IM® EXPERIENCE PRESENTS

WEBINAR

Cultivating Brilliance Through Grade-Level Instruction

FREQUENTLY ASKED QUESTIONS

- Access for English Language/ Multilingual Learners
- Access for Students with Disabilities
- Centers
- Curriculum Access
- Differentiation
- Fluency
- Homework and Practice
- IM Certified Partners
- IM Certified® Professional Learning
- Implementation
- Mindsets and Planning
- Unfinished Learning

Access for English Language/Multilingual Learners

Q: How are multilingual learners supported in ways that develop both content and language through this curriculum?

A: You can learn more about embedded support for learning language and content simultaneously in IM K–12 Math™ in the "How To Use These Materials" section Access For English Language Learners on the IM demo site. (Visit our current Certified Partner's sites—Kendall Hunt, Imagine Learning, or McGraw-Hill—for the full curriculum.)

Q: What mindset shifts support multilingual learners with access to the rigor of grade-level instruction?

A: 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. Mathematics instruction that supports students in viewing themselves as capable and competent must leverage and build upon the funds of knowledge they bring to the classroom. The materials foster conversation so that students voice their thinking around mathematical ideas, and the teacher is supported in making use of those ideas to meet the mathematical goals of the lessons. For example, the Mathematical Language Routines in IM K–12 use collaboration to help all learners, including English language learners, produce mathematical language to enable rich discussion of mathematical ideas.

These related IM Certified Blog posts might be helpful:

- Math Language Routines: Discourse with a Purpose
- Unlocking Learners' Thinking Using Mathematical Language Routines

Access for Students with Disabilities

Q: How does the IM curriculum and professional learning address the needs of students with 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.

Centers

Q: Do centers fit into the daily lessons or are they meant to be supplemental?

A: Centers are embedded in the pacing and lesson structure of Grades K–1 and show up as optional center days in Grade 2. Grades 3–5 will need to find additional time within the school day or add in center days into the pacing.

IM K–5 Math™ has centers that are intended to give students time to practice skills and concepts that are developed across the year. There are two types of centers. Addressing Centers address the work of a lesson or section of a unit. Supporting Centers review prior unit or prior grade-level understandings and fluencies. Each center builds across multiple stages that may span several grades. Students in the same class can play different stages of the same center or different centers during "learning station" time.

These IM Certified Blog posts offer more insights about IM math centers:

- **Making IM Centers Work: Joyful Practice, Meaningful Fluency, and Authentic Assessment**
- **Centers in Kindergarten: Purposeful Play and Authentic Assessment**
- **The Problem of "Fewer": Using Centers and the 5 Practices to support students in their production of complex math vocabulary**

Curriculum Access

Q: What is the best way to access and use the IM curriculum to its fullest extent?

A: As a nonprofit authoring team, IM creates our IM K–12 Math curricula, but we have no structure for the manufacture, printing, sales, and distribution of the materials. We have three IM Certified Distribution Partners that can help you access the curricula digitally in different ways and help you with pricing, including a free digital option. IM will always support a no-cost, CC BY licensed digital version of our curriculum through one of our IM Certified partners, and that partner is currently Kendall Hunt Publishing. To access the free, OER version of the curriculum, go to **im.kendallhunt.com**. A no-cost registration is required for educators to access all of the teacher materials. The Certified Partners also help us by selling print resources and our IM Certified® Professional Learning, which supports implementation with launching the curriculum in Year 1 and going deeper in Year 2 and beyond. Our **Partner Page** has information on all three partners as well as links to their sites.

Differentiation

Q: With the curriculum designed for whole-group instruction, how is differentiation possible to provide enrichment for those that "already know it" as well as for students with much unfinished learning?

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

Q: How does the curriculum design support access by students with varied reading levels?

A: In M K–12 Math™, the writers generally kept the student-facing language in problem-tasks as simple as possible, and assessments should follow the language used in the student lessons. Many elements of our style guide intentionally make the text more readable, such as using simple sentence structure, removing excess words, simplifying through voice and tense, breaking up long sentences, and choosing simpler words and phrases. Both IM writers and developmental editors pay close attention to these considerations.

For IM 6–12 Math™, sometimes writers used a tool (https://app.readable.com/text/?demo for example) to check readability when a block of text seemed overly complex for a particular grade level. However, it was not practical to systematically check all the text, and often mathematical notation and diagrams make it difficult to use these tools in a comprehensive way. In upper elementary, middle, and high-school grades, an appropriate expectation is that students will encounter grade-level academic text. Some students will naturally need support in doing so. The materials make it clear that the teacher can read questions to students if needed, especially in the lower grades, for example, Kindergarten.

Q: What are the best strategies for helping students break down and comprehend the reading contained within the IM curriculum?

A: For all grade levels in an IM problem-based classroom, the teacher's role in the launch of every activity is to ensure that students understand the context and what is being asked. Reading the problems to students, allowing partner reading, or doing multiple reads doesn't lessen the cognitive demand of the mathematics. Instead, these strategies can position all students to be challenged with the grade-level math content. Math Language Routine 6: Three Reads (MLR6) is a great strategy for providing access for students with a wide range of reading levels. As noted in the teacher guide to the curriculum, the purpose of MLR6 is "to ensure that students know what they are being asked to do, create opportunities for students to reflect on the ways mathematical questions are presented, and equip students with tools used to actively make sense of mathematical situations and information (Kelemanik, Lucenta, & Creighton, 2016). This routine supports reading comprehension, sense-making, and meta-awareness of mathematical language. It also supports negotiating information in a text with a partner through mathematical conversation." The embedded access in each lesson for English learners supports learning language and content simultaneously and is not only helpful for English learners but for a wide range of diverse learners.

See Access for English Language/Multilingual Learners section.

Fluency

Q: How is fluency addressed in Illustrative Mathematics? Are there enough iterations for students to solidify fluency skills?

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

Homework and Practice

Q: What are suggestions for homework so students have opportunities for more practice?

A: When we created the curriculum, we chose not to prescribe homework assignments or decide which student work should count as a graded event. This was deliberate because homework policies and grading practices are highly variable, localized, and values-driven shared understandings that evolve over time. For example, the curriculum needed to work for schools where nightly, graded assignments are expected; schools where no work done outside of class is graded; and schools that take a feedback-only approach for any formative work.

The IM Certified Blog post IM 6–12 Math: Grading and Homework Policies and Practices shares some information gathered from a survey sent to teachers using IM in their classrooms and also explains how some teachers use the practice problems. Each section of the units in Grades K–5 includes a set of practice problems with pre-unit, lesson-aligned, and exploration problem types. For Grades 6–12, each lesson includes practice problems that are aligned to the lesson, as well as distributed practice problems from prior lessons or units.

Q: Does the curriculum include opportunities for students to practice their learning?

A: Students continually consolidate and apply their learning in the structures and overarching design of the IM problem-based approach. There are also other opportunities for practice. IM K–5 Math™ includes practice problems for each unit section, the math centers provide meaningful math practice, and the game-like activities are engaging for students. The approach in IM 6–12 Math™ emphasizes distributed practice rather than massed practice (lots of the same types and content problems at once). We usually use "distributing" to mean sprinkling around the content, but it also means "don't try to do too much at once." Each lesson has an associated practice problem set that contains a few questions practicing the new learning from that day, and also several questions of cumulative review. Practice problems, when assigned in a distributed manner, give students ongoing practice, which also supports developing procedural proficiency.

Q: Why are there not more practice problems?

A: It may help to understand the "why" of some intentional design decisions about practice. Let's take a look at two of the sources that guided our decisions: In the book "Accessible Mathematics," Steve Leinwand explains some shifts needed in the tell-show-practice approach of traditional mathematical classrooms and how that approach only works for maybe 1/2 of the students served. One of 10 instructional shifts for making mathematics accessible

to more students is to incorporate ongoing cumulative review every day. He goes on to recommend daily assignments consisting of 10 or fewer problems. Looking at cognitive science, Daniel Willingham's book "Why don't students like school?" greatly influenced our thinking. Here's an article that might be helpful: https://www.aft.org/periodical/american-educator/summer-2002/ask-cognitive-scientist

Q: What additional guidance can you give teachers for making decisions to assign practice problems?

A: Let's consider supporting students with consolidating and applying their learning in the broader context of the IM problem-based approach. Providing access to grade-level mathematics requires teachers to make strategic adjustments in order for students to engage, make sense of the questions being asked, persist, collaborate with peers, share their thinking, listen to and understand each others' thinking, internalize and try on new ideas, and *practice and apply* what they are learning. Here are some strategies to consider *before, during, and after* a lesson as teachers plan to:

- *adjust common instruction*: adjust the launch, directions, sequence of activities
- *use specific resources*: offer a support such as sentence frames to students who need access for participating in conversation with their classmates
- *individualize practice*: offer various practice assignments for students to choose from, which can include assigning exploration problems (K–5) or Are You Ready For More problems in 6–12 to extend learning

When we apply these suggestions to a problem-based classroom, we consider what supports are already included in the curriculum and how teachers can plan to support access and challenge for all students. Often, a teacher can adjust or amplify something that's already in the curriculum. For example, the "responding to student thinking" suggestions in cool-down guidance are helpful. This guidance suggests when students will have *more chances*, *points to emphasize* in future lessons, or when teachers should *press pause* and revisit the work in lessons or practice problems. Teachers may see a need and plan to *individualize practice* either *before* or *after* a lesson. This link to an older blog article may spark some ideas about Planning for Meaningful Practice.

IM Certified Partners

Q: What are IM's partners?

A: The three IM Certified curriculum partners—Imagine Learning (K–12), Kendall Hunt (K–12), and McGraw-Hill Education (6–12)—exclusively offer the IM Certified curricula for free or via enhanced teacher and student experiences in digital and print formats. IM Certified partners make an agreement that they will not change or modify the curriculum from the original design, and they receive updates to the curriculum prior to public release. Having three partners for IM 6–12 Math™ and two partners for IM K–5 Math™ gives districts and schools more choices and flexibility to meet the needs of their students.

In addition, IM has eight IM Certified Professional Learning (PL) partners: Kendall Hunt, Imagine Learning, McGraw-Hill Education, Capital Region Education Council (CREC), CenterPoint Education Solutions, Cooperative Education Service Agency 2 (CESA2), Mathematics Institute of Wisconsin (MIW), and Michigan Math and Science Leadership Network (MMSLN). IM has one partner that provides interim assessments aligned with IM 6–8 Math v.III: CenterPoint Education. IM Certified Professional Learning is authored and facilitated by the IM Team, and the IM Partners support clients with PL purchases.

IM Certified® Professional Learning

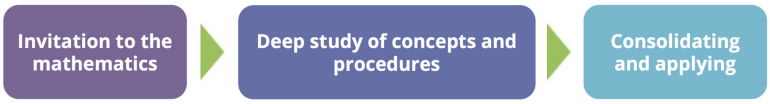
Q: Where can we get IM Certified® Professional Learning? What do we have to provide to our district to attend IM professional learning?

A: IM Certified Professional Learning can be scheduled through your IM Certified partner for your district or school or via academy-style learning. Academy-style learning is a good option for individual teachers or schools who only have a few teachers who need training. You can view all upcoming academy offerings on the IM website.

Implementation

Q: What structures in the IM curriculum support teaching for equity and engagement?

A: Each unit, lesson, and activity has the same overarching design structure: the learning begins with an invitation to the mathematics, which is followed by a deep study of concepts and procedures, and concludes with an opportunity to consolidate understanding of mathematical ideas. The invitation to the mathematics is particularly important because it offers students access to the mathematics. It builds on prior knowledge and encourages students to use their own language to make sense of ideas before formal language is introduced, both of which are consistent with the principles of Universal Design for Learning.



Q: How does the lesson structure in IM lessons promote equity and engagement?

A: Each lesson starts with a warm-up to activate prior knowledge and set up the work of the day. This is followed by instructional activities in which students are introduced to new concepts, procedures, contexts, or representations, or make connections between them. Each activity synthesis and the lesson synthesis include flexible options for teachers to support students in solidifying topics from the activities of the lesson. The lesson ends with a synthesis to consolidate understanding and make the learning goals of the lesson explicit, followed by a cool-down in which students have an opportunity to apply what was learned. Ongoing opportunities to consolidate and apply learning is embedded in the overarching design structure. This IM Certified Blog post Exploring the Lesson Synthesis: When do I actually teach? offers insight into opportunities for making content concepts and connections explicit in a problem-based classroom.

Q: How can IM K–12 Math™ be leveraged in random heterogeneous groups so that all students can meet grade-level standards?

A: This quote from the IM Classroom Infographic captures the dynamics of heterogeneous groups of students using the IM curriculum: "The best IM classroom is one where you have students with really different backgrounds in math, or different ways of seeing and thinking, that can come together and create this incredible learning together." IM is designed to be used with the entire, inclusive classroom with built-in teaching moves that are responsive to student thinking. Individual students can have their unique needs addressed within the structure of the IM lessons and centers, which include activities with multiple entry points for a wide range of diverse learners. Students benefit from being part of the conversations during warm-ups and the other math activities in the lesson with their peers.

Q: How do you accommodate many varied levels of understanding when the majority of the curriculum is "whole group"?

A: Activities have multiple entry points so that student thinking drives instruction with embedded opportunities to consolidate and apply their learning. This approach contrasts the strategy of "teaching to the middle'' and then needing interventions for students who aren't getting what they need. When a teacher is responding to student work during the lesson, each student's learning is being addressed just in time and not postponed until later with a separate experience.

Q: What types of guidance do IM lessons provide for teacher moves to support and respond to student thinking during a lesson?

A: Teachers can leverage built-in features of the curriculum 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
- prompts in each activity to advance student thinking (K–5) and address misconceptions (6–12)

Q: Beyond guidance for teacher moves in each lesson, what other features of the curriculum support teachers with anticipating and responding to student thinking?

A: Data from pre-unit problems (IM K–5 Math™) and "Check Your Readiness" pre-unit diagnostic assessment questions (IM 6–12 Math™) are planning tools to help teachers determine which students may need additional time focused on prerequisite content, and identify the most important prerequisite content. Optional lessons and activities that often provide extra practice or review prior grade-level materials. Additional resources such as Centers in IM K–5 Math™, Algebra 1 Extra Supports materials, and suggested adjustments based on student responses to cool-downs (IM K–12 Math™) position teachers to respond to student thinking in real time. Notes for teachers in each cool-down provide suggestions for supporting students, including suggestions for reviewing prior learning to give more students access to the grade-level content. These can help teachers identify opportunities for both supporting grade-level content and supplementing with work on prerequisite content that may be impacting students' current work.

Q: Is instructional focus lost if teachers alter the recommended IM scope-and-sequence in favor of district-created pacing guides?

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: For teachers who want to begin the year with a different unit based on previous pacing guides, what information can you share about Unit 1 of each grade/course in IM K–12 Math™?

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.

Mindsets and Planning

Q: Where can I find the data shared during the webinar that showed achievement gaps?

A: The National Assessment of Education Process (NAEP) is The Nation's Report Card and offers a window into the K–12 education system and what children are learning. The webinar presentation showed graphs from the NAEP 2023 Report Card.

Q: How is achievement gap data related to an opportunity gap?

A: Often, when students are perceived as being not yet "ready" for content, they are limited to below grade-level work. In the Opportunity Myth (2018), data shows that there is an opportunity gap for historically marginalized students—often students of color—between the grade-level expectations laid out in standards and students' opportunities to engage with this content in their math classes. These IM Certified blog posts provide further insights on equitable learning opportunities:

- The Art of Reflection
- Promoting Change: Reflections from the UnboundEd Five-Day Standards Institute™ 2022
- Supporting Culturally Responsive Pedagogy with IM K–5 Math™

Q: How can I learn more about educator mindsets and planning practices for equity and engagement in teaching and learning?

A: Several IM Certified blog posts offer recommendations:

- Building Equitable Learning Environments for Each Student
- How to Support Multilingual Learners With Higher Expectations
- The 5 Practices: Looking at Differentiation Through a New Lens

Panelists from UnboundEd—a national nonprofit dedicated to empowering educators to actively work together to dismantle systemic racism—discussed grade-level, engaging, affirming, and meaningful (GLEAM™) instruction. This IM Certified Blog Strategies for Instituting Equitable Math Instruction connects GLEAM™ with examples from the IM curriculum.

This three-part blog post from UnboundEd may be helpful to learn more:

- What is GLEAM™?
- GLEAM™ Mindsets & Planning
- GLEAM™ in the Classroom

Q: Is it possible to include sample lesson plans to show how to embed formative assessment and higher-order thinking skills (HOTS) questions?

A: All lessons in IM K–12 Math™ include embedded formative assessment, and the rigor of the student problem tasks is designed to generate higher-order thinking, critical reasoning, and problem solving. Suggested questions support teachers in asking advancing and assessing questions, which open access to the rigor of grade-level content for a wide range of diverse learners. Teachers can leverage built-in features of the curriculum 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
- prompts in each activity to advance student thinking (K–5) and address misconceptions (6–12)

Unfinished Learning

Q: What are some equitable strategies to address unfinished learning while ensuring access to grade level content?

A: When most students in a class need some additional instruction to access grade-level content, teachers might use an optional lesson already in the curriculum, or use the suggestions in a Curriculum Adaptation Pack to find an activity, lesson, or practice problem from a previous grade or unit to supplement. Adding supplemental material from a prior grade so that students can access grade-level content should be just in time, rather than preventative, limited to what students need to access the grade-level content, and balanced with thoughtful prioritization. IM used the guidance from Student Achievement Partners to prioritize major work of the grade in recommending lessons and topics to cut if most students need significant additional time to be ready for the grade. This ensures that students get to experience instruction on major work of the grade and don't fall further behind. The IM Resource Hub includes Curriculum Adaptation Packs for Grades K–5 and Grades 6–12. These tools, created by the IM authoring team, help teachers identify prior concepts and skills that students need to access the content in each unit. These adaptation packs provide just-in-time support to keep students progressing in their learning.

Q: Would you provide an example of what just-in-time learning looks like to supplement a lesson while ensuring access to grade-level content?

A: In planning a supplemental lesson or activity to support students' unfinished learning, teachers decide what is essential for students to access grade-level content based on the upcoming lesson and their students' formative assessment data. For example, in Grade 8, unit 2, students see when two slopes are equal by recognizing equivalent fractions. If students have trouble with this, an unproductive approach would be to review fourth-grade work on fractions of a pizza, or fractions of a dollar, or other contexts focused on visualizing equivalent fractions—this is unhelpful for the purposes of comparing slopes (which may not be proper fractions). Instead, the work with equivalent ratios and rates that students have just done in unit 2 on similar triangles will help them in unit 3 recognize that, for example, the slope 4/3 and the slope 8/6 are equal, and they can use different arguments for explaining why. A quick refresher on equal quotients, such as extending the warm-up from Grade 8 Unit 2 Lesson 10 to include more examples and a discussion of different strategies, some references posted in the room, and having a calculator handy may be all that is needed. Limiting the supplemental support to what students need to access the grade-level content puts a priority on opportunities for students to do the major work of the grade.