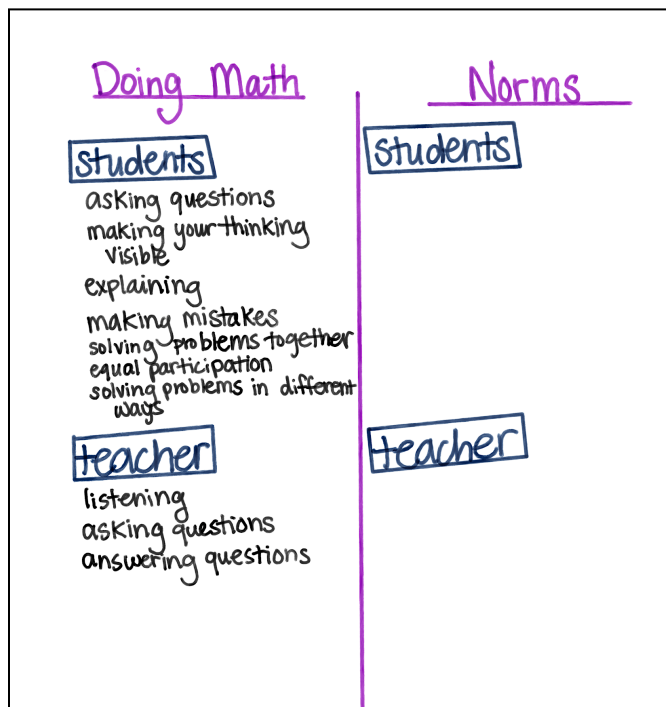
## Document Actions

Students use sticky notes to document actions in the Doing Math sections of the Math Community Chart that they see or hear throughout the lesson. They also suggest additions for the chart.



## Reflect on Doing Math

Reflect and make personal connections to the listed math actions. Gain insight into the norms that students may choose to list in the next exercise.



## Develop Norms

Consider which norms would connect and support the math actions that were recorded in the Math Community Chart, and add the norms to the chart.

| Doing Math                                                                                                                                                                                     | Norms                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <b>Students</b><br>asking questions<br>making your thinking visible<br>explaining<br>making mistakes<br>solving problems together<br>equal participation<br>solving problems in different ways | <b>Students</b><br>make your thinking visible<br>try to understand and build on each other's thinking |
| <b>Teacher</b><br>listening<br>asking questions<br>answering questions                                                                                                                         | <b>Teacher</b><br>try to understand student's thinking                                                |

## Revise Norms

Students provide feedback on the norms, sharing those they agree with and those they feel need revision or removal.

| Doing Math                                                                                                                                                                                     | Norms                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>Students</b><br>asking questions<br>making your thinking visible<br>explaining<br>making mistakes<br>solving problems together<br>equal participation<br>solving problems in different ways | <b>Students</b><br>make your thinking visible<br>try to understand and build on each other's thinking<br>learn from mistakes |
| <b>Teacher</b><br>listening<br>asking questions<br>answering questions                                                                                                                         | <b>Teacher</b><br>try to understand student's thinking<br>answer questions<br>help students make connections                 |

## Strength-Based Reflections

Make connections to the list of norms. Maintain and enhance norms that support doing math together as a community.

| Doing Math                                                                                                                                                                                                                                                                                                                                                                                                                        | Norms                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>students</b></p> <ul style="list-style-type: none"> <li>asking questions</li> <li>making your thinking visible</li> <li>explaining</li> <li>making mistakes</li> <li>solving problems together</li> <li>equal participation</li> <li>solving problems in different ways</li> </ul> <p><b>teacher</b></p> <ul style="list-style-type: none"> <li>listening</li> <li>asking questions</li> <li>answering questions</li> </ul> | <p><b>students</b></p> <ul style="list-style-type: none"> <li>make your thinking visible</li> <li>try to understand and build on each other's thinking</li> <li>learn from mistakes</li> <li>same problem same time</li> </ul> <p><b>teacher</b></p> <ul style="list-style-type: none"> <li>try to understand student's thinking</li> <li>answer questions</li> <li>help students make connections</li> </ul> |

How have you intentionally planned for building a math community in the past?

Read the lesson narratives for the identified lessons in Units 1 and 2 to see what the community building exercises look like for your grade level. As you read, use the table to make note of important teacher moves you'd like to emphasize, supports or customizations you want to incorporate, and materials to gather. An example is shown in the first row of the table.

| Algebra          | Geometry         | Algebra 2        |
|------------------|------------------|------------------|
| Unit 1 Lesson 1  | Unit 1 Lesson 2  | Unit 1 Lesson 1  |
| Unit 1 Lesson 3  | Unit 1 Lesson 5  | Unit 1 Lesson 3  |
| Unit 1 Lesson 9  | Unit 1 Lesson 9  | Unit 1 Lesson 5  |
| Unit 1 Lesson 11 | Unit 1 Lesson 11 | Unit 1 Lesson 7  |
| Unit 1 Lesson 12 | Unit 1 Lesson 17 | Unit 1 Lesson 10 |
| Unit 1 Lesson 13 | Unit 2 Lesson 2  | Unit 2 Lesson 1  |
| Unit 2 Lesson 1  | Unit 2 Lesson 5  | Unit 2 Lesson 5  |
| Unit 2 Lesson 3  | Unit 2 Lesson 8  | Unit 2 Lesson 9  |

| Lesson | Emphasize                        | Incorporate | Gather                                  |
|--------|----------------------------------|-------------|-----------------------------------------|
| 1      | Name specific words and actions. | visuals     | Sticky notes<br>Poster - 2 column chart |
|        |                                  |             |                                         |
|        |                                  |             |                                         |
|        |                                  |             |                                         |
|        |                                  |             |                                         |
|        |                                  |             |                                         |

## Reflect

What new insights did you gain about building a math community?

- I will know I am building a positive math community if I see and hear \_\_\_\_\_.
- I might need support with \_\_\_\_\_.
- I commit to \_\_\_\_\_ so that \_\_\_\_\_.