

WEBINAR



Pacing for Rigor

FREQUENTLY ASKED QUESTIONS

- ◆ Access for a Diverse Group of Learners
- ◆ Access for Students with Disabilities
- ◆ Assessment
- ◆ Classroom Community
- ◆ Curriculum
- ◆ Differentiation
- ◆ Extensions and Challenge
- ◆ Family Materials
- ◆ Fluency
- ◆ Getting Started
- ◆ IM Certified Partners
- ◆ Implementation
- ◆ Intervention
- ◆ Pacing and Scheduling
- ◆ Unfinished Learning
- ◆ Videos
- ◆ Vocabulary

Access for a Diverse Group of Learners

Q: How do we provide math rigor for gifted students? How does the curriculum support students who need additional challenge?

A: IM K–12 Math™ is designed to support a problem-based instructional model and incorporates Universal Design for Learning (UDL) principles to address content and practice standards. The Standards for Mathematical Practice (MP) describe the types of thinking and behaviors students engage in as they are doing mathematics. In IM K–12 Math™, students learn by doing math, solving problems in mathematical and real-world contexts, and constructing arguments using precise language. Therefore, this approach fits well with this [definition of rigor](#).

With multiple entry points, students are encouraged to use their current understanding of math, their lived experiences, and the world around them as resources for problem solving. By starting with what students already know, teachers invite all students to contribute to mathematical learning. They do this by centering student thinking, and being responsive as students develop conceptual understanding. IM K–12 Math™ also includes some built-in extensions, such as the K–5 Section Practice Problem Explorations, 6–12 Are You Ready For More Activities in each lesson, and 9–12 Modeling Prompts. The Modeling Prompts are designed for use by all learners, but contain multiple versions that can be used to extend learning for students who are looking for additional challenge.

While the curriculum supports rigor for all students, teachers' use of these specific materials can increase rigor for students who need additional challenge. Some helpful resources for learning more about these built-in extensions across the grade bands include:

- For IM K–5 Math™, [The Standards for Mathematical Practices Chart](#) highlights a handful of lessons in each unit that showcase specific mathematical practices.
- For IM 6–8 Math™, the IM Certified Blog post [Unit 9 in IM Grades 6–8: Hidden Gems](#) explains how the last unit of each course focuses on Math Practice 4 (MP 4) and lays a foundation for mathematical modeling in high school.
- For IM 9–12 Math™, the IM Certified Blog post [Making Authentic Modeling Possible](#) clarifies the what, why, and how of modeling prompts in high school courses.

Access for Students with Disabilities

Q: How do you recommend supporting students with learning disabilities?

A: We use guidelines from the [Universal Design for Learning](#) as a framework to provide suggestions for teacher moves that will open up [Access For Students with Disabilities](#) to the on-grade-level mathematics for a wide range of learners. (Visit our current Certified Partners' sites—[Kendall Hunt](#), [Imagine Learning](#), or [McGraw-Hill](#)—for the full curriculum.)

We also offer IM Certified Professional Learning for *Enhancing Access with Universal Design for Learning*. If you are interested in learning more about IM Certified Professional Learning opportunities, you can reach out to one of our IM Certified Partners.

Q: What are ways to support students with disabilities with access to the rigor of grade-level instruction?

A: Based on guidelines from the [Universal Design for Learning](#) as a framework, the curriculum includes teacher moves designed to open access to the on-grade-level mathematics for a wide range of learners. The curriculum gives prompts for teacher moves that help students find their voices in a classroom where learning is driven by

student discourse. Math language routines help all students learn content and the language of mathematics simultaneously. For each grade level course K–12, every curriculum lesson has a suggested access strategy for students with disabilities and for English language learners in the teacher lesson plan.

When a teacher is responding to student work during the lesson, each student's learning is being addressed just in time. Teachers can take advantage of the curriculum's built-in features to respond to student thinking during grade-level instruction, including:

- accessible tasks designed to invite a variety of responses and give students a chance to learn from studying multiple approaches
- warm-up activities and activity launches designed to provide an invitation to the mathematics and activate prior knowledge in the service of accessing grade-level content
- teacher guidance in each activity to advance student thinking (K–5) and address misconceptions (6–12)
- Centers in IM K–5 Math™
- Algebra 1 Extra Supports materials
- suggested adjustments based on student responses to cool-downs (IM K–12 Math™)
- pre-unit diagnostic problems (included in IM 6–12 Math™ as a Check Your Readiness assessment, and in IM K–5 Math™ as labeled practice problems)

To help students meet the standards, educators need to pursue, with equal intensity, three aspects of rigor in the major work of each grade: conceptual understanding, procedural skills and fluency, and application. In the webinar [Experience IM K–5 Math: A Focus on Student Thinking](#), guest Rachel Lambert, special education expert, shared insights and resources for students with disabilities. While the webinar was focused on Grades K–5, often many strategies and resources apply to higher grade levels.

Q: What are some ideas for adapting instruction for the one or two kids who are in special ed or not at grade level by providing additional practice?

A: Centers are a great way to provide additional practice to review concepts and skills from previous grades without calling out the grade level. [Adaptation Packs](#) offer suggestions for scaffolding using prior grade information while still maintaining access to grade-level instruction. This [blog post](#) has some helpful ideas for supporting students with disabilities.

Assessment

Q: How should we assess students on a weekly basis?

A: Assessment is ongoing as teachers monitor and interact with students during instructional activities (K–12) and centers (K–5), in which students work in pairs/groups to make sense of mathematical ideas. Observational checklists are provided in grades K–1 to guide teachers in monitoring student progress toward grade-level standards. In addition to multiple opportunities to notice student thinking through observation, each lesson beyond Grade 1 provides daily cool-downs. These daily formative assessments allow teachers to gain information about what students know, monitor individual student progress, and provide data to guide instruction. Each cool-down is meant to inform instruction so that teachers can respond to student thinking and address misconceptions and/or build on students' partial understandings. The Response to Thinking lesson feature offers guidance for supporting students who still have partial conceptions. Depending on your grade level, practice problems may be another resource for checking understanding. The IM Certified Blog post, [IM 6–12 Math: Grading and Homework Policies and Practices](#), shares information gathered from a survey of teachers using IM in their classrooms and offers a variety of assessment approaches in a problem-based classroom.

Q: How should we use the end-of-unit assessments?

A: End-of-unit assessments are intended to gauge students' understanding of the unit's key concepts while also preparing them for new-generation standardized exams. Problem types include multiple choice, multiple response, short answer, restricted constructed response, and extended response. Problems vary in difficulty and depth of knowledge.

Teachers may choose to grade these assessments in a standardized fashion, but may also choose to grade more formatively by asking students to show and explain their work on all problems. Unlike formative assessments, problems on summative assessments generally do not prescribe a solution method.

Read more about the design principles used in IM K–12 Math™ summative assessments in the course guides:

- [IM K-5 Math™ Course Guide](#)
- [IM 6-8 Math™ Course Guide](#)
- [IM 9-12 Math™ Course Guide](#)

Classroom Community

Q: Students who are two grade levels behind or more struggle to participate in discussion. Any tips?

A: Students' math identities and teachers' actions can affect students' willingness to join math discussions. By taking the time to build authentic math communities, teachers can create inclusive, inviting learning environments that help students build positive math identities. The following blog posts offer specific suggestions about creating these types of environments:

- [Getting Ready for 2023–2024 Back to School: Building a Math Community](#)
- [Co-Creating an Authentic Math Community](#)
- [Collaboration Rather Than Competition: Creating Collaborative Classrooms Through Illustrative Mathematics](#)
- [Building a Mathematical Classroom Community](#)

With support, teachers can help students develop and sustain positive mathematical identities so that learners of all abilities and cultures can know, use, and enjoy mathematics.

Curriculum

Q: What are some recommendations to support teachers who have concerns about tasks being developmentally appropriate for some students?

A: IM K–12 Math™ is a complete, standards-aligned curriculum with consistency in lesson structure and design for a problem-based approach that is driven by student discourse.

We use guidelines from the [Universal Design for Learning](#) as a framework to provide suggestions for teacher moves that will open up access to on-grade-level mathematics for a wide range of learners.

To increase access, reduce barriers, and maximize learning for a diverse group of students, each lesson will have at least one supplemental instructional strategy listed in the activity narratives. “Access for Students with Disabilities” specifies alternative means of engagement, representation, or action and expression. “Access for English Language Learners” suggests a math language routine (MLR) that can be used to support access and

language development for English learners, based on the language demands students will encounter. Teachers can use the language strategies in the suggested MLRs or other UDL-based instructional strategies as appropriate to provide students with access to an activity without reducing the task's mathematical demand. These supports provide teachers with additional ways to adjust the learning environment so that students can access activities, engage in content, and communicate their understanding.

See Unfinished Learning section for other suggestions for providing just-in-time learning that may be needed to access grade-level work.

Differentiation

Q: How do you differentiate to meet the needs of a class that has a wide range of math knowledge and skills?

A: IM's problem-based approach supports a positive, inclusive classroom culture and provides both access and challenge for diverse learners. IM K–12 Math™ provides multiple entry points and is designed to balance access and challenge. Individual students can have their unique needs addressed within the structure of the IM lessons and centers. When a teacher responds to student work during the lesson, each student's learning is addressed just in time by the teacher's usage of advancing and assessing questions. Each curriculum lesson has a suggested access strategy for diverse learners.

These IM Certified Blog posts highlight strategies for planning a lesson in anticipation of varied student needs and offer specific examples:

- [Differentiating Instruction with IM 6–12 Math™](#)
- [Leveraging IM 6–12 Math Teacher Materials to Enhance Access to Grade-Level Mathematics](#)

Extensions and Challenge

Q: How can we up the rigor for honors courses?

A: The team at Illustrative Mathematics offers this [Guidance for Accelerating Students in Mathematics](#) that might be of interest in regards to structuring math pathways.

Honors course designs vary by school. Depending on the course's goals, teachers might use some of the following curriculum components to provide additional challenge and application of the standards:

- IM 9–12 Math includes some built-in extensions such as the Are You Ready For More activities in each lesson.

While Mathematical Modeling is a standard for all students, teachers' planning decisions for the modeling prompts include options for assigning a task with higher cognitive lift when appropriate. Each modeling prompt includes multiple versions of the task, which may require students to engage in more or fewer aspects of mathematical modeling. The modeling prompts for Algebra I, Geometry, and Algebra II could also be expanded to include additional real-world situations to offer additional challenge.

Learn more about the mathematical modeling prompts by reading this [blog post](#), visiting the [course guide](#), and exploring the modeling prompts for [Algebra 1](#), [Geometry](#), and [Algebra II](#) courses. (Visit our current Certified Partner's sites—[Kendall Hunt](#), [Imagine Learning](#), or [McGraw-Hill](#)—for the full curriculum.)

Q: What are some small-group centers and enrichment ideas? Which IM resources can I go to for math extension activities? How do you recommend we extend learning for our highest-performing students?

A: For students who may be ready for learning at a more advanced level, IM K–12 Math™ includes built-in extensions, such as the K–5 Section Practice Problem Explorations, 6–12 Are You Ready For More activities in each lesson, and 9–12 Modeling Prompts. The team at Illustrative Mathematics offers this [Guidance for Accelerating Students in Mathematics](#).

Family Materials

Q: What is the best way to communicate to parents about the curriculum and for them to support their kids? I'm focused primarily on 6-12, so we don't have centers. What are some suggestions for supporting families in understanding how to help their children at home?

A: These blog posts and resources might be helpful in partnering with families to better understand IM K–12 Math™:

- [Building A Supportive Home/School Partnership](#) (9–12 Focus)
- [Building a Supportive Home/School Partnership](#) (6–8 Focus)
- [FASTalk: Activating the Power of Families to Support Mathematics](#)

Information for families is available in the partner platforms including:

- Unit Family Support Resources with Family Support Letters that outline the work of the unit
- [Family Guide for K–5 Instructional Routines](#) located on the IM Resource Hub
- In Grades K–5, each family unit letter also includes a section labeled “Try it at Home” with math prompts and questions for families to interact with their child at home.
- For Grade 6–Algebra 1, Family Support Materials also include [videos](#) of the summaries for each section of a unit. Grant funding made this project possible for Grade 6–Algebra 1, but we don't currently have the videos for K–5, Geometry, or Algebra 2 courses.
- In IM 6–12 Math™, each student lesson includes activities that are followed by a student lesson summary. An example from the Algebra 1 course can be found at this [link](#): (You'll need to scroll down the page. Visit our current Partners' sites—[Kendall Hunt](#), [Imagine Learning](#), or [McGraw-Hill](#)—for the full curriculum).

Fluency

Q: How can teachers better address fact fluency without spoon-feeding strategies to them?

A: We created this [fluency website](#) that describes how we approach fluency in IM K–5 Math™.

Other helpful links include multiple blog posts by our authors:

- [The Joy of Fluency](#)
- [Fluency Development Within and Across the Grades in IM K–5 Math part 1: Addition and Subtraction](#)
- [Fluency Development Within and Across the Grades in IM K–5 Math part 2: Addition and Subtraction](#)
- [Fluency Development Within and Across the Grades in IM K–5 Math part 3: Multiplication and Division](#)
- [Fluency Development Within and Across the Grades in IM K–5 Math part 4: Multiplication and Division](#)

Getting Started

Q: This will be my first year using IM. How would you suggest I start out so that I am not so overwhelmed? We are just starting implementation this year in a K-8 school. What advice do you have?

A: The instructional routines in IM K–12 Math™ are a great place to start. In fact, many teachers find it helpful to try out some of the instructional routines even before implementing IM K–12 Math™. Many of the instructional routines are familiar to teachers who might already be using them in the classroom. Examples include Notice and Wonder, Number Talks, and the 5 Practices for Orchestrating Productive Mathematics Discussions. You can see a full list of instructional routines on our site under “How to Use the Materials.”

The instructional routines are also one of our IM Certified® Professional Learning offerings provided in preparation for IM implementation.

IM Certified Partners

Q: Is there an easier way to do bulk grading within the IM website? Do we show kids the slides through Clever? Is this program self-graded or teacher- graded?

A: We have three IM Certified Distribution Partners that can help you access the curricula in different ways. Please reach out to our Certified Partners to learn more about digital grading features. Visit our current Certified Partner’s sites—[Kendall Hunt](#), [Imagine Learning](#), or [McGraw-Hill](#) to learn more about digital integration specific to their platforms.

Implementation

Q: Can we switch the program’s sequence without future repercussions? How important is it to teach the units in order? (Side note: last year my team didn’t get far in IM, and we want students prepared.)

A: When writing the curriculum, the authors chose to cover the standards that are considered major work of the grade as early in the year as possible. Access to grade-level work is an equity issue and there are other reasons to prioritize major work of the grade. For Grades 6–12, this allows for these topics to be reviewed multiple times in the distributed practice of later units, so students can continue to build fluency with these standards before end-of-year testing. For Grades K–5, the [Story of the Grade Blogs](#) give further insight into the choice of sequencing. The Course Guides include the Narratives, Scope and Sequence with unit/section overviews, and the Dependency Diagrams, which provide insight into the coherence that’s integral to how the units were sequenced. If considering changes in the unit sequence, examine closely how it could potentially bend or break the coherence in the mathematical progressions. Here are links to [Kindergarten](#), [Grade 6](#), and [Algebra 1](#) in the IM Open Education Resource Platform—however, all Certified Partners include the same course information in their digital platforms.

Q: Will you address the order of units? I was considering beginning with unit 4 or 5 in grade 6 to get to division faster.

A: The authoring team made intentional choices when determining course sequencing. The first unit, in particular, is chosen with extra care. The writing teams chose content for Unit 1 that would offer students an accessible invitation to the mathematics at the very start of the school year. In all courses, the first unit gives time to introduce students to the instructional routines they will use throughout the school year. Students have fewer preconceptions about their abilities (and those of their peers) when we focus on new ideas at the start of a year, so these units give an opportunity to set classroom norms for communication, collaboration, and making connections.

The first unit intentionally avoids computation-heavy work, such as the typical place value review unit in the elementary grades. For students who view math as only “answer getting” or “number crunching” and have struggled in previous years, that type of work might evoke feelings of anxiety and frustration from the first day or can create class status issues, both of which we want to avoid. These blogs provide more insight into the choice of first units in [K–5](#) and [6–12](#).

Intervention

Q: Are there intervention resources available for students who are behind grade level? Is there an intervention component?

A: IM is designed to be used with the entire, inclusive classroom and includes built-in resources for teachers to address the needs of individual students. Many schools find that, when using IM K–12 Math™, students are able to stay within the classroom and make significant progress on grade-level content without being pulled out for intervention groups. It’s preferable to keep students in the least restrictive environment, learning grade-level content alongside their peers as much as possible.

Realizing that there may be times when unfinished learning is going to impact students’ ability to access grade-level content, the IM Team created [K–5 Unit Adaptation Packs](#) and [6–12 Unit Adaptation Packs](#). This teacher resource identifies ways to address gaps in prior learning and thus increase students’ access to grade-level mathematics. This blog post, [Looking to the Fall Part 2: Creating a Supportive Resource for K–5 Teachers](#), shares more information about these manageable and useful resources for teachers.

Q: What are your thoughts or recommendations on how intervention systems may be used to support curriculum pacing (and rigor)?

A: There are lesson plan components in IM K–12 Math™ that teachers and paraeducators can use to support students’ participation in class who might otherwise be identified for pulling into intervention groups. In terms of the Individuals with Disabilities Education Act (IDEA), it’s preferable to keep students in the least restrictive environment, learning alongside their peers as much as possible. In particular, when planning for class time with an IM lesson, it’s important for a teacher to understand the function of:

- instructional routines, including math language routines
- launch, activity, and synthesis
- access for students with disabilities
- access for English learners
- advancing student thinking
- responding to student thinking (component of cool-downs)
- centers (in IM K–5 Math™)

Note that it’s not necessary, desirable, or even possible to focus on every component all the time, but it’s good to be aware of them to inform lesson planning for a particular group of students.

IM K–12 Math™ was written with an intentional coherence™ both within and across grade levels. This coherence enables teachers to leverage concepts, representations, and methods from prior units or grade levels to support new learning. Intentional choices with strategies, representations, and language allow teachers and paraeducators to draw from activities and centers beyond the unit they are working on in planning for their whole class, small groups, or even individual students.

If there is time outside the math block for additional support for individual students, we recommend extra practice that fortifies the representations and routines from IM rather than learning other representations and routines. Being introduced to too many strategies, programs, and representations causes cognitive overload and dilutes students' ability to focus on the math content. Extra time with what a student is seeing in math class gives opportunities to be more successful in math class. For the Algebra 1 course, there is a set of support materials designed for this purpose. [Read more about the Algebra 1 Extra Support materials.](#)

See **Unfinished Learning** section.

Pacing and Scheduling

Q: We only have 45-minute classes. How do we get an entire lesson in during this time? How would you pace a lesson/week to get through the content during 45-minute lessons? What are the best ways to do a lesson in a 50-minute math block? Any specific pacing recommendations for a 60-minute math block? We only have 43 minutes for grades/course 6–12. How do you suggest completing an IM lesson in that time frame? Some lessons seem to take longer than the estimated time. What recommendations do you have for moving through the lessons? How do you decide what to cut when things don't fit into a class period? If teachers are having trouble getting one lesson a day finished, what are your suggestions? How do you keep a lesson to one class period? I need to shorten the amount of time for each lesson. Which part of the lesson should I eliminate?

A: In IM K-5 Math™ lessons are designed for 60 minutes of instruction. IM 6–12 Math™ lessons are designed for 45 minutes of instruction with practice problems falling outside of that time.

If you have shorter blocks of time for math instruction, you will need to make decisions about what to cut and what to keep based on the unit learning goals. Some districts have decided to increase their math instructional minutes in order to accommodate more time for math instruction.

Following the pacing doesn't mean that students have to complete every problem in every activity. Think about which problems will be most beneficial for your students to dig into based on the lesson's learning goals. The daily cool-downs can help guide these decisions. There are a variety of IM Certified Professional Learning opportunities available to support you in planning, including our Focus on Planning and Pacing session.

Q: How do you find time to fit practice into a 50-minute class and still cover lessons before a state test?

A: The IM 6–12 Math™ lessons are designed for 45 minutes of instruction. Practice problems fall outside of that time. Some teachers assign practice problems as homework, some use them as opportunities for revision, and others use them in additional support courses.

Q: What advice do you have for managing time between whole-group and center time? What schedule do you recommend for a fourth-grade class that wants to incorporate centers with a 60-minute math block.

A: Centers are embedded in the pacing for grades K–2, but grades 3–5 will need to make decisions about how to utilize centers and optional practice problems. Some districts have found success:

- Combining assessment days with center practice time
- Adding center days into the pacing for the year
- Utilizing existing parts of the school day such as morning work routines or additional RTI time with opportunities for students to play centers
- Using centers as an alternative to homework so that families can engage in math activities that foster joy. This can also serve as an opportunity for family members to learn about the types of activities in IM K–12 Math™

Q: We've found it impossible to get through everything. Do you have a suggested condensed curriculum? Our school district has kids on a 167-day calendar. How can I condense the curriculum to fit into such a short school calendar? How to skip 20 percent of the material due to lack of instructional time from outside requirements. How can we fit district-required assessments and activities into the IM pacing? One of pacing concerns is pacing in time for the state test in April. What's your take on that?

A: Many teachers find it helpful to create a district-specific pacing guide based on their school schedule. Section and lesson learning goals are helpful in making decisions about instructional activities that might be combined or cut. Lessons labeled *optional* might also be removed from the pacing.

Pre-unit practice problems in IM K–5 Math™ and Check Your Readiness assessments in IM 6–12 Math™ can provide guidance on how to approach pacing when instructional time is limited. These components offer teachers information about student strategies and prior knowledge that may be helpful in making decisions about which lesson activities will best support students in meeting the section and unit learning goals.

The section planning guides, found on the [IM Resource Hub](#), might be used as a resource to make decisions about pacing when instructional days are limited. The section planning guides include suggestions for mitigating issues that may arise with distance learning and pacing constraints. The guides identify essential lessons and activities that address major work of the grade or prerequisites, and provide guidance on distance-learning activities to support each lesson or activity.

- [K–5 Section Planning Guides](#)
- [6–12 Section Planning Guides](#)

Q: How do I keep timers throughout the lesson without making students feel rushed?

A: Many teachers find it helpful to set timers that are visible and accessible to the instructor only. Sometimes this is done using a smartphone, a smart watch, or a personal timer. It is also helpful to have a discussion with students about the timer's purpose. This is an opportunity to emphasize the timer's usage as a teacher tool to transition between activities.

Activities in IM K–12 Math™ are designed to elicit student discussion and discourse about strategies and solutions that will build throughout and across lessons. In contrast to more traditional approaches to mathematics learning, discussion is not solely focused on getting answers, but on fostering discussion of the mathematical ideas. The activity synthesis provides an opportunity for teachers to help students consolidate the ideas posed by students during the warm-up as they move into the instructional activities and again as they move through additional activities. Students may not formalize mathematical ideas in a single activity, but this understanding will grow as they are given opportunities to discuss with their peers and engage in additional problem-solving activities.

This blog post might be helpful in thinking about the student experience:

- [Concrete Representations that Give Students a Way to Get Started](#)

Q: I often hear “Activity 1 took us much longer than expected, so I need to finish this lesson tomorrow.” How do we fix this issue? I have teachers who feel that they need to slow down the curriculum. What do I say to them?

A: Creating time to meet collaboratively to plan for upcoming units can help teachers make decisions about which activities could be compacted or cut. Spending time reading the unit and section learning goals can help teachers understand where the unit is building from and where it leads. Planning might include working through the instructional activities, daily cool-downs, or the unit assessment to determine what students are required to apply at the end of the unit and which activities will be most helpful for students to engage in.

Following the pacing doesn't mean that students have to complete every problem in every activity. Think about which problems will be most beneficial for your students to dig into based on the lesson's learning goals. The daily cool-downs can help guide these discussions. There are a variety of IM Certified Professional Learning opportunities available to support you in planning, including our Focus on Planning and Pacing session.

Q: Is the curriculum's pacing based on scholars who are on grade level? How does the curriculum help teachers to be responsive while still keeping pace with content? If students struggle with a lesson and have not grasped the content, how do you adjust your pacing to address their needs?

A: At IM, we know students' identities, lived experiences, and cultural backgrounds are resources and assets for mathematics learning. All students deserve equitable access to and equity in the delivery of high-quality, grade-level math instruction. IM K–12 Math™ is designed in such a way that teachers can implement it with integrity while adapting it to meet the academic and cultural needs of their students. To learn more about strategies that support students in engaging with grade-level content, visit this joint blog post between Illustrative Mathematics and UnboundEd:

- [Strategies for Instituting Equitable Math Instruction](#)

Cool-down guidance provided in IM K–12 Math™ can help teachers respond to student thinking. When appropriate, guidance for unfinished learning, evidenced by the cool-down, is provided in two categories: next-day support and prior-unit support. This guidance is meant to provide teachers with ways to continue grade-level content while also giving students the additional support they may need.

Q: Do you have an electronic copy of a scope and sequence/pacing guides?

A: The scope and sequence and pacing guides for each course can be found in the individual course guides:

- [K–5 Pacing Guide](#)
- [6–8 Math Scope and Sequence](#)
- [9–12 Math Scope and Sequence](#)

Unfinished Learning

Q: What do you do when students are unable to access the warm-up because of missing prior knowledge?

A: IM K–5 Math™ is a culturally responsive curriculum in which students bring their identity and what they know. Warm-up activities spark curiosity and help create a class culture. All activities were written with the intent to balance access and challenge.

The warm-ups consist of instructional routines that are considered invitations to the lesson. The instructional routines are also one of our IM Certified Professional Learning courses offered in preparation for IM implementation. [The 5 Practices Framework: Explicit Planning vs Explicit Teaching](#) highlights an instructional routine in which teachers anticipate, monitor, select, sequence, and connect learning. This series of IM Certified Blog posts provides further insights for teachers into ways to support students as they become part of a problem-solving community of learners.

- [How Do Students Perceive Problem-Based Learning?](#)
- [Inviting Students to the Mathematics](#)
- [Concrete Representations that Give Students a Way to Get Started](#)
- [Explicit Classroom Norms to Teach Kids How to Learn From Solving Problems](#)

The IM demo site has more information about [math language routines](#) and other [instructional routines](#). (Visit our current Certified Partners' sites—[Kendall Hunt](#), [Imagine Learning](#), or [McGraw-Hill](#)—for the full curriculum.)

See [Intervention section](#).

Videos

Q: Is there a video available that demonstrates a lesson taught from beginning to end? We are struggling to find any type of training or an example video of what teaching a lesson would look like.

A: As part of the new IM Classroom Experience, our team is currently working on a project to capture classroom video as well as student, teacher, and leader testimonials. We do not yet have a timeline for release, but this will be an additional resource available in the future. We have three IM Certified Distribution Partners that can help you access the curricula digitally in different ways. Some of those Certified Partners have captured videos of lessons that are available on their platforms. Our [Partner page](#) has information on all three partners as well as links to their sites if you would like to find out more.

Vocabulary

Q: How should we integrate vocabulary? It feels like we never explicitly teach definitions.

A: One of the design principles that guided the authors of IM K–12 Math™ was that all students should “play with mathematical ideas before formal terms, conventions, or procedures are introduced.” This allows students to build on their existing knowledge and drive the need for precise vocabulary to help them fully realize and communicate their ideas. We employ the eight mathematical language routines (MLRs) to support learners as they move from using their informal language to using new mathematical vocabulary. MLRs are part of the invitational design of the curriculum. This validates each learner’s lived experience and fosters students’ mathematical thinking, because they can discuss an idea using their own words before we add the cognitive load of using a specific term. For example in MLR2 (Collect and Display) the teacher charts the words students use to describe an image or solve a problem and posts them for later reference.

Q: How does IM’s approach to teaching vocabulary align to the [Universal Design for Learning](#) framework?

A: Our approach aligns to the UDL principle of providing multiple means of representation by building on or activating prior knowledge. Teachers facilitate opportunities for students to construct meaning and generate new understandings that require new vocabulary and language. Two sections of the CAST UDL Guidelines are highlighted below.

[Checkpoint 3.1: Activate or supply background knowledge](#)

“Information is more accessible and likely to be assimilated by learners when it is presented in a way that primes, activates, or provides any pre-requisite knowledge. Barriers and inequities exist when some learners lack the background knowledge that is critical to assimilating or using new information. However, there are also barriers for learners who have the necessary background knowledge, but might not know it is relevant. Those barriers can be reduced when options are available that supply or activate relevant prior knowledge, or link to the prerequisite information elsewhere.”

[Checkpoint 2.1: Clarify vocabulary and symbols](#)

Teachers may also find “Pre-teach vocabulary and symbols, especially in ways that promote connection to the learners’ experience and prior knowledge” in the UDL Guidelines.

There will be times when pre-teaching vocabulary does make sense to ensure that students understand the nature of a given situation or context. The key is to not “pre-teach vocabulary that is part of the core mathematical focus of a lesson ([ELSF](#)).”