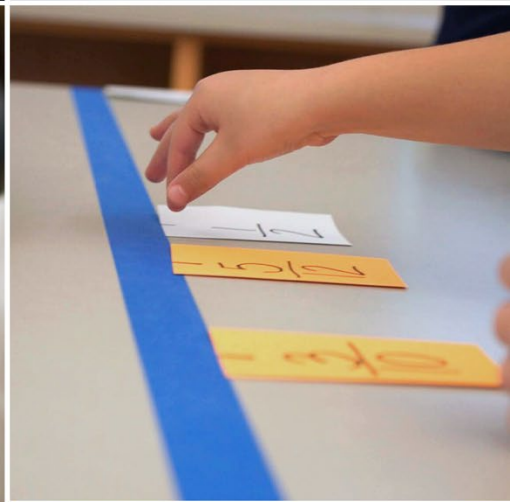
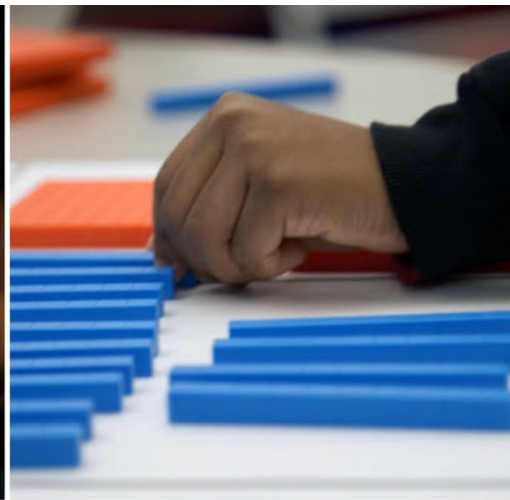
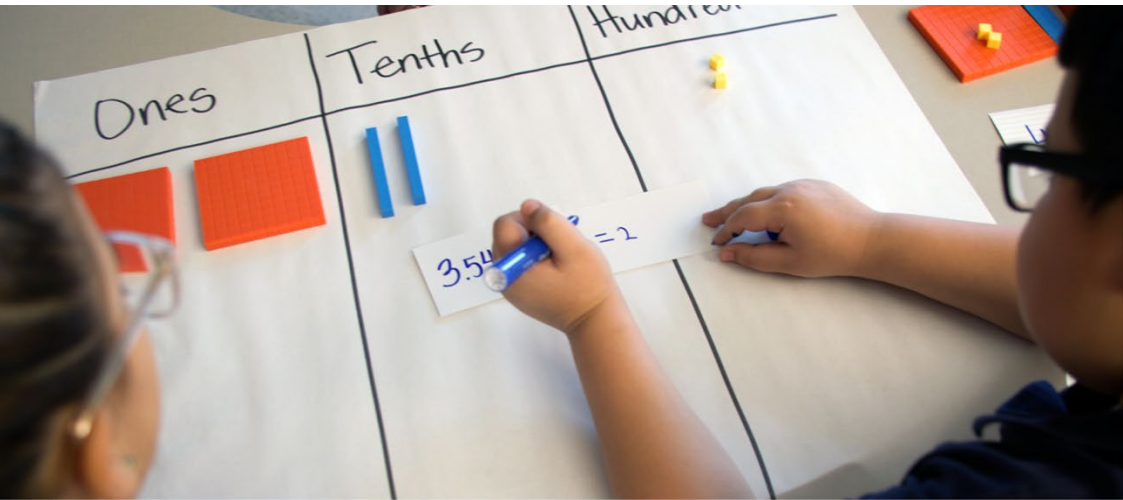


# Mathematics Intervention Toolkit: Leader Guide

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# Section 1. Overview for Leaders

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This section provides mathematics leaders and other administrators with an introduction to the Mathematics Intervention Toolkit and professional development (PD) course.

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# Introduction

- *Is your district seeking ways to strengthen mathematics intervention to better support students and improve learning outcomes?*
- *Is your district seeking ways to build teachers' use of evidence-based strategies for intervention?*
- *Do you want to provide professional learning opportunities designed specifically for mathematics intervention teachers?*

If your answers are **yes**, the **Mathematics Intervention Toolkit**

("the toolkit") has resources to help your district reach these goals. The toolkit focuses on the evidence-based

recommendations from the What Works Clearinghouse (WWC)

Practice Guide *Assisting Students Struggling with Mathematics: Intervention in Elementary Grades*<sup>1</sup> (WWC Guide). These recommendations are based on a rigorous review and synthesis of research on effective mathematics intervention practices.



To support districts in applying these recommendations, the toolkit provides ready-to-use resources for implementing the **Mathematics Intervention Professional Development (PD) Course** with teachers. This course stands out from other PD programs because it is specifically designed for **teachers of mathematics intervention in grades 3–6**. It connects research to classroom practice by building teachers' knowledge and use of recommended strategies to support students.

## How to Use the Leader Guide

This **Leader Guide** (referred to as "the Guide") provides mathematics leaders, school and district administrators, and facilitators with information and resources to implement the Mathematics Intervention PD Course with teachers. It offers guidance and suggestions to leaders on all aspects of course implementation, including planning, scheduling, selecting facilitators, recruiting participants, and providing ongoing support. The Guide includes planning questions, checklists, and practical suggestions. It is not necessary to read or use the Guide in a linear way. Feel free to select the topics that are relevant to your interests and skip others. The Guide is organized into these sections:

- **Section 1.** Overview for Leaders
- **Section 2.** Planning for Implementation
- **Section 3.** Supporting and Sustaining Implementation
- Appendices:
  - Appendix A: Planning Resources
  - Appendix B: Recruitment Resources
  - Appendix C: Course Implementation Resources

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Fuchs, L. S., Newman-Gonchar, R., Schumacher, R., Dougherty, B., Bucka, N., Karp, K. S., Woodward, J., Clarke, B., Jordan, N. C., Gersten, R., Jayanthi, M., Keating, B., & Morgan, S. (2021). *Assisting students struggling with mathematics: Intervention in the elementary grades* (WWC 2021006). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance. Retrieved from <http://whatworks.ed.gov/>.

# What Is the Mathematics Intervention PD Course?

The **Mathematics Intervention PD Course** focuses on the recommendations of the WWC Guide. The course's **overarching goal** is to increase teachers' knowledge and use of evidence-based strategies to improve student outcomes. (See [Course at a Glance](#) on the next page.)

The course provides **28 PD hours** and can be implemented over **one or two school years**. It consists of **six modules** to allow for in-depth exploration and flexibility in implementation. Districts can choose different implementation models, including shorter versions, to fit their needs.

The course uses a **hybrid format** that combines online learning, professional learning community (PLC) sessions, and classroom implementation. In the online sessions, participants learn about the recommendations through videos, readings, and activities. These flexible sessions are self-paced and asynchronous. At facilitated PLC sessions (in person or virtual), participants discuss recommendations, try out strategies, and prepare to implement instructional routines with students. These ready-to-use routines incorporate evidence-based strategies from the recommendations. Participants use the routines with students and share experiences at subsequent PLC sessions.



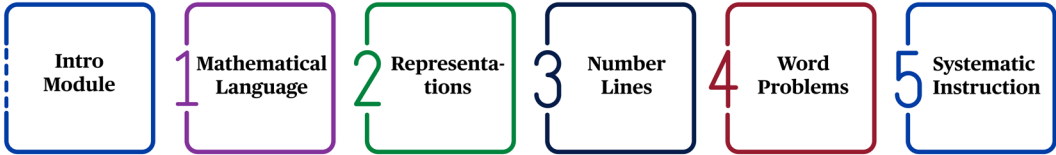
## Participants

The course is specifically designed for **teachers of mathematics intervention in grades 3–6**. This group may include teachers with various roles, such as interventionists, Title I teachers, mathematics specialists, general educators, and special educators. The strategies will apply to teachers who provide intervention in different settings, including separate intervention classes, intervention or enrichment blocks, and general education classrooms. Similarly, the course will support teachers who use a variety of intervention programs as well as those who do not have a specific program. Teachers will learn about and apply strategies with students in their intervention settings.

## Facilitators

The course is intended to be led by one facilitator or two co-facilitators, such as **district or school mathematics leaders, mathematics coaches, or teacher leaders**. Their main tasks are facilitating the PLC sessions and communicating with participants. Course facilitators need expertise with elementary mathematics content and pedagogical practices, prior experience leading PD activities, and facilitation skills. They do *not* need to have already taken the course or be mathematics intervention experts; they can learn together with the participants. The course provides ready-to-use resources, including Facilitator Guides, session agendas, slides with presenter notes, and handouts.

## Mathematics Intervention PD Course at a Glance

<b>Participants</b>	Teachers of mathematics intervention in grades 3–6. This may include interventionists, Title I teachers, general educators, and special educators.
<b>Facilitators</b>	One or two facilitators, such as mathematics leaders, mathematics coaches, PD providers, or teacher leaders.
<b>Instructional Strategies</b>	Recommendations and strategies from the WWC Practice Guide <i>Assisting Students Struggling with Mathematics</i> .
<b>Modules</b>	<p>The course modules focus on five recommendations from the WWC Guide:</p> 
<b>PD Hours, Duration, and Options</b>	<ul style="list-style-type: none"> <li>• The full course (six modules) provides <b>28 PD hours</b>.</li> <li>• The course can be implemented during one or two school years.</li> <li>• Districts have options to implement shorter versions or individual modules.</li> </ul>
<b>Types of PD Activities</b>	<p>The modules include:</p> <ul style="list-style-type: none"> <li>• <b>Online sessions</b> with asynchronous activities, readings, and videos.</li> <li>• <b>PLC sessions</b> (in person or virtual).</li> <li>• <b>Instructional routines</b> to use with students. These routines incorporate evidence-based strategies and can be used with different mathematics topics.</li> </ul>
<b>Mathematics Focus</b>	<b>Number and operations</b> topics, including place value, fractions, decimals, and word problems with multiplication and division.
<b>Resources</b>	<p><b>Free, high-quality resources</b> include:</p> <ul style="list-style-type: none"> <li>• <b>Course website</b> with online sessions, activities, and links to resources.</li> <li>• <b>Videos</b> of mathematics intervention classes and strategy demonstrations.</li> <li>• <b>Participant Workbooks</b> with handouts.</li> <li>• <b>Facilitator Guides and slides</b> with presenter notes.</li> <li>• <b>Leader Guide</b> with information on implementing the course.</li> </ul>
<b>District Requirements</b>	<p>Intended for districts that offer mathematics intervention in grades 3–6.</p> <p>There are <b>no requirements</b> to use a specific intervention program. Districts that have various programs or that do <i>not</i> have a program can implement the course.</p>
<b>What the Course Is and Is Not</b>	<p><b>It is</b> a high-quality <b>PD course</b> for teachers of mathematics intervention.</p> <p><b>It is not</b> a mathematics intervention <b>curriculum</b>.</p>

Course Website URL: <https://ies.ed.gov/ncee/rel/math-support-grades-3-6>.

## What Recommendations Does the Course Focus On?

The course provides a deep dive into five recommendations from the [WWC Guide](#).

### Recommendations

- **Mathematical Language:** “Teach clear and concise mathematical language and support students’ use of the language to help students effectively communicate their understanding of mathematical concepts.”
- **Representations:** “Use a well-chosen set of concrete and semi-concrete representations to support students’ learning of mathematical concepts and procedures.”
- **Number Lines:** “Use the number line to facilitate the learning of mathematical concepts and procedures, build understanding of grade-level material, and prepare students for advanced mathematics.”
- **Word Problems:** “Provide deliberate instruction on word problems to deepen students’ mathematical understanding and support their capacity to apply mathematical ideas.”
- **Systematic Instruction:** “Provide systematic instruction during intervention to develop student understanding of mathematical ideas.”

These recommendations were rated as having **strong evidence**, meaning that “there is consistent evidence that meets WWC standards and indicates that the practices improve outcomes for a diverse student population.” In the course, participants will explore each recommendation in depth to build their knowledge and practices. They will delve into the implementation steps, which include specific strategies and examples for the upper elementary grades. Participants will learn engaging instructional routines that incorporate recommended strategies and use them with students. The course focuses on a consistent set of key questions for the five recommendations.<sup>2</sup>

### Key Questions for Each Recommendation

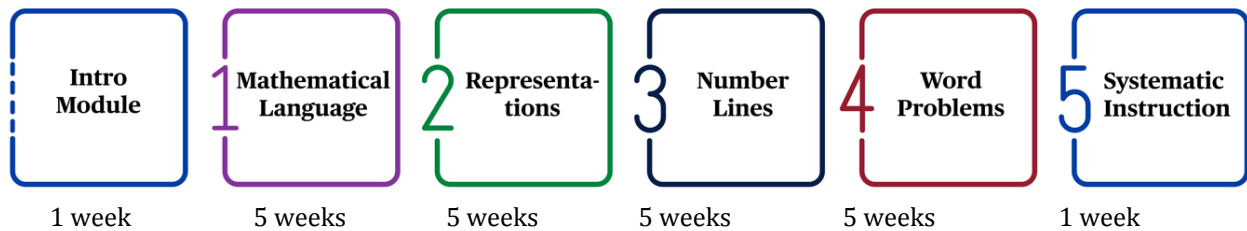
1. **What** is the WWC Guide’s recommendation?
2. **Why** is the recommendation important for student learning?
3. What are **strategies** for **how to implement** the recommendation?
4. What are **ways to apply** the strategies with your students?
5. What are **potential challenges** and ways to address them?

<sup>2</sup> The course developers selected five of the six recommendations in the WWC Guide to allow for in-depth exploration and sufficient time for professional learning and classroom implementation. The first five recommendations were selected based on input from mathematics leaders and teachers about professional learning needs and the availability of existing resources. The sixth recommendation is on Timed Activities for fluency. Teachers are likely to be familiar with fluency strategies, and ample fluency resources are already available. (See list in the [Additional Resources](#) section.)

## What Are the Course Modules?

The course has a series of six **modules** to support in-depth professional learning and flexibility in implementation. The sequence begins with an Introductory Module and continues with five modules, each focusing on one recommendation from the WWC Guide (see figure 1). The Mathematical Language and Representations modules build a strong foundation for the later modules, Number Lines and Word Problems. The sequence concludes with Systematic Instruction, which integrates strategies from the entire course.

**Figure 1. Sequence of Modules**

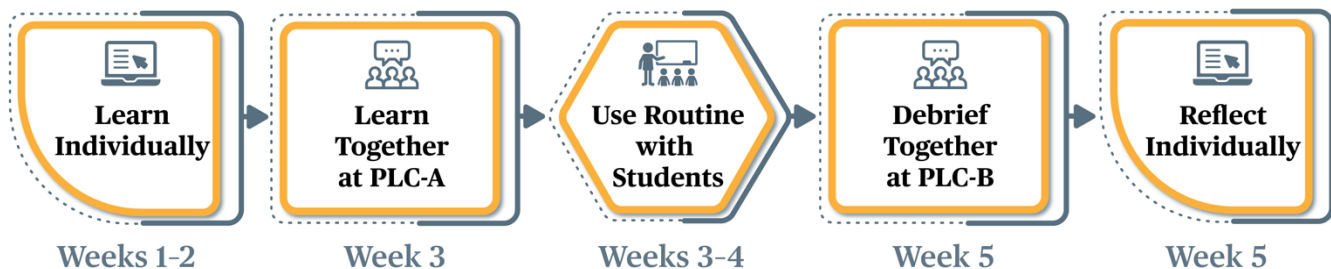


The full course provides **28 PD hours** that can be implemented over one or two school years. The Introductory Module and Module 5 are both one week and provide 2 PD hours. Modules 1–4 are each 5 weeks and provide 6 PD hours. Districts can choose [different implementation models](#).

### What are the PD activities in the modules?

The course starts and ends with a short module. The Introductory Module and Module 5 both have one facilitated session (1.5–2 hours, held on one day) and follow-up reflection activities. Modules 1–4 have a consistent sequence of PD activities for the 5 weeks (see figure 2). Each begins with an online session where participants learn individually through self-paced, asynchronous activities. At PLC Session-A, the facilitator and participants will discuss the recommendation, try strategies, and prepare to implement an instructional routine. After the session, participants will use the routine at least once with students. At the subsequent PLC Session-B, they will share experiences with the routine and plan ways to strengthen strategies. Each module closes with the opportunity for participants to reflect individually on their learning.

**Figure 2. The Sequence of PD Activities in a Five-Week Module**



## What Are the Mathematics Topics in the Course?

The course focuses on key **number and operations** topics, such as **fractions**, which are a high priority for mathematics intervention. Building a strong foundation in fractions is critical for students' success in grade-level mathematics and future classes. The recommendations and strategies also apply to other mathematics content areas for the elementary grades.

The modules provide instructional routines and activities for supporting students' learning of fraction magnitude, representations, equivalence, comparison, and operations. Additionally, there are activities related to other mathematics topics, including whole numbers (place value, operations, and word problems), as well as decimal concepts and operations. For more information, see the [Overview of Mathematics Content in the Modules](#) in Appendix A.

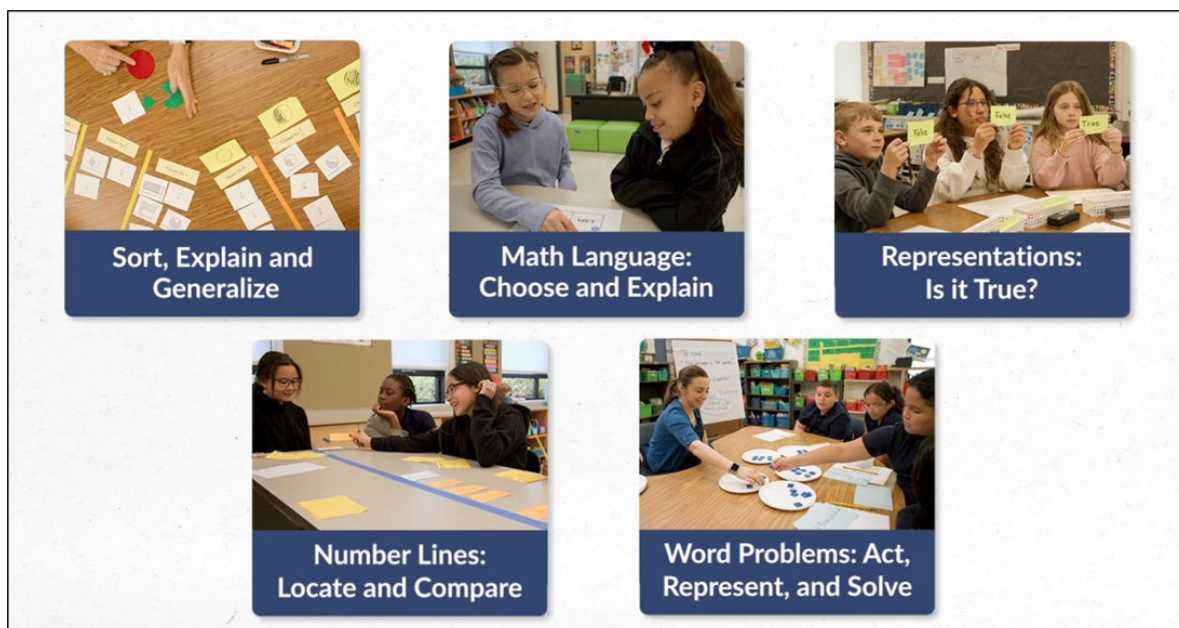
“Intervention is an opportunity for students to build understanding in the most critical grade-level topics... Fractions in grades 3 and 4, for example, can be difficult for students and are critical for students to understand for virtually all new mathematics learning through middle and high school.”

[WWC Guide](#), p. 10

### What are the instructional routines?

In the course, teachers learn and use five instructional routines (see figure 3), incorporating evidence-based strategies from the WWC Guide and focusing on high-priority mathematics topics. The routines are designed to actively engage and support students in doing mathematics and communicating their ideas. Each routine has a consistent structure that can be used numerous times during the school year. The routines offer a choice of problem sets on various mathematics topics, allowing teachers to select options that align with their instructional sequence.

**Figure 3. Photos of the Five Routines**



# What Are the Benefits of the Course?

## 1. What are the benefits of the course for districts?

The benefits for districts include:

- Supports districts in providing relevant, high-quality professional learning specifically designed for mathematics intervention teachers. The focus on mathematics intervention distinguishes the course from other PD programs.
- Supports districts in addressing the pressing need to improve instruction for students struggling with mathematics by implementing a course for teachers on evidence-based strategies.
- Provides districts with a suite of ready-to-use resources for implementing the course. Districts do not need to design their own course from scratch.
- Helps districts build capacity to provide PD and support for teachers of mathematics intervention.
- Aligns with the implementation of a Multi-Tiered Systems of Support (MTSS) framework.
- Aligns with district initiatives to strengthen mathematics instruction and intervention to improve student learning outcomes.

## 2. What are the benefits of the course for teachers and students?

The benefits for teachers and students include:

- Engages teachers in active learning about evidence-based strategies for mathematics intervention and how to use them effectively.
- Provides a consistent and collaborative process for PLC sessions, supporting teachers in trying new strategies together, preparing to implement routines, sharing experiences, reflecting on practices, and planning next steps.
- Provides teachers with ready-to-use resources, including engaging instructional routines, to support the implementation of effective intervention practices with students.
- Supports teachers in building knowledge of and using evidence-based strategies for mathematics intervention.
- Supports teachers in strengthening their instruction, which, in turn, helps to improve student outcomes.



## What Resources Does the Course Provide?

The Mathematics Intervention Toolkit's **website** (<https://ies.ed.gov/ncee/rel/math-support-grades-3-6>) provides free, ready-to-use resources for districts to implement the course. The picture below shows the website's main menu and the menu of course modules. The website offers high-quality resources for leaders, facilitators, and participants.

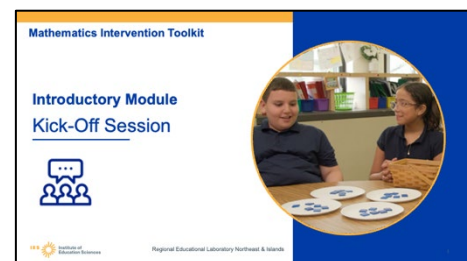


**Participant Workbooks:** The six workbooks (one per module) provide session handouts, example mathematics activities, guides for teaching the instructional routines, and reproducible resources. The workbooks include excerpts from the WWC Guide to make the information on the recommendations available in one place.



**Facilitator Guides:** The six guides (one per module) provide detailed information and suggestions for facilitating each module. They include agendas, preparation tasks, pictures of slides with presenter notes, activities, options for customizing sessions, and facilitation tips.

**Slide Decks with Presenter Notes for Facilitators:** Each module provides slide decks for the PLC sessions. The decks have presenter notes below each slide. These notes are identical to those included in the Facilitator Guides.



**Videos:** The course has 16 videos.

- **Introduction:** This short video introduces the course.
- **Classroom Examples:** These seven videos show evidence-based strategies in action. Each video shows an intervention teacher and students using an instructional routine.
- **Demonstrations:** These five videos demonstrate how to use evidence-based strategies, such as modeling fraction addition on a number line.
- **Overviews of Recommendations:** These three video overviews are from the [WWC Practice Guide website](#).



Links to the course videos are listed below and also in the Online Component and Facilitator Guides.

## Videos Created for the Mathematics Intervention PD Course

- **Introductory Module**
  - [Math Intervention Toolkit: An Introduction to the Professional Development Course](#)
  - [Instructional Routine: Sort, Explain, and Generalize](#)
- **Module 1. Mathematical Language**
  - [Instructional Routine: Explain Reasons Using Mathematical Language](#)
- **Module 2. Representations**
  - [Instructional Routine: Is it True?](#)
  - [Connecting Representations: Strategies for Decimal Addition](#)
  - [Connecting Representations: Strategies for Decimal Subtraction](#)
- **Module 3. Number Lines**
  - [Instructional Routine, Part 1: Using a Benchmark Strategy to Place Fractions on a Number Line](#)
  - [Instructional Routine, Part 2: Using a Benchmark Strategy to Place Fractions on a Number Line](#)
  - [Using Number Lines to Model Operations: Fraction Addition](#)
  - [Using Number Lines to Model Operations: Fraction Subtraction](#)
- **Module 4. Word Problems**
  - [Instructional Routine: Act Out, Represent, and Solve Word Problems, Video 1](#)
  - [Instructional Routine: Act Out, Represent, and Solve Word Problems, Video 2](#)
  - [Strategies for Multiplicative Comparison Problems](#)
- **Module 5. Systematic Instruction:** This module does not have videos.

## Frequently Asked Questions (FAQs) about the Course

This section provides answers to FAQs from leaders about the Mathematics Intervention PD Course. Look over the questions and use the hyperlinks to go to the questions you want answered.

### FAQs

1. [How is this course different from other mathematics education PD programs?](#)
2. [Are the strategies evidence-based?](#)
3. [Who will lead the course? Is a facilitator needed?](#)
4. [Are the course resources really free?](#)
5. [What is involved in implementing the course?](#)
6. [Are there different ways for districts to implement the course?](#)
7. [Our intervention classes include multilingual learners. Will teachers learn relevant strategies in the course?](#)
8. [How will the course fit with our district's mathematics intervention curriculum?](#)
9. [Is the course a mathematics intervention program to use with students?](#)
10. [Does the course provide guidance on how to implement intervention classes?](#)
11. [Does the course focus on Tier 2 mathematics intervention classes?](#)

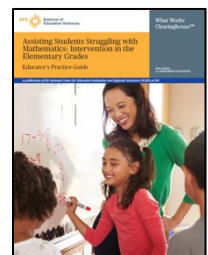
### Responses

#### 1. How is this course different from other mathematics education PD programs?

This course is different from other PD programs because it is designed specifically for teachers who provide mathematics intervention. In contrast, most PD programs focus on general education mathematics classes. This course supports teachers in actively learning about effective intervention strategies and implementing them with students. The authentic videos show intervention teachers using the recommended strategies with small groups of students.

#### 2. Are the strategies evidence-based?

Yes, the course focuses on the evidence-based recommendations and strategies of the WWC Practice Guide *Assisting Students Struggling with Mathematics: Interventions in the Elementary Grades* developed by the Institute of Education Sciences at the U.S. Department of Education. The WWC researchers and a panel of experts conducted a rigorous review of high-quality research studies on effective intervention practices. They synthesized the findings into recommendations that include implementation steps and specific strategies. The course is designed to help teachers understand and use these recommended strategies for mathematical language, representations, number lines, word problems, and systematic instruction.



### 3. Who will lead the course? Is a facilitator needed?

The course is designed to be led by one or two facilitators. The facilitators might be school or district mathematics leaders, mathematics coaches, district PD providers, or teacher leaders. Their primary roles are facilitating the PLC sessions and communicating with participants. This guide has guidance for [selecting facilitators](#). The modules provide facilitators with extensive resources, including Facilitator Guides, session agendas, and slide decks with presenter notes.

### 4. Are the course resources really free?

The course materials, including Participant Workbooks, Facilitator Guides, and slide decks, are freely downloadable as electronic files from the toolkit website: <https://ies.ed.gov/ncee/rel/math-support-grades-3-6>. This Online Component also provides free access to videos and mathematics activities. However, some district resources—for example, the facilitators' time and printing copies of handouts—are required to implement the course successfully.

### 5. What is involved in implementing the course?

Districts need to plan and prepare for the course, including choosing an implementation model, identifying intended audiences, selecting facilitators, and planning the schedule. Implementing the course involves the facilitators' time and participants' time as well as resources such as copies of handouts, mathematics manipulatives for PD activities, and a meeting location for in-person sessions or a teleconferencing platform for virtual sessions. Information on these key planning and implementation tasks is provided in [Section 2](#) of this guide.

### 6. Are there different ways for districts to implement the course?

The toolkit offers several implementation models so that districts can tailor the course to their needs. Districts can choose to implement the whole course during one or two school years, to use a shorter version with three or four modules, or to use individual modules. There are also options for scheduling the PLC sessions, including adjusting the time and frequency. For example, one district might hold 90-minute PLC sessions during designated PD time on early release days, while another may use 45-minute PLC sessions during the school day. Section 2 offers more information: [Consider Implementation Models](#) and [Plan for PLC Groups](#).

### 7. Our intervention classes include multilingual learners. Will teachers learn relevant strategies in the course?

The course focuses on evidence-based strategies from research on students struggling with mathematics. Many of these strategies align closely with the IES recommendations for [teaching multilingual learners](#). (See the [Additional Resources](#) section.) For example, research from both fields support using sentence starters and pair or small-group discussions to support student communication and graphic organizers to build academic vocabulary. Teachers learn about these strategies in the course's Mathematical Language Module. The pilot test and efficacy study of the course included many school districts with large student populations of multilingual learners. Past course participants reported that the strategies were helpful for multilingual learners in their intervention groups.

### 8. How will the course fit with our district's mathematics intervention curriculum?

The course features high-priority mathematics content and emphasizes instructional strategies that can be integrated into any program or curriculum. It is not necessary for districts to have a specific mathematics intervention program or curriculum—or to have a program—to implement the course. The instructional routines have a choice of problem sets on different mathematics topics so that teachers can choose problems that fit their students' needs. At the PLC sessions, facilitators and

teachers will make concrete plans for when to use the routines and strategies in their scope and sequence.

**9. Is the course a mathematics intervention program to use with students?**

No, the course is not a mathematics intervention program or curriculum for use with students. It includes example activities and routines, but it is not intended to be a full program. Teachers who have a variety of intervention curricula or who do not have a program can use the course.

**10. Does the course provide guidance on how to implement intervention classes?**

No, the course does not focus on implementation models for mathematics intervention classes, such as scheduling, class time, class size, screening, or progress monitoring, because these topics were not included in the WWC Guide. The course focuses on effective instructional practices for teaching mathematics intervention from the WWC Guide's recommendations.

**11. Does the course focus on Tier 2 mathematics intervention classes?**

The WWC Guide is based on research studies of effective mathematics intervention practices for small groups of students. In an MTSS or Response to Intervention (RtI) model, Tier 2 interventions provide focused, supplemental instruction for small groups of students. Tier 1 is high-quality, core instruction for all students, and Tier 3 is individualized, intensive instruction. The course focuses on Tier 2 small-group mathematics intervention and provides video examples of these classes. The strategies are also applicable for teachers to use in Tier 1 instruction to support students struggling with mathematics. The course supports districts that have a variety of intervention models, including implementing mathematics intervention as part of an MTSS program or as its own initiative.

# Section 2. Planning for Implementation

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This section provides essential information, suggestions, and resources to help leaders plan for implementing the course. It starts with a **Planning Checklist** and then delves into each topic on the checklist. Each topic offers guidance, customization options, and planning questions for leaders. [Appendix A](#) has additional resources, including a scheduling worksheet and an extended version of the planning questions with room for writing responses.

<b>Planning Checklist</b> .....	<b>14</b>
<b>Planning Topics</b>	
1. Decide Whether to Implement the Course .....	15
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3. Consider the Resources Needed for Successful Implementation.....	20
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5. Identify Intended Audiences .....	25
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## Planning Checklist

This checklist has suggested tasks for planning to implement the course. Each item is hyperlinked to the corresponding topic in this guide. Feel free to change the order of the tasks and use the extra rows to add your own. A fillable copy of the table in [Appendix A](#).

Tasks	Who?	When?	Status and Notes
1. <a href="#">Decide whether to implement the course: Is the course a good fit for your needs?</a>			
2. <a href="#">Consider implementation models.</a>			
3. <a href="#">Consider the resources needed for successful implementation.</a>			
4. <a href="#">Identify facilitator(s).</a>			
5. <a href="#">Identify intended audiences.</a>			
6. <a href="#">Plan for PLC groups and sessions.</a>			
7. <a href="#">Plan the course schedule.</a>			
8. <a href="#">Recruit participants.</a>			
9. <a href="#">Communicate about the course.</a>			
10. <a href="#">Plan meeting locations and other logistics.</a>			
11. <a href="#">Prepare course materials.</a>			

# 1. Decide Whether to Implement the Course

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Providing professional learning opportunities and support for intervention teachers is essential for making the most of mathematics intervention classes to improve student outcomes. The Mathematics Intervention PD Course is designed specifically for intervention teachers and focuses on evidence-based strategies. The course supports teachers who provide mathematics intervention in a variety of settings. Districts do not need a specific mathematics intervention program or to have a program to implement the course. The course features high-priority mathematics content and emphasizes instructional strategies that can be integrated into any program or curriculum.

The course offers free, ready-to-use resources to support schools or districts in implementing it. However, implementation also involves district inputs, such as having a facilitator, so it is essential to determine whether the course is a good fit for your district.

*Here are some suggestions for the decision-making process:*

## **1. Consider alignment of the course with your district's goals and needs.**

To get an initial sense of whether the course is a good fit, answer the **questions** on the next page. It is helpful to discuss these questions with colleagues, such as members of a district leadership team for mathematics intervention.

## **2. Gather input to gauge interest in the course.**

It is helpful to gather input from school and district leaders, intervention teachers, potential course facilitators, and other key personnel to inform the decision about whether to offer the course. Some ways to gather feedback include leading a discussion at a faculty meeting, having informal conversations, and using a short survey. For example, you might survey teachers about their interest in taking the course.

## **3. Consider whether the implementation models would be a good fit for your district.**

Read about different [implementation models](#) to consider how well they fit your district's goals, needs, and time constraints for professional learning.

## **4. Consider the resources required to implement the course successfully.**

Read about the [resources](#) needed to implement the course successfully. Your district may already have some resources in place, but others may need to be added. What is the feasibility of implementing the course?

## Is the Course a Good Fit for Your District?

**Directions:** Answer these questions and then analyze your responses.

1. Does your school or district provide mathematics intervention to students in grades 3–6?  
 Yes: Check all grades that apply:  3  4  5  6  No
2. Are you looking for ways to strengthen mathematics intervention to better support students struggling with mathematics in grades 3–6?  Yes  No
3. Are you looking for ways to provide intervention teachers with professional development (PD) on evidence-based recommendations and strategies?  Yes  No
4. Are you looking for PD resources that are specifically designed for teachers of mathematics intervention?  Yes  No
5. Would providing PD on effective mathematics intervention practices align with your current district initiatives?  Yes  No

**Analyze your responses:** Count the number of Yes responses: \_\_\_\_\_

If you selected **2–5 Yes responses**, then the course is likely to be a good fit for your school or district.

### Additional Considerations

#### 6. Consider whether other initiatives may impact the timing of the course.

- a. Does the district have other initiatives, such as implementing a new curriculum, that will be the main focus of teachers' PD time?  Yes  No
  - If *yes*, consider postponing the mathematics intervention course to a later date so that teachers will have more availability to focus on it.
- b. When might be a good time to implement the course? Why?
  -

#### 7. Consider potential overlap with prior PD programs.

- a. Has the district provided PD on mathematics intervention in the past 5 years?  Yes  No
- b. How is this PD course similar to and different from past PD offerings?

## 2. Consider Implementation Models

Choose an implementation model to fit your district's needs. The options are: A) [Implement the Full Course](#); B) [Use a Shorter Version](#); or C) [Implement Individual Modules](#).

### A. Implement the Full Course

There are many benefits to implementing the full course by using all the modules during one or two school years. This model reflects research<sup>3</sup> that effective PD should include active learning and the collective participation of teachers and should be sustained over time to support classroom implementation. Using the entire course will help teachers build knowledge and strategies for all five recommendations. The WWC Guide advises that these practices “be used in combination to help students achieve the strongest outcomes” (p. 3).

The full course of six modules provides 28 hours of professional learning. The sequence starts and ends with a short module (1 week each). Modules 1–4 are about 5 weeks each. Begin with Modules 0–2, as they lay a strong foundation for the subsequent modules. You can change the order of Modules 3–5 to fit your district's needs. The **example schedules** below show options for one school year (figure 4) or two school years (figure 5).

**Figure 4. Example Schedule for One School Year (Six modules)**

Sept.	Oct.–Nov.	Nov.–Dec.	Jan.–Feb.	Feb.–Mar.	Mar.
<b>0. Introductory</b>	<b>1. Mathematical Language</b>	<b>2. Representations</b>	<b>3. Number Lines</b>	<b>4. Word Problems</b>	<b>5. Systematic Instruction</b>
Kick-Off Session	Online Session 2 PLC Sessions	Online Session 2 PLC Sessions	Online Session 2 PLC Sessions	Online Session 2 PLC Sessions	Final PLC Session

**Figure 5. Example Schedule for Two School Years (Three modules per year)**

Year 1			Year 2		
Month 1	Months 2–3	Months 3–4	Months 1–2	Months 2–3	Months 3–4
<b>0. Introductory</b>	<b>1. Mathematical Language</b>	<b>2. Representations</b>	<b>3. Number Lines</b>	<b>4. Word Problems</b>	<b>5. Systematic Instruction</b>
Kick-Off Session	Online Session 2 PLC Sessions	Online Session 2 PLC Sessions	Online Session 2 PLC Sessions	Online Session 2 PLC Sessions	Final PLC Session

<sup>3</sup> Desimone, L. M., & Garet, M. S. (2015). Best practices in teachers' professional development in the United States. *Psychology, Society, & Education*, 7(3), 252–263. <http://ojs.ual.es/ojs/index.php/psye/article/view/515>

## B. Use a Shorter Version of the Course

You can choose to shorten the course by selecting a subset of modules. Begin with the Introductory Module to provide essential background information about the WWC Guide’s recommendations and the PD model. Consider using both the Mathematical Language and Representations modules because they provide essential content to build a foundation for the other recommendations.

To inform your selection of modules, gather input from teachers about their professional learning needs and interests. It is helpful to look at the modules on the course [website](#) to view the content and activities.

Examples of shorter course versions are in table 1, with the lengths and PD hours.

- **Modules 0 and 5:** Both take about 1 week and provide 2 PD hours.
- **Modules 1–4:** Each takes about 5 weeks and provides 6 PD hours.

**Table 1. Shorter Versions of the Course**

Example Combinations of Three or Four Modules	Course Length	PD Hours
<b>A. Build a strong foundation of recommended strategies.</b> <ul style="list-style-type: none"> <li>• Module 0. Introductory</li> <li>• Module 1. Mathematical Language</li> <li>• Module 2. Representations</li> </ul>	~11 weeks	14
<b>B. Focus on using representations and delve into number lines.</b> <ul style="list-style-type: none"> <li>• Module 0. Introductory</li> <li>• Module 2. Representations</li> <li>• Module 3. Number Lines</li> </ul>	~11 weeks	14
<b>C. Focus on language strategies and word problems.</b> <ul style="list-style-type: none"> <li>• Module 0. Introductory</li> <li>• Module 1. Mathematical Language</li> <li>• Module 4. Word Problems</li> </ul>	~11 weeks	14
<b>D. Build strategies for language, representations, and number lines.</b> <ul style="list-style-type: none"> <li>• Module 0. Introductory</li> <li>• Module 1. Mathematical Language</li> <li>• Module 2. Representations</li> <li>• Module 3. Number Lines</li> </ul>	~16 weeks	20
<b>E. Build strategies for language, representations, and word problems.</b> <ul style="list-style-type: none"> <li>• Module 0. Introductory</li> <li>• Module 1. Mathematical Language</li> <li>• Module 2. Representations</li> <li>• Module 4. Word Problems</li> </ul>	~16 weeks	20

## C. Implement Individual Modules

Modules 1–4 can be used individually to explore one recommendation (mathematical language, representations, number lines, or word problems). To help you choose modules, view the modules on the course website and gather information on teachers' professional learning needs and interests. Here are some suggestions for selecting modules:

- We recommend choosing Module 1, Mathematical Language, or Module 2, Representations, because they provide foundational content. The other modules (3–5) build on them.
- We do not recommend starting with Module 5, Systematic Instruction, because it incorporates strategies from all the other modules.
- Before starting your chosen module, implement the Introductory Module's Kick-Off Session (1.5–2 hours) to provide essential background information. It is *not* necessary to repeat this Kick-Off Session for subsequent modules.

**Scheduling Individual Modules:** Schedule about **5 weeks for any of the Modules 1–4**. Each includes one online session, two PLC sessions, time to use a routine with students, and wrap-up activities.

### Planning Questions: Consider Implementation Models

Use these questions to help you plan. [Appendix A](#) has an extended version of all the planning questions with room to write responses.

- Which implementation model will you use?
  - \_\_\_ Full course implemented during: \_\_\_ 1 school year \_\_\_ 2 school years.
  - \_\_\_ Shorter version of the course with three or four modules.
  - \_\_\_ Individual module(s).
- If you plan to use a shorter version or individual modules, which ones will you use?
  - \_\_\_ Module 0: Introductory (We strongly suggest starting with the Kick-Off Session.)
  - \_\_\_ Module 1. Mathematical Language
  - \_\_\_ Module 2. Representations
  - \_\_\_ Module 3. Number Lines
  - \_\_\_ Module 4. Word Problems
  - \_\_\_ Module 5. Systematic Instruction

### 3. Resources Needed for Successful Implementation

The toolkit [website](#) provides free resources for the course, including downloadable files for the Participant Workbooks and Facilitator Guides. Additionally, districts will need to provide other key resources to implement the course. The table below lists each required resource, the quantity needed, and a brief description. The quantity is based on using the full course, which consists of six modules, over one school year. Other options include implementing the course over two school years, using a shorter version, or using individual modules.

Review the table and then consider the planning questions (on the next page) about the resources.

**Table 2. Resources Needed to Implement the Full Course**

Resource	Quantity	Description
<b>Time for instruction, professional learning, and supporting staff</b>		
Educator professional development (PD) time	Per educator, total of <b>28</b> hours, including time to: <ul style="list-style-type: none"> <li>• Attend 10 sessions:               <ul style="list-style-type: none"> <li>○ 1 kick-off session</li> <li>○ 9 professional learning community (PLC) sessions</li> </ul> </li> <li>• Complete online learning activities (asynchronous)</li> <li>• Complete individual wrap-up activities for each module</li> </ul>	Time for participating educators to attend 10 sessions and complete the other professional learning activities.  Participants are teachers of mathematics intervention such as interventionists, Title I teachers, math specialists, general educators, and special educators.
Educator instructional time	Per educator, time to apply their learning in the modules by using instructional routines in the classroom.	Time for educators to implement recommended strategies with students. This can include time educators already use for mathematics instruction.
Facilitator time for one PLC group	About <b>45–55</b> hours per facilitator, including time to: <ul style="list-style-type: none"> <li>• Prepare for 10 sessions: 16–22 hours</li> <li>• Facilitate 10 sessions: 15–20 hours</li> <li>• Communicate with participants: about 5 hours</li> <li>• Complete four online sessions to build background knowledge: 4–8 hours</li> </ul> <p>These times are estimates and will vary by facilitator.</p>	The facilitators' main tasks are planning and leading the sessions and communicating with participants. They also complete online sessions to build background knowledge.  The facilitator could be a school or district mathematics leader, mathematics coach, district PD provider, or teacher leader. It is recommended that facilitators have prior experience in elementary mathematics and facilitating PD activities.  There can be one facilitator or two co-facilitators. Two co-facilitators can divide the preparation tasks, which will decrease the total time.

Resource	Quantity	Description
<b>Materials, equipment, and facilities</b>		
Materials to access toolkit or toolkit implementation materials	<ul style="list-style-type: none"> <li>• Computer or tablet</li> <li>• Internet connection</li> <li>• Printer</li> </ul> <p><i>Note: Not intended to indicate the need for a new computer, tablet, or printer; simply access to a computer or tablet with internet connection and a printer</i></p>	Access to a computer or tablet with internet connection to access the online toolkit materials and attend virtual meetings, if applicable; printer for printing hard copies of toolkit materials or other implementation materials, including the session handouts.
Materials for PLC sessions	<p><i>For in-person sessions:</i></p> <ul style="list-style-type: none"> <li>• Meeting room (such as a classroom or conference room)</li> <li>• Projector to display PowerPoint slides and the instructional videos</li> <li>• Materials for activities (e.g., fraction tiles), and chart paper or whiteboard to record notes from discussions</li> <li>• Printed versions of the session handouts</li> </ul> <p><i>For virtual sessions:</i></p> <ul style="list-style-type: none"> <li>• Virtual meeting space (such as video conference set up)</li> <li>• PowerPoint slides and instructional videos to share during the session</li> <li>• Materials for activities (e.g., fraction tiles) for participants to use during the session</li> <li>• Printed versions of the session handouts, shared in advance</li> </ul>	<p><i>PLC sessions are intended to be delivered either in person or virtually.</i></p> <p>In-person sessions require a room that can accommodate the intended number of in-person participants plus accompanying materials (e.g., projector, chart paper, sticky notes) to display course slides and lead small-group discussion activities.</p> <p>Virtual meetings require space for delivering online sessions plus participant access to physical materials to be used while participating in the online session.</p> <p>Will need printed versions of the handouts, shared in advance, for each session.</p>

## Planning Questions: Resources for Implementation

Consider and discuss these questions. [Appendix A](#) has an extended version of the planning questions with room to write responses.

**3.1** Which resources for implementing the PD course would be doable for you and your team?

**3.2** Which resources might pose challenges? What are ways to address these challenges?

**3.3** What additional information do you need to determine the feasibility of implementing the course? How will you gather the information?

## 4. Identify Facilitators

Identifying a facilitator or co-facilitators is a key step for the successful implementation of the course. This section provides information about the facilitators' roles and tasks.

### 1. Who should facilitate the course?

The course is intended to be led by a facilitator, such as a **school or district math leader, math coach, district PD provider, or teacher leader**. There can be one facilitator or two co-facilitators.

- Facilitators need expertise with elementary mathematics content and pedagogical practices, prior experience leading PD activities, and strong facilitation skills.
- Facilitators do *not* need to be experts in mathematics intervention or have taken the course themselves in advance. They can learn together with the participants.

### 2. What are the facilitators' main tasks?

The facilitators' main tasks are to prepare for and facilitate the PLC sessions and provide ongoing communication with participants, such as sending session reminders.

### 3. What resources does the toolkit provide for facilitators?

To support facilitators, the toolkit provides ready-to-use resources, including Facilitator Guides (one per module) with session agendas, slides with presenter notes, handouts, and videos.

### 4. What are the benefits for facilitators?

*The course provides facilitators with an opportunity to:*

- Provide a high-quality PD course designed specifically for intervention teachers by implementing ready-to-use resources.
- Support intervention teachers in building evidence-based strategies.
- Incorporate the course into a district's MTSS program or other initiative to strengthen students' mathematics learning,
- Build their own knowledge of intervention strategies by learning with teachers in the course.
- Integrate the facilitation of the course into their roles and responsibilities for providing PD and coaching for teachers.
- Support the collaboration of intervention teachers, general educators, and others to strengthen support for students struggling with mathematics.
- Grow professionally by building knowledge and facilitation skills that are applicable to leading other PD activities on mathematics education topics.



### 5. How much time will facilitators need to spend on the course?

A facilitator will spend approximately 45–55 hours, in total, on the PD course. If the course is run during one school year, they will likely spend about 7–9 hours per month over 6–7 months. If it is run over two school years, this is about 7–9 hours per month over 3–4 months each year.

The facilitators' main tasks include the following:

- Prepare for and facilitate 10 sessions (one Kick-Off and 9 PLC sessions):
  - Facilitation time is about 20 hours, including the time to lead each session (1.5 hours) and additional pre-post time to set up and clean up (~0.5 hours).
  - Preparation includes reviewing the slides and presenter notes, trying activities, and other tasks (1.5–3 hours per PLC session).
- Complete four online sessions to build background knowledge: Facilitators do *not* facilitate these sessions, but they need to do the activities themselves (1–2 hours per session).
- Provide ongoing communication: Facilitators send session reminders and respond to participants' questions. The estimated time is about 0.5 hours per session.

The estimated time needed for each module is shown in table 3. Times will vary by facilitator.

**Table 3. Facilitators' Tasks and Estimated Times**

Modules	Facilitate PLC Sessions <sup>a</sup> (hours)	Prepare for Sessions (hours)	Communication Tasks (hours)	Do Online Sessions (hours)	Total Time (hours)
<b>Introductory</b> 1 Kick-Off Session	2	2–3	0.5	NA	4.5–5.5
<b>Mathematical Language</b> 2 PLC Sessions	4	3–4	1	1–2	9–11
<b>Representations</b> 2 PLC Sessions	4	3–4	1	1–2	9–11
<b>Number Lines</b> 2 PLC Sessions	4	3–4	1	1–2	9–11
<b>Word Problems</b> 2 PLC Sessions	4	3–4	1	1–2	9–11
<b>Systematic Instruction</b> 1 PLC Session	2	2–3	0.5	NA	4.5–5.5
<b>Full Course</b>	<b>20</b>	<b>16–22</b>	<b>5</b>	<b>4–8</b>	<b>45–55</b>

a. The facilitation time is for **one** PLC group.

NA is not applicable.

**6. What are the reasons to have two co-facilitators?**

It is recommended, but not essential, to have two co-facilitators who work together to co-plan and co-lead the course. They can collaborate and support each other before, during, and after facilitating sessions. Having co-facilitators helps reduce the amount of preparation time because the facilitators can divide up the tasks. If your district has multiple PLC groups, the facilitators can choose to co-lead some groups together and lead others individually. Having co-facilitators also provides an opportunity for a more experienced facilitator to mentor a newer facilitator. If your course spans grades 3–6, consider having one facilitator with elementary expertise and one with middle-grade expertise. Another benefit is that having two facilitators will help build the district's capacity to implement the course again in the future.

**Planning Questions: Identify Facilitators**

- 4.1** Who might be a good fit for facilitating the course?
- 4.2** Would you like to have one facilitator or two co-facilitators?
- 4.3** What steps will you take to identify and recruit facilitator(s) to lead the course?

## 5. Identify Intended Audiences

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The course is specifically designed for **teachers of mathematics intervention in grades 3–6**. A major factor in implementing the course effectively is identifying who should participate in the course so that the PD is a good fit for their needs. Here are answers to key questions about the audiences.

### 1. Who are the intended audiences for this course?

- The **primary audience** is educators who provide mathematics intervention in grades 3–6, including:
  - Interventionists and Title I teachers whose primary responsibility is teaching mathematics intervention.
  - General educators who provide mathematics intervention to small groups of students during intervention blocks or in their core mathematics classes.
  - Math specialists, math coaches, or special educators who teach or co-teach mathematics intervention in addition to other responsibilities.
- The secondary audiences include:
  - Instructional or math coaches and specialists who work with mathematics intervention teachers but do not provide intervention directly to students.
  - General educators who do not provide mathematics intervention but who work with small groups of students during mathematics lessons, centers, and stations.
  - Other educators who are interested in learning about the recommendations and strategies.

### 2. Do teachers need to teach a specific grade level?

- The course focuses on grades 3–6. Teachers can teach one grade or multiple grade levels.
- PLCs can include teachers from all four grades together or focus on specific grades.

### 3. Are there requirements for specific intervention settings?

No, the course supports teachers who provide intervention in different settings, including:

- Separate mathematics intervention classes, such as a class that meets during an elective block.
- Intervention or enrichment blocks at a designated time in the schedule for students to get intervention or enrichment in mathematics, such as W.I.N. (What I Need) blocks.
- Designated intervention times in core mathematics classes. For example, a 90-minute mathematics class includes 20 minutes for small-group intervention.
- Using a push-in model for intervention in core mathematics classes.

**4. Are there requirements for specific intervention programs or curricula?**

No, the course can be implemented by districts that use various intervention programs or that do not have a program.

**5. Is the course a good fit for general educators?**

The course is a good fit for general educators who provide intervention to students during an intervention block or work with small groups during core mathematics classes. One benefit of the course is that general educators will learn strategies to support students with mathematics difficulties in their core classes. These recommended strategies can help build mathematical understanding and promote communication for all students in the class. Another benefit is the opportunity for general educators to collaborate with intervention teachers to strengthen the connections between the core mathematics classes and intervention classes. It is important to clarify to general educators that the course focuses on providing mathematics intervention to small groups of students. For example, the videos show teachers working with a small group of students rather than a large class.

If your audience is primarily general education teachers, facilitators can highlight ways of applying the recommended strategies in general education classes, such as in centers, stations, or blocks. At the PLC sessions, provide participants with additional opportunities to discuss and plan for implementing the strategies and instructional routines in their classroom settings. Facilitators can offer support to help general educators implement strategies when they work with small groups of students during core mathematics lessons, centers or stations, and short instructional blocks, such as W.I.N. blocks.

**6. What is the recommended number of participants?**

We suggest having 6–30 participants for the course. Districts can choose to have smaller or larger numbers of participants to fit their context. (See suggestions for small districts below.) The course can be run for one or more PLC groups, each having 3–15 participants and one or two facilitators.

**7. What are some ways for small districts to implement the course?**

If your district has a small number of intervention teachers, here are several suggestions:

- Expand the audience by including general educators and other educators who are interested in learning about the recommendations and strategies.
- Partner with one or more other districts to provide the course to intervention teachers from the participating districts. The PLC sessions can be held virtually to make it easier for participants from different districts to attend. District leaders will need to co-plan and make key decisions, including selecting facilitators, recruiting participants, scheduling PLC sessions, and providing essential resources for implementation.
- Ask a regional technical assistance center or educational collaborative to host the course for districts in your region.

### 8. Will participation in the course be voluntary or required?

A key planning decision is whether to have voluntary or required participation in the course. There are benefits and challenges to each approach. When participants can choose whether to enroll, they tend to be motivated to engage in professional learning. However, the group size is likely to be smaller, and you will need to recruit participants. By requiring participation, you can provide the course to all teachers of intervention in your intended audience, which is beneficial for having a concerted, district-wide initiative. To make this decision, it is essential to consider the availability of designated PD time to hold the PLC sessions and for participants to work on the online sessions.

- If your district can hold the sessions during designated PD times, you can choose voluntary or required participation.
- If the sessions are held outside of school time, participation may need to be voluntary.

## Planning Questions: Identify Intended Audiences

**5.1** Who are your **intended audiences** for the course?

\_\_\_ Teachers who provide mathematics intervention at your chosen grades (see 5.2), including:

\_\_\_ Interventionists

\_\_\_ Title I teachers

\_\_\_ General educators

\_\_\_ Special educators

\_\_\_ Math coaches or specialists who teach intervention or work with intervention teachers.

\_\_\_ Other: \_\_\_\_\_

**5.2** What **grades** will you focus on? Mathematics intervention in grades: \_\_\_ 3 \_\_\_ 4 \_\_\_ 5 \_\_\_ 6

**5.3** Ideally, **how many participants** do you want to have in the course? \_\_\_\_\_

**5.4** Will participation in the course be voluntary or required? \_\_\_ **Voluntary** \_\_\_ **Required**

### ***For Small Districts***

**5.5** Are you interested in co-hosting the course with other districts? \_\_\_ Yes \_\_\_ No \_\_\_ Unsure

**5.6** If you selected Yes, which district(s) might you partner with?

## 6. Plan for PLC Groups and Sessions

PLCs are a central component of the course, providing a collaborative, supportive structure for a facilitator or co-facilitators and a group of participants to learn about and implement evidence-based strategies for mathematics intervention.

### Overview of PLCs

- **Size of PLC groups:** 3–15 participants and one or two facilitators.
- **Format:** In person or virtual.
- **Length:** 90 minutes per session. (Other options are available.)
- **Frequency:** Schedule sessions about 2 weeks apart.
- **Number of PLC sessions in course:** One Kick-Off Session and nine PLC sessions. (Modules 1–4 each have two PLC sessions, and Module 5 has one).

### PLC Groups

PLC groups can have participants from one school or different schools. Some schools have only one or two intervention teachers, so PLCs can provide a valuable opportunity to collaborate with others in the district. The course can be implemented with one or multiple PLC groups. The groups can include teachers from just one grade or different grades.

### About the PLC Sessions

Modules 1–4 have two types of PLC sessions (A and B), which alternate and are scheduled about 2 weeks apart:

- **PLC Session-A:** The facilitator presents information about the focus recommendation, such as Mathematical Language; leads discussions; and engages participants in trying strategies and an instructional routine. Participants discuss a classroom video of the routine and prepare to use it.
- **Between the PLC sessions** (*about 2 weeks*), participants are expected to use the routine with students at least once. Then, they prepare to share their experiences at the next PLC session.
- **PLC Session-B:** Participants share their experiences with the routine using a Debriefing Protocol. Then, the facilitator leads a discussion about common themes, and participants plan concrete actions to strengthen their practices.

**Formats:** You can hold the PLC sessions **in person** or **virtually**, or you can **vary the format**. For example, you could start and end the course with in-person sessions and use a virtual format for the other sessions.

## Scheduling PLC Sessions

PLC sessions can be held during designated PD times, such as early release days or after school. Holding sessions after school can work well for groups that include teachers from different schools. If PLCs meet after school, additional coordination may be needed to schedule the sessions. Ask the facilitator and participants to identify days and times that will work for all the group members. Consider holding all the PLC sessions on the same day and time, such as Wednesdays at 3:00 p.m., to make the schedule easier to remember.

**Recommended Session Length:** The PLC sessions are designed to be **90 minutes long** to provide sufficient time for active learning about the recommendation, preparing to use instructional routines, and sharing experiences. If you need to adjust the time, use the guidance below:

- For **2-hour time slots**, it works well to increase the time for activities and discussions. The Facilitator Guides provide specific suggestions.
- For **45–60-minute time slots**, you will need to make changes to fit the reduced time:
  - **For PLC Session-A:** We do not recommend trying to fit all the content into a shorter time. Instead, divide PLC Session-A into two sessions, Part 1 and Part 2 (45–60 minutes each). Part 1 focuses on the recommendation, and Part 2 focuses on learning the routine.
  - For PLC Session-B: Allow sufficient time for teachers to share experiences with the routine. Shorten the other activities to fit the 45–60-minute time slot.

**Time Between Sessions:** We recommend scheduling the PLC sessions **about 2 weeks apart** to allow time between sessions for online learning and trying an instructional routine with students. You can adjust the time between sessions to fit your district's PD schedule.

*See the Planning Questions on the next page.*

## Planning Questions: PLC Groups and Sessions

- 6.1** How many PLC groups do you want to have? \_\_\_\_
- 6.2** About how many participants do you want in each PLC group? \_\_\_\_
- 6.3** How will you set up the groups? In each PLC group, participants will be from:
- \_\_\_\_ our district only    \_\_\_\_ more than one district
- \_\_\_\_ one school            \_\_\_\_ two or more schools
- \_\_\_\_ one grade            \_\_\_\_ two or more grades
- 6.4** What format will you use for the PLC sessions? \_\_\_\_ in person    \_\_\_\_ virtual    \_\_\_\_ a mix
- 6.5** The PLC sessions are designed to be 90 minutes long. They can be adapted for longer or shorter sessions. How long will your sessions be?
- \_\_\_\_ 90 min.    \_\_\_\_ 120 min.    \_\_\_\_ 45–60 min.    \_\_\_\_ Other:
- 6.6** When will the PLC sessions meet?
- \_\_\_\_ During designated PD time    \_\_\_\_ After school    \_\_\_\_ Other

## 7. Plan the Schedule

The course is designed to be implemented during the school year so that teachers can use the routines with students and share their experiences with colleagues at PLC sessions. It is helpful to start the course in the fall so that teachers can apply the strategies throughout the school year. Another option is to have a summer session to launch the course (see [FAQs](#) for more information).

To prepare for scheduling, review the modules' sequence, length, and key activities in figure 6. Start with Modules 0–2 to build foundational content. You can change the order of Modules 3–5.

**Figure 6. Sequence, Length, and Activities for Modules**

0. Introductory	1. Mathematical Language	2. Representations	3. Number Lines	4. Word Problems	5. Systematic Instruction
<ul style="list-style-type: none"> <li>Kick-Off Session</li> </ul>	<ul style="list-style-type: none"> <li>Online Session</li> <li>PLC Session-A</li> <li>Use the Routine</li> <li>PLC Session-B</li> </ul>	<ul style="list-style-type: none"> <li>Online Session</li> <li>PLC Session-A</li> <li>Use the Routine</li> <li>PLC Session-B</li> </ul>	<ul style="list-style-type: none"> <li>Online Session</li> <li>PLC Session-A</li> <li>Use the Routine</li> <li>PLC Session-B</li> </ul>	<ul style="list-style-type: none"> <li>Online Session</li> <li>PLC Session-A</li> <li>Use the Routine</li> <li>PLC Session-B</li> </ul>	<ul style="list-style-type: none"> <li>Final PLC Session</li> </ul>
<b>1 week</b>	<b>5 weeks</b>	<b>5 weeks</b>	<b>5 weeks</b>	<b>5 weeks</b>	<b>1 week</b>

**Course Length:** The entire course of six modules requires about **22 weeks**, which spans about **6–7 months** to allow for school vacation weeks and holidays. The recommended duration for each implementation model is provided in table 4. Districts can adjust the schedule and number of modules to fit their needs.

**Table 4. Recommended Time Spans for Different Implementation Models**

Implementation Model	Time Span Needed
<b>A.</b> Full course during one school year: Six modules	~22 weeks, during 6–7 months
<b>B.</b> Full course during two school years: Three modules per year	~11 weeks, during 3–4 months each year
<b>C.</b> Shorter version: Three or four modules	11–16 weeks, during 3–5 months

## Planning Questions: Schedule

**7.1** To plan the schedule, you need to select an implementation model.

\_\_\_\_ Full course during one school year: Six modules over 6–7 months

\_\_\_\_ Full course during two school years: Three modules over 3–4 months each year

\_\_\_\_ Shorter version with number of modules: \_\_\_\_\_

\_\_\_\_ Individual module: \_\_\_\_\_

**7.2** When do you want the course to start and end? List months or dates.

Start:

End:

**7.3** Plan a specific schedule for your district by using these resources in Appendix A:

- [Scheduling Worksheet](#)
- [Example Course Schedule](#)

## 8. Recruit Participants

---

This section provides suggestions for recruiting teachers to participate in the course.

### Recruiting Strategies

It is helpful to use multiple approaches to reach your intended audiences.

- **Spread the word** about the course to generate interest. Some options are to talk about the course at a faculty meeting, send emails, distribute course flyers, and put announcements in school or district newsletters. (See [Appendix B](#) for examples.)
- Have school and district leaders **extend direct invitations** to teachers via email or conversation. Individual outreach to teachers shows that the course is supported by leadership and can help motivate teachers to enroll in the course.
- **Hold a short informational session or webinar** to provide an overview of the course and answer questions. You may want to record the session to share with teachers who could not attend.
- **Show the overview video**, [Math Intervention Toolkit: An Introduction to the PD Course](#), at an informational session or send the link in an email announcement.
- **Communicate about the importance of the course** for addressing school and district needs, goals, and initiatives. Highlight how the course helps address a pressing need to strengthen support for students struggling with mathematics. By participating in the course, teachers will learn about effective intervention strategies that they can use with their students.

### Consider Possible Compensation or Incentives for Participants

If the course sessions will be held outside of the workday, consider ways to provide compensation or incentives for participants. Here are some suggestions:

- **Provide stipends** to participants for attending afterschool or summer sessions.
- **Allocate funds for mathematics materials.** Give teachers the option to get a classroom set of materials, such as fraction tiles. Offer a choice of manipulatives that are used in the course.
- **Provide certificates of completion for PD hours.** Some states have license renewal requirements for teachers to complete a specific number of PD hours or Professional Development Points (PDPs). The exact number of PD hours will vary depending on your implementation plan and your district or state requirements. Refer to your state's guidelines and requirements to determine whether this coursework is eligible and to determine the number of hours that can be awarded for successful completion. If you plan to provide certificates, make sure to get any necessary permissions to award the PD hours to participants. Appendix C has an [Certificate of Completion Template](#) that you can adapt to fit your state or district requirements.
- **Connect the course to teachers' professional learning goals or district goals.** Some states require teachers to set PD goals as part of an evaluation process. Support teachers in reviewing the

course goals and activities to identify areas of alignment with professional learning goals for teacher evaluation.

- **Offer an option for continuing education credits or graduate credits.** Your district may be able to partner with a state university or other institution to offer the course for university credit. Participants will need to pay a fee to the university to enroll for the credits. Some districts will reimburse teachers for some or all of the cost of a course with satisfactory achievement of a benchmark grade upon completion.

### Planning Questions: Recruiting Strategies

**8.1** Who will you recruit to participate in the course? (See [Intended Audiences.](#))

**8.2** What strategies and resources will you use to recruit participants?

Talking points    Emails    Personal invitations    Course flyers  
 Newsletter announcements    Announcements at faculty meetings  
 Informational session    Other: \_\_\_\_\_

**8.3** Who will work on the recruitment activities to reach out to potential participants?

**8.4** What's your timeline for recruiting participants?

When will you start recruiting? \_\_\_\_\_

When will the course begin? \_\_\_\_\_

**8.5** What recruiting challenges do you anticipate? What are ways to address the challenges?

## 9. Communicate about the Course: Talking Points

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Here are example talking points for generating interest in the course and recruiting participants. Feel free to adapt these points to fit your communication style and audiences.

### Talking Points to Share with Teachers

- The course is **specifically designed for teachers of mathematics intervention** in grades 3–6. Its unique focus on mathematics intervention makes the course stand out from other PD programs.
- The course focuses on **evidence-based recommendations and strategies** for supporting students struggling with mathematics.
- **Videos of mathematics intervention classes** show examples of recommended strategies in action. Aside from this course, few videos of actual intervention classes are available.
- The course focuses on **instructional strategies** that are applicable across mathematics content topics and can be used throughout the school year.
- The course focuses on key **Number and Operations topics**, such as fractions, that are a high priority for mathematics intervention in grades 3–6. Building a strong foundation with fractions is critical for students' success with grade-level and future mathematics classes.
- The course provides **engaging instructional routines** that incorporate evidence-based strategies for teachers to use with students.
- **Professional learning community (PLC) sessions** provide opportunities to collaborate with other mathematics intervention teachers and general education teachers. Group members learn together, try strategies, prepare to use routines with students, and share experiences.

**Talking Points to Share with School and District Leaders**

- The course provides **ready-to-use resources for implementing a high-quality professional learning** experience focused on effective mathematics intervention practices. Districts do not need to design their own course from scratch.
- The course is **designed specifically for teachers of mathematics intervention** in grades 3–6. This focus on mathematics intervention increases the course’s relevance for mathematics intervention teachers and distinguishes the course from other PD programs.
- The course helps **strengthen teachers’ knowledge and use of effective intervention practices**. These evidence-based strategies are from a rigorous review of recent research from the What Works Clearinghouse (WWC) Practice Guide, *Assisting Students Struggling with Mathematics*.
- The course **aligns with district goals and initiatives** to improve students’ mathematics learning outcomes by strengthening teachers’ instructional strategies.
- The course aligns with the implementation of a **Multi-Tiered Systems of Support (MTSS)** framework for mathematics.
- Implementing the course will help districts **build capacity** to provide PD and support for teachers of mathematics intervention.

## 10. Plan Logistics

In addition to planning the course schedule, you may need to plan other logistics for the sessions, such as meeting locations. Some logistics are different for in-person and virtual PLC sessions. Use the list below and add your own items. This list does not include preparing course materials because that information is in the next section.

### Logistics Checklist for Sessions

Here's a list of additional things that you may need to plan.

*For in-person sessions:*

- Reserve a meeting location for an in-person Kick-Off Session.
  - Date: \_\_\_\_\_ Time: \_\_\_\_\_ Number of participants: \_\_\_\_\_
- Reserve a meeting location for in-person PLC sessions.
  - Dates and times: \_\_\_\_\_
  - Number of participants: \_\_\_\_\_
- Reserve a projection device and speaker for showing slides and videos at the meetings.

*For virtual sessions:*

- Use a video-conferencing platform to schedule the virtual PLC sessions and send out invitations for participants to reserve the dates. If possible, use the same URL for all the sessions so that it is easier for participants to keep track of. Use a video-conferencing platform that allows you to have breakout groups.

# 11. Prepare Course Materials

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This section provides a general list of materials to prepare for the course. The Facilitator Guides provide a more detailed list of materials for each module.

## 1. Print handouts in advance.

Each module's Participant Workbook includes all the handouts for the sessions. It is not necessary to print the full workbook. Participants will also have access to electronic file versions from the Online Component on the course website. Here are suggestions of what to print:

- Print the Course Introduction for the Introductory Module only. It is the same for all the modules.
- For each module, print the handouts so that participants can write on them at the sessions.
- For Modules 1–4, print the Routine Teaching Guide.
- Optional:* Printing the appendices is optional.

You can choose whether to provide printed handouts for *all* the modules at the start or to give out one module's materials at a time. If you choose the latter, provide participants with each module's handouts *before* they start the online session, so they can use them for the activities.

*Optional:* Prepare 3-ring binders with dividers to have a section for each module's handouts. Providing binders helps organize the handouts for participants to use during and after the course.

## 2. Customize and print the Course Checklist.

The purpose of the Course Checklist is to help participants keep track of the course schedule and tasks. Use the [Course Checklist template](#) (fillable PDF file) to customize it for your participants.

- Add dates for each module and adapt the checklist to fit your implementation plan.
- Print copies of the checklist to give to participants.
- Optional:* Post a file version of the checklist in a shared drive for the class.

## 3. Gather manipulatives.

The WWC Guide recommends using concrete representations, such as manipulatives, to help students understand mathematical concepts and processes. To strengthen teachers' use of this strategy, the course engages participants in using manipulatives to model and solve problems themselves and offers classroom applications. Table 5 provides the list of required manipulatives. Before starting the course, gather information from teachers about the availability of these manipulatives in their classrooms or schools to determine whether additional manipulatives need to be purchased.

Plan which manipulatives you will need for your implementation model:

- *If you implement the whole course*, participants will need one set of the following: Fraction tiles, base ten blocks, and small colored tiles or counters.
- If you are not implementing the whole course, use table 5 to find out which manipulatives you need for your chosen modules.

**Table 5. Manipulatives Needed for Each Module**

Manipulatives (one set per participant)	Introductory Module	1. Mathematical Language	2. Representations	3. Number Lines	4. Word Problems	5. Systematic Instruction
Fraction tiles	Y	Y	Y	Y		Y
Base ten blocks			Y		Y	
Small square tiles or counters					Y	
<i>Optional:</i> Fraction circles	Optional		Optional			Optional

## General List of Materials to Prepare

- Print handouts** for the modules. Download the file versions of the Participant Workbooks from the Online Component and print the required sections.
  - *Optional:* Prepare 3-ring binders to organize the handouts.
- Prepare the course schedule and checklist.** Customize the schedule and checklist with your dates. Print copies for participants and post file versions on a shared class drive.
- Gather or purchase manipulatives.** Each participant will need a set of the required manipulatives (see table 5 above). Find out if participants have these manipulatives in their classrooms or schools to determine whether additional sets need to be purchased.
- Optional:* Organize the electronic files by setting up a shared drive for the course.** Set up an online folder for each module with the files for the Participant Workbook, Course Checklist, and other resources. Also, it is helpful to set up work folders for participants to upload their Debriefing Slides to share at PLC Session-B in Modules 1–4.

## More FAQs: Implementing the Course

This set of FAQs focuses on course implementation. Choose questions that interest you.

### FAQs about Course Implementation

1. [Do districts need to have PLC groups already in place to implement the course?](#)
2. [Our district wants to use designated PD times that are 2 hours long for the PLC sessions. How can we make this work?](#)
3. [Our district would like to hold the PLC sessions during the school day, but we will have only 45–60 minutes, not 90 minutes. How can we make this work?](#)
4. [Can districts choose to start the course in the summer?](#)
5. [Are there options for individual educators to use the PD course without being part of a PLC?](#)
6. [How can math leaders and other administrators support the implementation of the course?](#)

Note: Section 1 has [FAQs about the course content](#).

## Responses

### 1. Do districts need to have PLC groups already in place to implement the course?

No, the course can be implemented successfully by districts that do not currently have PLC groups as well as by those with established PLC groups. For the course, districts will need to set up at least one PLC group of mathematics intervention teachers from one or more schools. See the [Plan PLC Groups](#) section for more information.

### 2. Our district wants to use designated PD times that are 2 hours long for the PLC sessions. How can we make this work?

The PLC sessions have 90-minute agendas that can be easily extended to a 2-hour time slot. Facilitators can increase the time for specific activities and discussions to fit participants' professional learning needs and interests. It is helpful to give extended time for planning to use the routines with students. The Facilitator Guides provide specific suggestions for each module.

### 3. Our district would like to hold the PLC sessions during the school day, but we will have only 45–60 minutes, not 90 minutes. How can we make this work?

Because you will have shorter sessions, we suggest having three PLC sessions per module instead of two. We do *not* recommend trying to fit PLC Session-A into a shorter time because there is not enough time to address the content and prepare for using the routine. Instead, we suggest dividing it into two sessions, Part 1 and Part 2. For PLC Session-B, focus on sharing experiences with the routine and shorten or cut the other activities to fit in 45–60 minutes. Here's an overview of the three shorter PLC sessions for one module:

- PLC Session-A, Part 1: Explore and discuss the focus recommendation and strategies.

- PLC Session-A, Part 2: Focus on learning the routine and prepare to use it with students.
- PLC Session-B: Focus on sharing experiences using the routine.

More information is provided in the [Plan PLCs](#) section and in the Facilitator Guides.

#### 4. Can districts choose to start the course in the summer?

We recommend implementing most of the course during the school year so teachers can use the routines with students and share their experiences at PLC sessions. You can choose to start the course in the summer by using these options:

- a. Lead a Kick-Off Session to introduce the course as a 2-hour or half-day summer session.
- b. Lead a Kick-Off Session and Module 1, Mathematical Language (first half) as a full-day summer session. Introduce the course and delve into the mathematical language recommendation at the summer session. Participants prepare to use the routine with students in September. Then, continue Module 1 in October by facilitating PLC Session-B so participants can share their teaching experiences with the routine.

#### 5. Are there options for individual educators to use the PD course without being part of a PLC?

While the recommended course format is district-based PLC groups, this may not be an option for some educators. Individual educators can use the modules' **online sessions** to learn about the recommendations on their own. The online sessions have readings, videos, mathematics activities, check-for-understanding questions, and other resources.

To access the online sessions, go to the [Mathematics Intervention Toolkit website](#), select the Teachers' PD Course Modules menu, and then select a module: 1) Mathematical Language, 2) Representations, 3) Number Lines, or 4) Word Problems. Then, teachers can explore the recommendation by doing the online activities on the Explore-A and Explore-B tabs.

#### 6. How can math leaders and other administrators support the implementation of the course?

As with any professional learning initiative, math leaders and other administrators play a crucial role in supporting a successful experience. They can communicate the importance of participating in the course and how it aligns with district initiatives. Leaders can gather input from teachers about their professional learning needs and interests and use those findings to inform plans for implementing the course. In addition, leaders can support the facilitators by helping with logistics and scheduling and being available to discuss questions or issues that arise. See [Provide Support During the Course](#) in the next section for more suggestions.

# Section 3. Supporting and Sustaining Implementation

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This section offers leaders suggestions for supporting the course’s implementation and sustaining teachers’ use of the recommended strategies after the course ends. It also provides suggestions for addressing general challenges for mathematics intervention that the WWC Guide identified.

<b>Provide Support During the Course</b> .....	<b>43</b>
<b>After the Course Ends: Continue to Provide Support</b> .....	<b>44</b>
<b>Address Potential Challenges for Math Intervention</b> .....	<b>45</b>
Challenge A: Intervention Curriculum .....	46
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## Provide Support During the Course

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Leaders can play an instrumental role in supporting the implementation of the course and teachers' use of the strategies with students. Here are some suggestions for actions leaders may take during the course to support successful implementation.

### Suggestions for Leader Actions to Support Implementation of the Course

*Look over the suggestions. Select actions you will take and add your ideas to the list.*

- a. Communicate** the importance of the course to the broader school or district community and express appreciation for the participation of teachers and facilitators.
- b. Attend one or more sessions** to have first-hand experience with the PD content and activities and show participants that you value the course.
- c. Provide additional support** for teachers to implement strategies with students, such as co-planning time.
- d.** Arrange times for **peer observations** so that teacher participants can see each other using routines and strategies from the course.
- e.** If your district has math coaches, arrange for teachers to get **coaching** focused on the course's recommended strategies. Coaches could support teachers in working on strategies that teachers identified on the self-reflection forms at the end of each module.
- f.** Provide opportunities for facilitators and teachers to **share highlights** from the course at relevant meetings.
- g.** Provide opportunities for participants to **share their learning** and show student work examples at **grade-level meetings**.
- h. Show interest** in the course by asking teachers to tell you about a strategy they learned about or applied with students.
- i.** Ask facilitators to **gather participants' feedback** at the end of each session and use it to plan for subsequent sessions. Example feedback surveys and exit tickets are in [Appendix C](#).
- j. Check in periodically** with the course facilitators and provide support as needed.
- k. Showcase** the course participants' work and share it with the larger teacher community.
- l. Celebrate successes** through newsletter posts, blog posts, and sharing at staff meetings.
- m.** Provide participants with a [Certificate of Completion](#) for PD hours at the end of the course.

## After the Course Ends: Continue to Provide Support

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After the course concludes, it is essential to continue supporting teachers in implementing the recommended strategies with their students. Here are suggestions for actions leaders may take *after* the course ends.

### Suggestions for Leader Actions After Implementation of the Course

*Look over the suggestions. Select actions you will take and add your ideas to the list.*

- \_\_a. Schedule follow-up sessions** for course participants to continue meeting periodically to collaborate on planning for and implementing the recommendations.
- \_\_b. Provide additional support for teachers** to implement strategies with students, such as instructional coaching and co-planning focused on the recommendations.
- \_\_c. Have instructional coaches meet periodically with teachers** to support their continued use of recommended strategies.
- \_\_d. Schedule co-planning times** that are designated for planning mathematics intervention lessons by intervention teachers, general educators, special educators, and coaches.
- \_\_e. Schedule and support peer observations** so teachers can visit each other's mathematics intervention classes.
- \_\_f. Provide opportunities for facilitators and teachers to share** what they learned from the course with other educators.
- \_\_g. Celebrate successes** in implementing the recommendations and share examples of student learning.
- \_\_h. Set up a video, book, or article club** for teachers on topics related to the course modules to support continued discussion and application of strategies.
- \_\_i. Provide ongoing communication** about the value of the evidence-based recommendations to all stakeholders in the school community, including teachers, parents, and families.

## Address Potential Challenges for Mathematics Intervention

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This section focuses on the broader context of strengthening mathematics intervention and goes beyond implementing the PD course. It focuses on potential obstacles to implementing the WWC Guide's specific recommendations. For each recommendation, the WWC Guide describes potential obstacles and offers suggestions from the expert panel. For this Leader Guide, we selected five challenges from the WWC Guide that are particularly relevant for school and district leaders. For each challenge, there is advice from the expert panel, additional suggestions, and questions for reflection and discussion.

**Directions:** Read about the potential challenges and focus on one or two that resonate for your district. Use the discussion questions and brainstorm ways to address the challenge(s). For example, the mathematics leadership team could use these questions to discuss challenges and plan actions to strengthen the district's implementation of recommended intervention practices.

- A. [Intervention Curriculum](#)
- B. [Mathematics Content](#)
- C. [Mathematical Language](#)
- D. [Representations](#)
- E. [Word Problem Instruction](#)

## Challenge A: Intervention Curriculum

“I don’t have access to an intervention curriculum in my school. Are you saying I should create my own materials or locate free materials? How do I know if the resources I create or find are systematic?”

**Panel’s Advice:**<sup>4</sup> The panel is not suggesting teachers create materials that align with the implementation steps in the Systematic Instruction recommendation in the [WWC Guide](#). Instead, the panel suggests using these steps as guidelines for evaluating curricula to adopt. Finding materials on your own may be difficult and could result in a program that is not cohesive or consistent. Work with a team (such as a math coach and special educator) to identify materials that come with a scope and sequence of instruction that builds from one lesson to the next toward a learning outcome. Evaluate the lesson scope and sequence to determine if there are clear procedures for introducing new content, ample opportunities for students to respond, and built-in feedback procedures.

### Additional Suggestions for Leaders

- Provide co-planning time for general education teachers and interventionists to plan intervention lessons that align with the core mathematics curriculum and support students in building understanding of essential foundational and grade-level content.
- Provide time for interventionists to engage in co-planning to identify mathematics learning priorities for intervention and to integrate features of systematic instruction into their lesson and unit plans. Establishing a shared vision can support curriculum review or development.
- Use the WWC Guide as a tool for reviewing intervention curriculum to check for alignment with the recommendations. This review process can be used for adopting a new program or reviewing a current program. In the latter case, if the review team identifies shortcomings in a current program, they can work collaboratively to design or identify additional learning activities that align with the recommendations.

### Challenge A: Questions for Reflection and Discussion

1. If you have an intervention program, curriculum, or use teacher-created lessons, discuss:
  - How would you check for alignment with the WWC Guide’s recommendations?
  - Who should be involved in this process?
  - What role will you play in this process?
2. If you want to select an intervention program to adopt across the school or district, discuss:
  - How would you use the recommendations to help you evaluate the programs?
  - Who should be involved in this evaluation and selection process?
  - What role will you play in this process?

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<sup>4</sup> This challenge and panel’s advice are excerpts from the [WWC Guide](#), Systematic Instruction Recommendation (page 10) with minor adaptations by the toolkit authors. The additional suggestions and questions are from the toolkit authors.

## Challenge B: Mathematics Content

“I feel like there is so much to cover at every grade level that choosing topics for more intensive instruction or slowing down instruction means I cannot cover all the grade-level material. This feels like I am doing my students a disservice.”

**Panel’s Advice:**<sup>5</sup> Intervention is an opportunity for students to build understanding in the most critical grade-level topics. Students receive their grade-level content in the general education whole-class setting. Students are receiving intervention because they need more time and more frequent work with an adult to learn grade-level mathematics. Structure the pace and topics in a way that promotes learning the foundational mathematics for the upcoming topics more deeply; this often means taking more time. By collaborating, intervention teachers and general math teachers can ensure that the intervention complements grade-level mathematics instruction. In particular, teachers can identify together what the students in intervention need to work on and understand to access grade-level content. Fractions in grades 3 and 4, for example, can be difficult for students and are critical for students to understand for virtually all new mathematics learning through middle and high school. For students with Individualized Education Programs (IEPs), the panel recommends that teachers make sure to look at students’ specific goals to guide instructional decisions.

### Additional Suggestions for Leaders

- Provide time for collaboration with interventionists and general education teachers to identify a manageable number of focus learning goals by grade. Ensure that once goals are established, the group has opportunities to reflect, discuss, and revise them based on experiences and evidence.
- Develop a specific scope and sequence for mathematics intervention that clearly states which topics will be addressed and which ones will not be addressed. Communicate and discuss these content priorities with teachers and provide copies of the scope and sequence. Meet periodically to revisit the scope and sequence and make revisions as needed.
- Have resources available for collaborators to use in identifying learning priorities for mathematics intervention. Example resources include:
  - Achieve the Core website has identified major focus areas for the standards for each grade: <https://achievethecore.org/page/634/focus-in-mathematics>
  - Common Core State Standards for Mathematics: <https://corestandards.org/mathematics-standards/>
  - Progression on Number and Operations in Base 10 (K–5): [https://achievethecore.org/content/upload/ccss\\_progression\\_nbp\\_k5\\_2015\\_03\\_16.pdf](https://achievethecore.org/content/upload/ccss_progression_nbp_k5_2015_03_16.pdf)
  - Progression on Number and Operations: Fractions (Grades 3–5): [https://commoncoretools.files.wordpress.com/2012/02/ccss\\_progression\\_nf\\_35\\_2011\\_08\\_12.pdf](https://commoncoretools.files.wordpress.com/2012/02/ccss_progression_nf_35_2011_08_12.pdf)

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<sup>5</sup> This challenge and panel’s advice are excerpts from the [WWC Guide](#), Systematic Instruction Recommendation (page 10) with minor adaptations by the toolkit authors. The additional suggestions and questions are from the toolkit authors.

**Challenge B: Questions for Reflection and Discussion**

1. What is your experience with this challenge in your district?
2. What are your suggestions for how to identify high-priority mathematics topics and create a manageable scope and sequence for mathematics intervention classes?
3. Who should be involved in this process? What role will you play? How will you support the collaboration of the team members?
4. What are ways to support mathematics intervention teachers in implementing the scope and sequence to meet their students' mathematics learning needs?
5. What are helpful, evidence-based resources to have available for team planning?

## Challenge C: Mathematical Language

“I don’t know what math words I’m supposed to use. Everyone seems to use different terminology.”

**Panel’s Advice:**<sup>6</sup> Review your state’s mathematics standards to identify the important mathematical language for students to learn. Also consider state assessment guidelines and the curriculum materials used in the school. Consult with your colleagues to draft a list of accurate and precise mathematical vocabulary that the school can agree to use in mathematics classes across grade levels and settings. This could be a shared list of mathematical language that teachers across the school agree to use.

### Additional Suggestions for Leaders

- Provide time and support for math coaches and educators to work in cross-grade groups to discuss and align the use of mathematical vocabulary within and across grades.
- Maintain a focus on agreed-upon language and integrate mathematical vocabulary across all professional learning and evaluation activities, such as coaching cycles, peer observation, learning walkthroughs, and formal observations.
- Focus not only on teachers’ consistent use of mathematical language but also on supporting teachers in providing consistent opportunities for students to use and build mathematical language during lessons.

### Challenge C: Questions for Reflection and Discussion

1. What is your experience with this challenge in your district?
2. What are your suggestions for how to create a shared list of mathematical terms for teachers to use across grades and schools?
3. Who should be involved in this process? What role will you play in promoting consistency in the use of mathematical language across the grades and across instructional roles?
4. What are ways to support mathematics intervention teachers in using mathematical vocabulary from the shared list in their instruction?

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<sup>6</sup> This challenge and panel’s advice are excerpts from the [WWC Guide](#), Mathematical Language Recommendation (page 20) with minor adaptations by the toolkit authors. The additional suggestions and questions are from the toolkit authors.

## Challenge D: Representations

“My students are confused because different representations are used in different classes.”

**Panel’s Advice:**<sup>7</sup> Consistency in the types of representations shared in core classroom instruction and during intervention sessions, throughout the year and across grades, is critical. Consistent use is particularly important for students who are struggling to grasp a concept or operation. Using a core set of representations across settings and grades helps reinforce instruction on the same concepts, but know that there are different representations used at different times for the same concepts, as some are concrete, some semi-concrete, and some abstract. Plan strategically to keep the same set of core representations in use across grades; use the same representations as students move to the next grade. This level of consistency can be a part of a whole-school agreement where the goal is to align mathematics instruction through the use of cohesive representations, language, notation, rules, and generalizations across grade levels.

### Additional Suggestions for Leaders

- Discuss the importance of using manipulatives and identify additional opportunities to integrate concrete and semi-concrete representations in lessons.
- Provide opportunities for teams of educators to explore different concrete and semi-concrete representations and discuss their strengths and limitations for building specific concepts.
- Set priorities for which representations to focus on in mathematics intervention. The list should be aligned with core mathematics classes and can include additional concrete and semi-concrete representations to support students’ learning.
- Communicate the importance of providing students with ample, meaningful opportunities to work with concrete and semi-concrete representations and connecting them to abstract representations. Emphasize that teachers should avoid moving too quickly to work with abstract representations alone.

### Challenge D: Questions for Reflection and Discussion

1. What is your experience with this challenge in your district?
2. What are your suggestions for how to create a shared list of representations for teachers to use across grades and schools?
3. Who should be involved in this process? What role will you play?
4. What are ways to support mathematics intervention teachers in using representations from the shared list in their instruction?

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<sup>7</sup> This challenge and panel’s advice are excerpts from the [WWC Guide](#), Representations Recommendation (page 28) with minor adaptations by the toolkit authors. The additional suggestions and questions are from the toolkit authors.

## Challenge E: Word Problem Instruction

“This type of word problem instruction isn’t in my curriculum. Should I develop my own materials?”

**Panel’s Advice:**<sup>8</sup> The panel is not suggesting teachers create materials that include this type of instruction or these types of word problems in the Word Problems Recommendation. Instead, the panel suggests using this recommendation as a guideline for evaluating curricula to adopt. Work with a team, including a math coach or special educator, to evaluate whether the curriculum aligns with the steps in this recommendation.

### Additional Suggestions for Leaders

- Provide interventionists, teachers, and coaches time to collaboratively review your core curriculum’s approach to word problems to inform what supports and experiences to provide in mathematics intervention. These classes can both expand upon approaches in the core class and integrate recommendations from the WWC Guide.
- Support teachers in building their understanding of word problem types to ensure that students have experiences with a variety of word problems.
- Use the WWC Guide to review a curriculum’s lessons on word problems to check for alignment with the recommendation. This process can be used to select a new program or review a current program. If the review team finds shortcomings in the current program, they can identify and adopt supplementary materials for word problem instruction.

### Challenge E: Questions for Reflection and Discussion

1. If you have an intervention program or curriculum, how might you review the lessons on word problems to check for alignment with the recommendation? Example questions to consider:
  - a. Are there lessons that focus on building understanding of word problem types?
  - b. Do the materials provide a variety of word problems that have unknowns in different positions?
  - c. Do the lessons use any strategies that should be avoided, such as the *key word method*?
2. If you want to select a program to adopt, how would you use the word problem recommendation to help you evaluate the programs? Who should be involved in this evaluation process?

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<sup>8</sup> This challenge and panel’s advice are excerpts from the [WWC Guide](#), Word Problems Recommendation (page 49) with minor adaptations by the toolkit authors. The additional suggestions and questions are from the toolkit authors.

# Appendix A: Planning Resources

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This appendix provides resources to support leaders and facilitators in planning to implement the course, including scheduling the sessions. It includes an extended version of the Planning Questions (from Section 2) with space for writing responses.

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## Planning Checklist

Here is a copy of the Planning Checklist (from Section 2) for you to use. Feel free to adapt the checklist. You can change the order and add more tasks in the empty rows.

Tasks	Who?	When?	Status and Notes
1. <a href="#">Decide whether to implement the course: Is the course a good fit?</a>			
2. <a href="#">Consider implementation models.</a>			
3. <a href="#">Consider the resources needed for successful implementation.</a>			
4. <a href="#">Identify facilitators.</a>			
5. <a href="#">Identify intended audiences.</a>			
6. <a href="#">Plan for PLC groups and sessions.</a>			
7. <a href="#">Plan the course schedule.</a>			
8. <a href="#">Recruit participants.</a>			
9. <a href="#">Communicate about the course.</a>			
10. <a href="#">Plan meeting locations and other logistics.</a>			
11. <a href="#">Prepare course materials.</a>			

# Planning Questions

---

This handout has **all** the planning questions from Section 1, Topics 2–8.

## 2. Consider Implementation Models

**2.1** Which implementation model will you use?

Full course implemented during:  1 school year  2 school years.

Shorter version of the course with three or four modules.

Individual module(s).

**2.2** If you plan to use a shorter version or individual modules, which modules will you use?

Module 0: Introductory (We strongly suggest starting with the Kick-Off Session.)

Module 1. Mathematical Language

Module 2. Representations

Module 3. Number Lines

Module 4. Word Problems

Module 5. Systematic Instruction

## 3. Consider Resources Needed for Successful Implementation

**3.1** Which resources for implementing the PD course would be doable for you and your team?

**3.2** Which resources might pose challenges? What are ways to address these challenges?

**3.3** What additional information do you need to determine the feasibility of implementing the course? How will you gather the information?

## 4. Identify Facilitators

4.1 Who might be a good fit for facilitating the course?

4.2 Would you like to have one facilitator or two co-facilitators?

4.3 What steps will you take to identify and recruit facilitator(s) to lead the course?

## 5. Identify Intended Audiences

5.1 Who are your **intended audiences** for the course?

\_\_\_ Teachers who provide mathematics intervention at your chosen grades (see 5.2), including:

\_\_\_ Interventionists \_\_\_ Title I teachers

\_\_\_ General educators \_\_\_ Special educators

\_\_\_ Math coaches or specialists who teach intervention or work with intervention teachers.

\_\_\_ Other: \_\_\_\_\_

5.2 What **grades** will you focus on? Mathematics intervention in grades: \_\_\_3 \_\_\_4 \_\_\_5 \_\_\_6

5.3 Ideally, **how many participants** would you like to have in the course? \_\_\_\_\_

5.4 Will participation in the course be voluntary or required? \_\_\_ **Voluntary** \_\_\_ **Required**

### *For Small Districts*

5.5 Are you interested in co-hosting the course with other districts? \_\_\_ Yes \_\_\_ No \_\_\_ Unsure

5.6 If you selected Yes, which district(s) might you partner with?

## 6. Plan for PLC Groups and Sessions

6.1 How many PLC groups do you want to have? \_\_\_\_

6.2 About how many participants do you want in each PLC group? \_\_\_\_

6.3 How will you set up the PLC groups? In each PLC group, participants will be from:

\_\_\_ our district only      \_\_\_ more than one district

\_\_\_ one school              \_\_\_ two or more schools

\_\_\_ one grade                \_\_\_ two or more grades

6.4 What format will you use for the PLC sessions? \_\_\_ in person   \_\_\_ virtual   \_\_\_ a mix

6.5 The PLC sessions are designed to be 90 minutes long. They can be adapted for longer or shorter sessions. How long will your sessions be?

\_\_\_ 90 min.    \_\_\_ 120 min.    \_\_\_ 45–60 min.    \_\_\_ Other: \_\_\_\_\_

6.6 When will the PLC sessions meet?

\_\_\_ During designated school PD time    \_\_\_ After school    \_\_\_ Other: \_\_\_\_\_

## 7. Plan the Course Schedule

7.1 To plan the schedule, you need to select an implementation model.

\_\_\_ Full course during one school year: Six modules over 6–7 months

\_\_\_ Full course during two school years: Three modules over 3–4 months each year

\_\_\_ Shorter version with number of modules: \_\_\_\_\_

\_\_\_ Individual module: \_\_\_\_\_

7.2 When do you want the course to start and end? List months or dates.

Start: \_\_\_\_\_                      End: \_\_\_\_\_

**Tip:** Use the [Scheduling Worksheet](#) in Appendix A to plan a specific schedule.

## 8. Recruit Participants

8.1 Who will you recruit to participate in the course? (See [Intended Audiences](#).)

8.2 What strategies and resources will you use to recruit participants? (See examples in [Appendix B](#).)

\_\_\_ Talking points    \_\_\_ Emails    \_\_\_ Personal invitations    \_\_\_ Course flyers

\_\_\_ Newsletter announcements    \_\_\_ Announcement at faculty meetings

\_\_\_ Informational session

\_\_\_ Other: \_\_\_\_\_

**8.3** Who will work on the recruitment activities to reach out to potential participants?

**8.4** What's your timeline for recruiting participants?

When will you start recruiting? \_\_\_\_\_

When will the course begin? \_\_\_\_\_

**8.5** What recruiting challenges do you anticipate? What are ways to address the challenges?

# Checklists for Logistics and Materials

---

## Logistics

Here's a list of additional things that you may need to plan.

*For in-person sessions:*

- Reserve a meeting location for an in-person Kick-Off Session.
  - Date: \_\_\_\_\_ Time: \_\_\_\_\_ Number of participants: \_\_\_\_\_
- Reserve a meeting location for in-person PLC sessions.
  - Dates and times: \_\_\_\_\_
  - Number of participants: \_\_\_\_\_
- Reserve a projection device and speaker for showing slides and videos at the meetings.

*For virtual sessions:*

- Use a video-conferencing platform to schedule the virtual PLC sessions and send out invitations for participants to reserve the dates. If possible, use the same URL for all the sessions so that it is easier for participants to keep track of. Use a video-conferencing platform that allows you to have breakout groups.

## Materials to Prepare

- Print handouts** for the modules. Download the file versions of the Participant Workbooks from the Online Component and print the required sections.
  - Optional:* Prepare 3-ring binders to organize the handouts.
- Prepare course schedule and checklist.** Customize the schedule and checklist with your dates. Print copies for participants and post file versions on a shared class drive.
- Gather or purchase manipulatives.** Each participant will need a set of the required manipulatives (see table 5 above). Find out if participants have these manipulatives in their classrooms or schools to determine whether additional sets need to be purchased.
- Optional: Organize the electronic files by setting up a shared drive for the course.** Set up an online folder for each module with the files for the Participant Workbook, Course Checklist, and other resources. Also, it is helpful to set up work folders for participants to upload their Debriefing Slides to share at PLC Session-B in Modules 1–4.

# Scheduling Worksheet

This handout provides guidance and tables to help you schedule the course.

## 1. Start planning the overall schedule.

Choose your implementation plan (A, B, or C) and complete the table by adding months or dates for each module. The table includes each module's suggested length of time, which you can adapt if needed.

### A. One-Year Schedule for Full Course: Fill in the months.

<b>Module</b>	<b>0. Introductory Module</b>	<b>1. Mathematical Language</b>	<b>2. Representations</b>	<b>3. Number Lines</b>	<b>4. Word Problems</b>	<b>5. Systematic Instruction</b>
<b>Length</b>	(1 week)	(5 weeks)	(5 weeks)	(5 weeks)	(5 weeks)	(1 week)
<b>Months</b>						

### B. Two-Year Schedule for Full Course: Fill in the months for each year.

#### YEAR 1

<b>Module</b>	<b>0. Introductory Module</b>	<b>1. Mathematical Language</b>	<b>2. Representations</b>
<b>Length</b>	(1 week)	(5 weeks)	(5 weeks)
<b>Months</b>			

#### YEAR 2

<b>Module</b>	<b>3. Number Lines</b>	<b>4. Word Problems</b>	<b>5. Systematic Instruction</b>
<b>Length</b>	(5 weeks)	(5 weeks)	(1 week)
<b>Months</b>			

### C. Shorter Version of Course: Fill in the chosen modules and months.

<b>Module</b>	<b>0. Introductory Module</b>	_____	_____	_____
<b>Length</b>	(1 week)	(5 weeks)	(5 weeks)	(5 weeks)
<b>Months</b>				

## 2. Plan a schedule for the PLC sessions.

A helpful strategy for scheduling the course is to select dates for the Kick-Off Session and nine PLC sessions. Use this guidance:

- There should be **about 2 weeks** between each PLC session. This allows time for participants to do the online session *before PLC Session-A* and use the routine with students *before PLC Session-B*.
- Build in additional time for school vacation weeks and holidays.

Module	Session	Dates (Allow about 2 weeks between sessions)
<b>Module 0.</b> Introductory	Kick-Off Session	
<b>Module 1.</b> Mathematical Language	<b>1.</b> PLC Session-A	
	<b>2.</b> PLC Session-B	
<b>Module 2.</b> Representations	<b>3.</b> PLC Session-A	
	<b>4.</b> PLC Session-B	
<b>Module 3.</b> Number Lines	<b>5.</b> PLC Session-A	
	<b>6.</b> PLC Session-B	
<b>Module 4.</b> Word Problems	<b>7.</b> PLC Session-A	
	<b>8.</b> PLC Session-B	
<b>Module 5.</b> Systematic Instruction	<b>9.</b> Final PLC Session	

## 3. Plan a schedule for individual modules.

Use this guidance to schedule Modules 1–4, which are each about 5 weeks long:

### Weeks 1 and 2

- *Online Session:* Give participants about 2 weeks to do the asynchronous activities (about 2 hours of work).

### Weeks 3 and 4

- *PLC Session-A:* 1.5-hour session held on one day during week three; the date should be 2 weeks *after* the start of the online session.
- *Try It! Routine:* Give participants a window of about 2 weeks to use the routine at least once.

### Week 5

- *PLC Session-B:* 1.5-hour session held on one day during week five; the date should be about 2 weeks after PLC Session-A.
- *Wrap-Up:* Participants do two asynchronous reflection activities (~30 minutes). Provide a window of a few days to complete the activities.

# Course Schedule Template

The course runs from \_\_\_\_\_ to \_\_\_\_\_. Here's the schedule for each module:

Module and Sessions	Dates, Times, and Locations
<b>0. Introductory Module</b>	
<b>Kick-Off Session</b>	<i>Date:</i> _____
<b>1. Mathematical Language</b>	
Online Session	<i>Dates:</i> _____ to _____ (Complete by PLC Session-A)
<b>PLC Session-A</b>	<i>Date:</i> _____
Try It! Routine	<i>Dates:</i> _____ to _____ (Use at least once by PLC Session-B)
<b>PLC Session-B</b>	<i>Date:</i> _____
<b>2. Representations</b>	
Online Session	<i>Dates:</i> _____ to _____ (Complete by PLC Session-A)
<b>PLC Session-A</b>	<i>Date:</i> _____
Try It! Routine	<i>Dates:</i> _____ to _____ (Use at least once by PLC Session-B)
<b>PLC Session-B</b>	<i>Date:</i> _____
<b>3. Number Lines</b>	
Online Session	<i>Dates:</i> _____ to _____ (Complete by PLC Session-A)
<b>PLC Session-A</b>	<i>Date:</i> _____
Try It! Routine	<i>Dates:</i> _____ to _____ (Use at least once by PLC Session-B)
<b>PLC Session-B</b>	<i>Date:</i> _____
<b>4. Word Problems</b>	
Online Session	<i>Dates:</i> _____ to _____ (Complete by PLC Session-A)
<b>PLC Session-A</b>	<i>Date:</i> _____
Try It! Routine	<i>Dates:</i> _____ to _____ (Use at least once by PLC Session-B)
<b>PLC Session-B</b>	<i>Date:</i> _____
<b>5. Systematic Instruction</b>	
<b>Final PLC Session</b>	<i>Date:</i> _____

## Example Course Schedule

This schedule shows **example** dates for implementing the whole course during one school year. It uses a mix of in-person and virtual sessions.

Module and Sessions	Dates, Times, and Locations
<b>0. Introductory Module</b>	
<b>Kick-Off Session</b>	Sept. 24, 3:00–5:00 p.m., Conference Room
<b>1. Mathematical Language</b>	
Online Session	Oct. 1–14
<b>PLC Session-A</b>	Oct. 15, 3:30–5:00 p.m., Virtual
Try It! Routine	Oct. 16–28
<b>PLC Session-B</b>	Oct. 29, 3:30–5:00 p.m., Virtual
<b>2. Representations</b>	
Online Session	Nov. 5–19
<b>PLC Session-A</b>	Nov. 19, 3:30–5:00 p.m., Virtual
Try It! Routine	Nov. 20–Dec. 9 (includes time off for Thanksgiving)
<b>PLC Session-B</b>	Dec. 10, 3:30–5:00 p.m., Virtual
<b>3. Number Lines</b>	
Online Session	Jan. 7–20
<b>PLC Session-A</b>	Jan. 21, 3:30–5:00 p.m., Conference Room
Try It! Routine	Jan. 22–Feb. 3
<b>PLC Session-B</b>	Feb. 4, 3:30–5:00 p.m., Virtual
<b>4. Word Problems</b>	
Online Session	Feb. 11–Mar. 3. (includes time off for Feb. break)
<b>PLC Session-A</b>	Mar. 4, 3:30–5:00 p.m., Virtual
Try It! Routine	Mar. 5–17
<b>PLC Session-B</b>	Mar. 18, 3:30–5:00 p.m., Virtual
<b>5. Systematic Instruction</b>	
<b>Final PLC Session</b>	Apr. 1, 3:00–5:00 p.m., Conference Room

# Overview of Mathematics Content in Modules

The PD course focuses on evidence-based recommendations and strategies applicable across mathematics content in the elementary grades. The modules provide robust examples, engaging activities, and instructional routines on key **Number and Operations** topics, such as place value, fractions, and decimals, that are a priority for mathematics intervention. These topics align closely with states' content standards, including the [Common Core State Standards \(CCSS\)](#).

The table below lists the main mathematics content topics in each module. Teachers can apply the instructional strategies to many other mathematics topics.

Main Mathematics Content Topics in Each Module
<p><b>Module 0. Introductory</b></p> <p><b>Fraction representation and comparison.</b></p> <ul style="list-style-type: none"> <li>• Understand and use different fraction representations: Fraction circles, fraction bars and tiles, and numeric fractions.</li> <li>• Compare fractions to benchmark numbers (0, <math>\frac{1}{2}</math>, 1).</li> </ul>
<p><b>Module 1. Mathematical Language</b></p> <p><b>Mathematical language for whole numbers, fractions, and decimals.</b></p> <ul style="list-style-type: none"> <li>• Describe and compare whole numbers with place value to thousands.</li> <li>• Describe and compare decimals with place value to hundredths.</li> <li>• Build understanding of the mathematical term “unit fraction.”</li> <li>• Describe and compare fractions less than, equivalent to, and greater than 1.</li> </ul>
<p><b>Module 2. Representations</b></p> <p><b>Representations for fraction and decimal concepts and operations.</b></p> <ul style="list-style-type: none"> <li>• Understand and solve problems by using concrete, semi-concrete, and abstract representations of fractions and decimals.</li> <li>• Model and solve decimal addition and subtraction problems by using base ten blocks.</li> <li>• Connect multiple representations to deepen understanding of fraction and decimal concepts and operations.</li> </ul>
<p><b>Module 3. Number Lines</b></p> <p><b>Number line representation and fraction concepts and operations.</b></p> <ul style="list-style-type: none"> <li>• Build understanding of the number line representation.</li> <li>• Locate and compare fractions on a number line.</li> <li>• Use number lines to represent and solve fraction addition and subtraction problems.</li> </ul>

**Main Mathematics Content Topics in Each Module****Module 4. Word Problems****Representing and solving word problems.**

- Build understanding of word problem types, including Change, Compare, Equal Groups, and Multiplicative Comparison problems.
- Use concrete, semi-concrete, and abstract representations to solve word problems and explain solutions.
- Model and solve word problems that involve multiplication and division.
- Decide whether answers are reasonable and explain why or why not.

**Module 5. Systematic Instruction****Fraction equivalence, comparison, addition, and subtraction.**

- Determine whether fractions are equivalent.
- Sequence problems strategically for fraction comparison, addition, and subtraction.
- Use strategies for fraction addition and subtraction to create greater and lesser sums and differences.

# Appendix B: Recruitment Resources

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This appendix provides resources to support leaders and facilitators in recruiting participants.

These resources have [text in brackets] indicating information to fill in or adapt to your implementation plan.

<b>Example Email for Teachers .....</b>	<b>66</b>
<b>Example Email for School and District Administrators .....</b>	<b>67</b>
<b>Newsletter Announcement.....</b>	<b>68</b>
<b>Course Flyer.....</b>	<b>69</b>

## Example Email for Teachers

---

Below is an example email message that can be used to recruit teachers and communicate about the course. Customize the text to fit your audience and implementation plans.

[Text in brackets] indicates information you need to fill in or adapt to your implementation plan.

SUBJECT: Invitation to a New PD Course on Mathematics Intervention

Hello [insert name of teacher],

I am writing to share a new and exciting professional development (PD) opportunity. Our [school/district] is offering a **mathematics intervention professional development course** designed specifically for teachers of mathematics intervention in grades [3–6], and I hope you will be interested in participating. During the course, you will learn about and use evidence-based strategies to support students struggling with mathematics. It provides engaging activities on key Number and Operations topics, such as fractions, that are a high priority for mathematics intervention. You will also have the opportunity to collaborate with other intervention teachers during facilitated professional learning community (PLC) sessions. This is a wonderful way for teachers to learn together, share ideas, and collaborate to strengthen support for students with math difficulties.

I've attached a flyer with more information. The course will run from [date to date] and will provide [28] PD hours. It will be facilitated by [name(s)]. [I will hold an informational meeting on [date/time].]

I hope you will consider this opportunity! Please be in touch with questions and **reply by [date]** to let me know about your interest and availability.

I look forward to hearing from you!

Best,

[Name]

## Example Email for School and District Administrators

---

Below is an example email message that can be used to inform school and district administrators about the course. Customize the text to fit your audience and implementation plans.

[Text in brackets] indicates information you need to fill in or adapt.

SUBJECT: New PD Course on Mathematics Intervention: Help Spread the Word!

Hello [name of school/district administrator],

I am writing to share a new and exciting professional development (PD) opportunity and ask for your help spreading the word to teachers. Our [school/district] is offering a **mathematics intervention professional development course** designed specifically for teachers of mathematics intervention in grades [3–6]. During this course, teachers will learn about and use evidence-based strategies to support students struggling with mathematics.

The course focuses on key Number and Operations topics, such as fractions, that are a high priority for mathematics intervention. Teachers will have the opportunity to collaborate with other intervention teachers during professional learning community (PLC) sessions. This is a wonderful way for teachers to learn together, share ideas, and collaborate to improve student outcomes.

Attached is a flyer with more information. The course will run from date to date and will provide [28] PD hours. The course will be facilitated by [name(s), role(s)].

Please share this course information with [name(s) of teachers] and other potential participants. If they are interested or have any questions, please let them know to contact me directly **by [date]**. If you have any questions, I would be happy to meet with you to discuss the opportunity further. [Also, I will hold an informational meeting on [date/time]].

Looking forward to your response!

Best,

[Name]

## Newsletter Announcement

---

Below is an example blurb that can be used in a school or district newsletter to announce the course and recruit participants. Customize the text to fit your audience and school or district.

[Text in brackets] indicates words you need to replace to fit your implementation plans.

### **Professional Learning Opportunity for Teachers of Mathematics Intervention**

*Do you teach mathematics intervention in grades [3–6]? Are you looking for ways to strengthen your support for students struggling with mathematics?* Participate in a professional development (PD) course focused on **evidence-based strategies** for mathematics intervention. You will have the opportunity to learn about effective intervention practices, use them with students, and collaborate with other intervention teachers at facilitated professional learning community (PLC) sessions. Earn a certificate upon completion of the course for [28] PD hours!

**Find out more** about this exciting opportunity! Download a **course flyer** [\[link\]](#). Attend a short **informational session** on [date/time.]

**Interested?** Contact [\[name, email\]](#) to sign up by [\[date\]](#). Space is limited!

# Course Flyer

## New Professional Learning Opportunity for Teachers

You are invited to participate in a new course designed specifically for teachers of mathematics intervention in grades [3–6]! Learn about evidence-based strategies from the What Works Clearinghouse Practice Guide *Assisting Students Struggling with Mathematics in the Elementary Grades*. Build your knowledge and practices to improve students' mathematics learning.



### What will you do in the course?

- Learn about and try evidence-based strategies to support your students.
- Collaborate with other teachers in professional learning communities (PLCs).
- View and discuss videos of mathematics intervention classes and demonstrations of strategies.
- Try engaging instructional routines that incorporate recommended strategies and focus on high-priority mathematics topics like fractions.
- Share your experiences using the routines and strategies.

### Benefits

- Build effective strategies for supporting students struggling in mathematics.
- Participate in facilitated PLC sessions with colleagues to focus on mathematics intervention.
- Receive ready-to-use resources, including Participant Workbooks with reproducible handouts for routines, math activities, and slide decks.
- **Earn a Certificate of Completion for [28] PD hours!**



**Course Modules** are designed for active, in-depth learning on five recommendations.



**Course Facilitators:** [Name and information]

**Schedule:** [October] to [March]. The PLC sessions will meet every 2 weeks for [90 minutes, in person/virtually]. [Dates/times to be determined.]

**How to Sign Up:** Contact [insert name of contact, email address] to register or ask questions.

**Register by [date]. Space is limited!**

## Appendix C: Course Implementation Resources

---

This appendix provides resources for leaders and facilitators to use *during* course implementation.

<b>Course Checklist for Participants .....</b>	<b>71</b>
<b>Module Checklist.....</b>	<b>72</b>
<b>Expectations for Participants.....</b>	<b>73</b>
<b>Feedback Survey for PLC Session-A .....</b>	<b>74</b>
<b>Feedback Survey for PLC Session-B .....</b>	<b>75</b>
<b>Exit Ticket Examples for PLC Sessions.....</b>	<b>76</b>
<b>Certificate of Completion Template .....</b>	<b>77</b>

## Course Checklist for Participants

Use this checklist to keep track of your progress in the course.

	Introductory Module	Dates
<input type="checkbox"/>	Kick-Off Session	
<input type="checkbox"/>	Wrap-Up (Complete tab 4 of the Online Component)	
<b>Module 1. Mathematical Language</b>		
<input type="checkbox"/>	Online Session (Complete tabs 1–3 of the Online Component)	
<input type="checkbox"/>	PLC Session-A	
<input type="checkbox"/>	Try It! Routine: Use at least once with students	
<input type="checkbox"/>	PLC Session-B	
<input type="checkbox"/>	Wrap-Up (Complete tab 7 of the Online Component)	
<b>Module 2. Representations</b>		
<input type="checkbox"/>	Online Session (Complete tabs 1–3 of Online Component)	
<input type="checkbox"/>	PLC Session-A	
<input type="checkbox"/>	Try It! Routine: Use at least once with students	
<input type="checkbox"/>	PLC Session-B	
<input type="checkbox"/>	Wrap-Up (Complete tab 7 of the Online Component)	
<b>Module 3. Number Lines</b>		
<input type="checkbox"/>	Online Session (Complete tabs 1–3 of Online Component)	
<input type="checkbox"/>	PLC Session-A	
<input type="checkbox"/>	Try It! Routine: Use at least once with students	
<input type="checkbox"/>	PLC Session-B	
<input type="checkbox"/>	Wrap-Up (Complete tab 7 of the Online Component)	
<b>Module 4. Word Problems</b>		
<input type="checkbox"/>	Online Session (Complete tabs 1–3 of Online Component)	
<input type="checkbox"/>	PLC Session-A	
<input type="checkbox"/>	Try It! Routine: Use at least once with students	
<input type="checkbox"/>	PLC Session-B	
<input type="checkbox"/>	Wrap-Up (Complete tab 7 of the Online Component)	
<b>Module 5. Systematic Instruction</b>		
<input type="checkbox"/>	PLC Session	
<input type="checkbox"/>	Wrap-Up (Complete tab 3 of the Online Component)	

Course Website URL: <https://ies.ed.gov/ncee/rel/math-support-grades-3-6>.

# Module Checklist for \_\_\_\_\_

Use this checklist to keep track of the module dates and your progress on the tasks.

**Module Dates:** \_\_\_\_\_ - \_\_\_\_\_

- **Online Session:** Complete during this time span: \_\_\_\_\_ to \_\_\_\_\_
- **PLC Session-A:** Attend on date: \_\_\_\_\_ time: \_\_\_\_\_ location: \_\_\_\_\_
- **Try It! Routine:** Use routine at least once during this time span: \_\_\_\_\_ to \_\_\_\_\_
- **PLC Session-B:** Attend on date: \_\_\_\_\_ time: \_\_\_\_\_ location: \_\_\_\_\_
- **Wrap-Up:** Complete by date: \_\_\_\_\_

## Tasks

### 1–3. Online Session

Complete the activities *before* PLC Session-A.

- Tab 1, Introduction. Read about the module’s goals, key questions, and sequence.
- Tab 2, Explore-A. Do online activities to learn about the recommendation.
- Tab 3, Explore-B. Do more online activities to continue learning.

### 4. PLC Session-A

- Participate in the session: Discuss the recommendation, try strategies, and prepare to use an instructional routine.

### 5. Try It! Routine

Implement the routine *before* PLC Session-B.

- Use the routine at least once with students.
- Prepare slides for sharing experiences. Use the Debriefing Slides Template.

### 6. PLC Session-B

- Participate in the session: Share experiences using the routine by showing slides and focusing on the debriefing questions. Discuss common themes and plan next steps.

### 7. Wrap-Up

Complete the reflection activities *after* PLC Session-B.

- Do the closing activities on tab 7, Wrap-Up, to reflect on your learning in the full module.

Course URL: <https://ies.ed.gov/ncee/rel/math-support-grades-3-6>.

## Expectations for Participants

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Here is a list of expectations that you can adapt. The [text in brackets] can be changed in the fillable PDF form: [Expectations MITE.pdf](#).

### Participants are expected to:

- Complete [six] **modules**.
- Participate in one **Kick-Off Session** and [nine] **PLC sessions**.
- Complete [four] **online sessions** to build knowledge of the recommendations.
- Implement [four] **instructional routines** with students and share experiences at PLC sessions. (Modules 1–4 each have one routine.)
- Uphold the **norms** for the PD course and be an active member of the PLC group.

#### Example Norms

At PLC sessions, we will:

- Engage in the activities, contribute ideas, and ask questions.
- Support each other's learning and use of the strategies.
- Look for and build upon strengths.
- Stay focused and use our time productively.

**Certificate of Completion for PD Hours:** Participants will earn a **Certificate for [28] PD hours** by completing the six modules.

**Attendance and Make-Up Policies:** [Add your policies. See questions and ideas below.]

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### For Leaders: Questions for Planning Attendance Policies

1. What should participants do if they are unable to attend a PLC session? Who should they contact?
2. Will you provide any options for making up PLC sessions? *Here are ideas to consider:*
  - If the course has more than one PLC group, ask the participant to attend another PLC group's session on a different day.
  - Ask the participant to meet with a PLC group member to get an overview of what they missed.
  - Hold a make-up session if several participants are absent.
  - Record virtual sessions so they can be available for viewing by participants who are absent.

## Feedback Survey for PLC Session-A

These example questions are designed to gather participants' feedback at the end of a module's PLC Session-A. Question 2 is specific to the session's focus on learning about the recommendation and preparing to use the routine. The other questions are also used in the PLC Session-B survey (next page). Feel free to adapt questions or add your own.

[Text in brackets] indicates words to replace to fit the focus recommendation.

### Example Survey Questions

1. What was **one highlight** of today's session for you?
2. Please read these statements about today's session and rate your agreement. The scale goes from **1: Strongly Disagree** to **5: Strongly Agree**.

<i>Rate your agreement with each statement.</i>	<b>Strongly Disagree</b> 1	<b>Disagree</b> 2	<b>Neutral</b> 3	<b>Agree</b> 4	<b>Strongly Agree</b> 5	<b>NA</b>
<b>a.</b> The overall session was useful for my professional learning about the [mathematical language] recommendation.						
<b>b.</b> I am taking away ideas that I will use to support students with [mathematical language].						
<b>c.</b> I feel prepared to use the instructional routine with students.						

3. Please give **feedback** on the overall session and suggestions for improvement.
  - a. What worked well in today's session to support your professional learning?
  - b. What would you like **more** of?
  - c. What would you like **less** of?
4. **Optional:** Use this space for additional suggestions, concerns, or questions about today's session or future sessions.

## Feedback Survey for PLC Session-B

These example questions are designed to gather participants' feedback at the end of a module's PLC Session-B. Question 2 is specific to the session's focus on sharing and discussing experiences using the routine. The other questions are the same as those for the PLC Session-A.

[Text in brackets] indicates words to replace to fit the focus recommendation.

### Example Survey Questions

1. What was **one highlight** of today's session for you?
  
2. Please read these statements about today's session and rate your agreement. The scale goes from **1: Strongly Disagree** to **5: Strongly Agree**.

<i>Rate your agreement with each statement.</i>	<b>Strongly Disagree</b> 1	<b>Disagree</b> 2	<b>Neutral</b> 3	<b>Agree</b> 4	<b>Strongly Agree</b> 5	<b>NA</b>
<b>a.</b> The overall session was useful for my professional learning about the [mathematical language] recommendation.						
<b>b.</b> I found it worthwhile to share my experiences using the routine.						
<b>c.</b> I found it worthwhile to hear about other group members' experiences using the routine.						
<b>d.</b> I am taking away ideas that I will use with students.						

3. Please give **feedback** on the overall session and suggestions for improvement.
  - a.** What worked well in today's session to support your professional learning?
  
  - b.** What would you like **more** of?
  
  - c.** What would you like **less** of?
  
4. **Optional:** Use this space for additional suggestions, concerns, or questions about today's session or future sessions.

## Exit Ticket Examples for PLC Sessions

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As an alternative to feedback surveys, facilitators may want to use exit tickets to gather information on participants' learning. At the end of the session, participants complete the exit tickets and give them to the facilitators as they leave or submit them online for virtual sessions. By reviewing the exit tickets, facilitators can gain insight into participants' key takeaways and questions from the session.

Create short exit tickets with about 1–3 questions or sentence starters. Example questions and sentence starters are provided below. Feel free to adapt these examples or add your own.

[Text in brackets] indicates words to replace to fit the specific PLC session.

### Example Questions

- a. What is **one important idea** about the [mathematical language] recommendation and the strategies you are taking away from today's session?
- b. What is **one strategy** from today's session that you want to apply with students? Why?
- c. What is **one topic or strategy** from today's session that you would like to learn more about? What's **one question** you have about this topic or strategy?
- d. What is **one highlight** of today's session for you?
- e. What is **one surprise or challenge** for you from today's session?
- f. What is **one suggestion** you have for improving the session to better support your professional learning?

### Example Sentence Starters

*It is helpful to offer several sentence starters so that participants can select one or two to complete.*

- a. One important thing I learned about the [mathematical language] recommendation was...
- b. One strategy that I plan to apply is...
- c. Before, I thought... Now, I think...
- d. I was surprised by...
- e. I felt affirmed by...
- f. I found it challenging to...
- g. I want to learn more about...
- h. I would like more support to...

## Certificate of Completion Template

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Providing teachers with the opportunity to earn a certificate of completion for PD hours can be a helpful incentive for participating in the course. Earning PD hours is a requirement for professional license renewal in some states. The full course is designed to provide 28 PD hours. However, the number of PD hours will vary depending on your implementation plan and district and state requirements. Refer to your state's guidelines and requirements to determine whether this coursework is eligible and the number of hours that can be awarded for successful completion.

The **Certificate of Completion Template** on the next page provides an example that you can adapt to fit your state and district requirements.

[Bracketed words] indicate text that you can edit in the fillable PDF file of the certificate.

File with fillable PDF format: [CompletionCertificate MITE.pdf](#)

Certificate of Completion  
for the  
**Mathematics Intervention Professional Development Course**

[Participant's Name]

**Date Completed:** [Insert Date]

**Number of PD Hours:** [28]

**Course Description**

The course goals are to build participants' knowledge and use of evidence-based recommendations and strategies for supporting students struggling with mathematics.

During the course, participants:

- Learned about effective mathematics intervention practices by completing [four] online sessions.
- Collaborated with colleagues to explore the recommended strategies in a Kick-Off Session and [nine] professional learning community (PLC) sessions.
- Tried recommended strategies themselves and discussed classroom video examples.
- Prepared for and implemented [four] instructional routines with students.
- For each routine, prepared slides with answers to the debriefing questions.
- At follow-up PLC sessions, showed slides and talked about their experiences using the routines.
- Reflected on practices and planned actions to strengthen their instruction for students struggling with mathematics.

[Signature]

[Printed Name, Title]

[District Information]

## References

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- Fuchs, L. S., Newman-Gonchar, R., Schumacher, R., Dougherty, B., Bucka, N., Karp, K. S., Woodward, J., Clarke, B., Jordan, N. C., Gersten, R., Jayanthi, M., Keating, B., & Morgan, S. (2021). *Assisting students struggling with mathematics: Intervention in the elementary grades* (WWC 2021006). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance. Retrieved from <http://whatworks.ed.gov/>.

## Additional Resources

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This list includes resources from the What Works Clearinghouse (WWC) and other sources.<sup>9</sup>

### Mathematics Intervention: WWC Resources on Instructional Strategies

- Mathematics Intervention Toolkit Website: <https://ies.ed.gov/ncee/rel/math-support-grades-3-6>.
- WWC Practice Guide [\(Full Text\), Assisting students struggling with mathematics: Intervention in the elementary grades](#) (2021).
- WWC Practice Guide [Summary, Assisting students struggling with mathematics: Intervention in the elementary grades](#) (2021).

### Additional WWC Practice Guides and Toolkits for Mathematics

These guides provide evidence-based recommendations, action steps, strategies, and examples. The corresponding toolkits offer resources for districts to implement professional learning with teachers.

- [Regional Educational Laboratories Toolkits](#) webpage offers 10 toolkits, each focused on helping educators implement evidence-based strategies from a WWC Guide.
- [Developing Effective Fractions Instruction for Kindergarten Through 8th Grade](#) (2010).
- [Improving Mathematical Problem Solving in Grades 4 Through 8](#) (2012).
- [Teaching Math to Young Children](#) (2013).
- [Teaching Strategies for Improving Algebra Knowledge in Middle and High School Students](#) (2019).

### Multilingual Learners: Instructional Strategies for Mathematics

*Resources from WWC*

- [Infographic: Evidence-Based Instructional Strategies for Elementary English Learner Students](#) (2025).
- [Instructional Tips for Teaching Academic Content to English Learners](#) (2022).
- [Teaching Academic Content and Literacy to English Learners](#), Practice Guide Summary (2014).

*Resources from other sources*

- Chval, K. B., Smith, E., Trigos-Carrillo, L., & Pinnow, R. J. (2021). [Teaching math to multilingual students: Positioning English learners for success](#). National Council of Teachers of Mathematics and Corwin.
- Nikula, J., & DePiper, J. N. (2021). [Middle grades mathematics instruction for multilingual learners: Strategies for success](#). Education Development Center.

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<sup>9</sup> The mention of trade names, commercial products, or organizations does not imply endorsement by the U.S. government.

## Mathematics Fluency Resources

- Bay-Williams, J., & Kling, G. (2019). *Math fact fluency: 60 games and assessment tools to support learning and retention*. National Council of Teachers of Mathematics and ASCD. (The companion website has free fluency games as PDFs and slides: <http://kcm.nku.edu/mathfactfluency/index.php>.)
- Fletcher, G., & Zager, T. J. (2020). *Building fact fluency toolkits*. Zaner-Bloser.
- Newton, N. (2016). *Math running records in action: A framework for assessing basic fact fluency in grades K-5*. Routledge.
- Virginia Department of Education. (2020). *Evidence-based specially designed instruction in mathematics: Resource guide*. (Appendix D has fluency games and activities.)