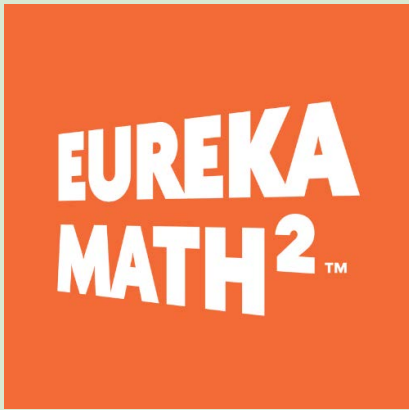


EUREKA MATH²

GREAT MINDS, 2021

PUBLICATION DATE: AUGUST 2024



*Eureka Math² is an online mathematics program for Grades K-8. Please see the [Great Minds website](#) and the publisher-provided information later in this report for product specifications. **Grades reviewed: 6-8***

“The lesson structure is excellent for student engagement and student-led classes. The problems are sufficiently challenging with multiple entry points.”

Massachusetts Educator

Eureka Math²

Great Minds, 2021

Mathematics, Grades 6-8

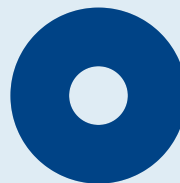
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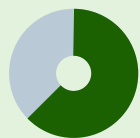
**Content Standards
and Organization**



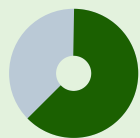
**Grade-Appropriate
Practices**



**Standards
Alignment**



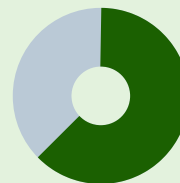
**Accessibility
for Students**



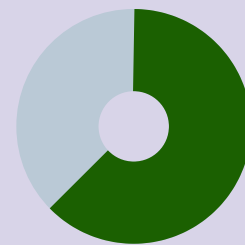
**Usability for
Teachers**



**Impact on
Learning**



**Classroom
Application**



Overall



Meets Expectations - Most or all evidence indicates high quality; little to none indicates low quality. Materials may not be perfect, but Massachusetts teachers and students would be well served and strongly supported by them.



Partially Meets Expectations - Some evidence indicates high quality, while some indicates low quality. Teachers in Massachusetts would benefit from having these materials but need to supplement or adapt them substantively to serve their students well.



Does Not Meet Expectations - Little to no evidence indicates high quality; most or all evidence indicates low quality. Materials would not substantively help Massachusetts teachers and students meet the state's expectations for teaching and learning.



Not Applicable (N/A) - Materials were not designed to address the criterion, and the publisher explicitly named the omission in legal submissions. This rating applies only to the Foundational Skills criterion in the K-5 ELA/Literacy rubric. It signals that the core curricular materials is without foundational skills and will need to be paired with a strong foundational skills resource to address all components of the core literacy block.



No Rating - Evidence is insufficient to generate rating.



Overall

The Bottom Line

Eureka Math² materials are well-aligned with the Massachusetts Curriculum Frameworks, exposing students to grade appropriate rigor. Students participate in tasks and instruction that require them to apply all Standards for Mathematical Practice (SMPs). Materials include assessments but do not provide adequate support for teachers to act upon assessment results. Although materials include robust differentiation support in most cases, specific scaffolds for English learners are inconsistent. Additionally, materials do not affirm and value diverse cultures and perspectives.

Standards Alignment

Content Standards and Organization

Strengths

- Materials are well-aligned with the Massachusetts Curriculum Frameworks. Lessons and units progress coherently, and materials include guidance for teachers on how each lesson connects to what students have previously learned and will learn in the future. The publisher provides a [correlation document](#) detailing alignment to Massachusetts college- and career-ready standards. This document clearly portrays any areas where Massachusetts teachers will need to supplement materials to cover state-specific standards.
- Materials balance the three aspects of mathematical rigor, with a strong emphasis on building students' procedural fluency. Students have opportunities within lessons to demonstrate procedural fluency through exit slips, formative assessments, and practice problems (EdReports, 2B). Most lessons include “Learn” activities aimed at building conceptual understanding before moving into practice problems to build procedural fluency.

Challenges

- Materials miss some opportunities to build students' conceptual understanding and real-world applications are not consistently engaging. For example, in Grade 6, Module 5, students learn to determine the area of right triangles. In this lesson, materials include minimal emphasis on building conceptual understanding before introducing measurements in a procedural manner.

The Bottom Line

Materials are well-aligned to Massachusetts standards and prioritize building students' procedural fluency. In most units, materials include a strong focus on building students' conceptual understanding. Teachers may need to adapt materials to include real-world applications that are engaging for middle school students.



Grade Appropriate Practices

Strengths

- Materials introduce students to multiple representations and teachers are consistently guided to allow students to choose which representation students would like to use to solve a problem. For example, in Grade 7, Module 5, Lesson 6, students complete a problem focused on calculating the commission that an employee earns from selling cabinets. The Teacher Edition puts forth strategies including using mental math, a double number line, proportions, and the equation $y=kx$.
- Most lessons include opportunities for students to share their mathematical thinking and justify solutions both orally and in writing. For example, in Grade 7, Module 4, Lesson 24, students work with a partner, taking turns expressing their thinking aloud. Partner A solves a problem aloud, explaining their reasoning. Partner B listens and asks clarifying questions, before the students switch roles. During independent work, students are regularly asked to justify their solutions in writing.
- Materials introduce students to a wide range of tools to use when solving problems, such as graphs, protractors, rulers, a double number line, diagrams, tables, and transparency tools. However, materials introduce students to minimal technological tools. In many units, lessons begin by introducing students to tools to use and prescribing the use of these tools when students solve problems. Towards the end of many lessons and units, students have the opportunity to strategically select which tool they would like to use. For example, in Grade 6, Module 1, Lesson 17, students answer rate questions with tables, graphs, and double number lines. In the lesson exit slip, students select their own tool to solve the problem, “Sasha swims 4 laps in 2 minutes. What is Sasha’s rate in laps per minute? What is the unit rate?”
- Materials provide opportunities for students to explain their thinking to others and evaluate others’ thinking, but students are often not leading the conversation. Instead, these opportunities are mostly teacher-directed. Student-facing materials provide opportunities for students to analyze fictional character’s work. For example, in Grade 8, Module 5, Lesson 9, students analyze the work of a fictional character named Abdul and describe in writing what they notice. Afterwards, students come together as a whole group to compare their notes on Abdul’s work while also sharing which strategy they would have chosen to solve the problem. Teachers are provided with facilitation prompts in many lessons to encourage students to evaluate their peers’ thinking and share their thinking with peers. However, these opportunities take place mostly in a whole group format with the teacher facilitating students’ conversations.

- Materials provide regular opportunities for students to collaborate with peers focused on lesson content. “Launch” problems to begin each lesson are open-ended, encouraging students to participate in conversations with their peers. Most lessons also include sentence starters to support mathematical discourse and think-pair-share routines to encourage collaboration. Materials frequently prompt students to ask their peers questions to encourage them to explain their understanding (EdReports, 2G).

Challenges

- Although materials embed consideration for English learners in their instructional design and provide general Language Support notes, materials do not consistently provide sufficiently robust support for various levels of English learners to fully engage in mathematical discourse and they include limited resources to support English learners to justify their answers in a structured manner. In addition, materials would be strengthened by providing students with guidance on what it means to justify their answer rather than simply explaining their solution.

Bottom Line

*Eureka Math*² resources are well-aligned to the Standards for Mathematical Practice (SMPs). They provide extensive opportunities for student collaboration and regularly require students to justify their solutions and explain their thinking to peers. In some cases, materials overly rely on teacher facilitation to incorporate practices, rather than situating agency with the learner. Materials do not provide sufficiently structured guidance for English learners to justify their mathematical thinking and participate in conversations with peers focused on math content.



Classroom Application



Accessibility for Students

Strengths

- Materials provide robust guidance for teachers to differentiate instruction for students who not yet meeting grade-level expectations, as well as for those in need of additional challenge. Within lesson materials, there are “Challenge” boxes to extend learning, “Differentiation” boxes to scaffold learning, and recommendations to incorporate Universal Design for Learning principles in lesson content. For example, in Grade 8, Module 4, Lesson 26, the “Differentiation” notes for teachers state, “If the y-intercept’s meaning in this context is difficult for students to interpret, consider having them write the y-intercept point (0,140). Then have them interpret the x-value and y-value in this context.”
- Across lessons, materials provide a range of different ways for students to demonstrate learning. Options include class discussions, exit tickets, formal assessments, and varied student tasks. For example, Grade 8, Module 6, Lesson 9 focuses on a real-world problem. Students demonstrate their understanding of the problem by using graphs, answering questions about a function, and making sketches. However, most summative assessments are prescriptive and do not provide students with options to demonstrate their learning in different ways. In addition, practice problems are all multiple choice or fill-in-the-blank, and they do not provide other response options for students.

Challenges

- While materials incorporate support to ensure English learners have access to grade level content, resources are inconsistent across lessons. Some lessons include robust teacher guidance focused on mathematical language, incorporating graphic organizers and suggestions for flexible grouping to promote English language development opportunities. Other lessons include no supports or incorporate supports that lack specificity. For example, Grade 6, Module 1, Lesson 9 includes a problem focused on mixing concrete. Teacher guidance suggests that teachers preview the context of problems by giving students the three main ingredients of concrete or showing a picture of mixed concrete. While this scaffolding may be helpful, additional guidance is necessary to fully support diverse learners to access this problem.

- Materials do not affirm or value diverse identities, backgrounds and perspectives. Materials miss many opportunities to incorporate problem contexts that resonate with diverse students' lived experiences. For example, in Grade 6, Module 1, Lesson 4, students use an example of fruit to understand ratios. The materials miss opportunities to affirm students' diverse cultures by incorporating fruit from different regions of the world. Other problems focus on generic topics such as juice, leaves, and mixing cement. Materials do not incorporate any problems with non-binary characters.

The Bottom Line

Materials include robust differentiation support, helping teachers meet the needs of struggling learners and those ready for additional challenges. Lesson activities provide students with a range of different ways to show what they have learned. However, resources designed specifically to support English learners are inconsistent, with some lessons offering robust support and other lessons that incorporate no support. Materials fail to affirm diverse cultures and perspectives.



Usability for Teachers

Strengths

- Lessons and tasks advance student learning with clear purpose. Materials include a “Lesson at a Glance” snapshot for teachers, which lists the lesson’s essential questions and standards covered and refers to students’ prior learning. Lesson activities achieve the stated purpose of each lesson. For example, in Grade 7, Module 2, Lesson 8, students explore the concept of subtracting integers as a mode of adding the inverse. Students learn that every subtraction expression can be rewritten as an equivalent addition expression by exploring the concept in multiple ways.
- Materials include classroom routines to support effective implementation. For example, each lesson follows the same structure of “Launch, Learn, and Land,” before students complete an exit ticket. “Launch” activates prior knowledge, “Learn” introduces new content, and “Land” incorporates a culminating discussion. Materials also include teacher guidance on building a strong classroom culture. Though materials regularly require teachers to split students into small groups, materials do not incorporate guidance for teachers to avoid bias in grouping strategies. In addition, mathematical language routines are referenced in the Teacher Guide, but lesson plans do not include specific guidance on when teachers should use each routine.
- Pacing is reasonable, and materials provide flexible implementation options for teachers. Lessons are designed for 45 minutes per day and materials incorporate roughly 130 days of instruction (EdReports, 1G). This buffer allows time for field trips, assessments, and lessons that may take more than one class period to complete.
- Materials include adult-level explanations designed to build teachers’ mathematical content knowledge. For example, the Teacher’s Edition for Grade 6, Module 2, Lesson 9 incorporates a teacher development video using a diagram to divide fractions with unknown factor equations. This video effectively models teacher facilitation using a tape diagram. However, materials lack resources designed to build teachers’ pedagogical knowledge, specifically focused on equitable math instruction and recognizing pedagogical biases.

Challenges

- Though materials include a range of informal and formal assessments as well as informational resources such as the Student Performance Report and the Equip Assessment Report, the materials do not provide sufficient support for educators to act upon assessment findings to address misconceptions. Teachers will need to analyze assessment results to determine the detailed next steps based on broad

recommendations: frequently, it was “incumbent on the teacher to determine which guidance and practice problems meet the needs of their individual students” (EdReports, 3J). Lessons include strong informal assessments, such as exit tickets, fluency checks, and discussion questions. Formal assessments include topic quizzes, benchmark tests, and module assessments. Answer keys are available to teachers for all formal assessments.

- Although Lesson Recaps are included to summarize key learnings from each lesson, materials lack student-facing exemplars and rubrics to set expectations for work quality. Though the Teacher Edition incorporates exemplars for exit slips and rubrics to grade assessments, these resources are not designed to set expectations for students.

The Bottom Line

Lessons advance student learning with clear purpose and tasks align with their stated objectives. Pacing is reasonable, and lessons incorporate routines to support effective classroom implementation. Teachers will need to supplement materials to provide exemplars that set expectations for students. Resources do not incorporate guidance for teachers to act upon assessment findings.



Impact on Learning

The Bottom Line

A [DESE-commissioned policy brief](#) found in 2018 that “research has yet to catch up to recent developments in curriculum materials.” As with many comprehensive curriculum products currently in use, high-quality studies of student learning impacts are not yet available for *Eureka Math*² Grades 6-8. This is a promising and important area for further study.



Looking for more information? Read the [full EdReports review](#) or find a [Massachusetts district](#) using this product.



What the Publisher Says....

We asked publishers for information on product specifications and technological requirements, professional learning opportunities for Massachusetts educators, and diversity of representation in their materials. See what Great Minds had to say about *Eureka Math*².

Diverse Representation

Describe how you ensure that students of diverse races, ethnicities, nationalities, socioeconomic classes, family experiences, linguistic backgrounds, abilities, cultures, religions, genders, gender identities, sexual orientations, and other identities see themselves fully reflected and respected in your curriculum. For example, describe any bias or inclusivity review procedures you have in place and provide evidence of their efficacy.

*Eureka Math*² acknowledges that deep learning happens when all students can leverage their diverse life experiences while learning mathematics. The curriculum provides students with mirrors in which to see their own identities reflected, as well as windows through which to view others' cultural perspectives. Specific instructional prompts, engaging word problems, accessible and engaging tasks, Math Past connections, fine art connections, and context videos throughout *Eureka Math*² work together to create a powerful curriculum that welcomes all students and encourages them to become doers of mathematics.

*Eureka Math*² invites students into mathematics and celebrates diversity by highlighting specific lesson moments that can be tailored to bring students' experiences from their homes and communities into the classroom. For example, a strategically placed [UDL margin box](#) highlights promoting relevance by allowing students to select a statistical question they find interesting from a variety of data set contexts. Additionally, *Eureka Math*² lessons include wordless context-building videos to highlight how we use math to solve everyday problems and make sense of the world around us. The highly engaging videos found in the G6-8 curriculum are either [collage animation](#) or [live action](#). Through these videos, students realize more readily that math surrounds them and they too can engage in mathematical pursuits.

*Eureka Math*² leverages the power of student relationships and interdependence through frequent partner and group work. Teachers can use strategic, flexible groupings that build off students' strengths. A [Language Support](#) margin box in the first lesson of every module serves to remind teachers to leverage students' cultural perspectives when strategically grouping students.

Students' experiences in the classroom also connect to their homes and communities through the lesson Recap. Each [Recap](#) describes major concepts in the lesson by using words and phrases that should be familiar to students. The Recap

contains key terms and visual supports students can use to explain the concepts or strategies to their families or that can help adults at home understand a concept.

The pictures of people and other images in *Eureka Math²* represent diversity and these representations affirm student identities while rejecting the stereotypes and biases that have excluded many students from mathematical learning in favor of a more robust and inclusive perspective. The names used in word problems and for sample students in the lesson vignettes are intentionally diverse to represent the wide variety of students who use the curriculum.

Nearly every module in *Eureka Math²* includes a feature called Math Past. Each Math Past tells the history of big ideas in the module, recounting the story of the mathematics through artifacts, discoveries, and other contributions from cultures around the world. This resource counters the traditional Eurocentric perspective and celebrates the many contributions of Black, Indigenous, and People of Color communities to the history of mathematics. Math Past provides ideas about how to engage students in the history of mathematics. For example, students explore early representations of negative numbers and the need for them by engaging with [historical problems faced by ancient Chinese and Indian merchants](#). The module's [Math Past Teacher Resource](#) provides more detail about the development of negative numbers in different cultures.

In a similar vein, *Eureka Math²* connects works of fine art to the standards of each grade level. Each Teach book opens with a stunning work of fine art that has a connection to the math learned in the grade. There are also a wide variety of additional pieces of art embedded in each grade's lessons. For example, students study [nine pieces of artwork](#) from artists representing Egypt, Austria, Mexico, the United States, France, Germany, and the Netherlands to relate linear perspective and similar figures.

Eureka Math² is an inclusive mathematics curriculum that represents diverse doers of math. The curriculum's images, fine art, and pictures of people represent diversity through problems and activities related to real-life experiences, perspectives, and contributions of people from various cultures, ethnicities, and identities. Thus, the curriculum inspires all students to think of themselves as mathematicians.

Professional Learning

Describe any professional learning opportunities (materials or experiences, publisher-provided or otherwise) available for Massachusetts educators that are designed to support high-quality implementation of your curriculum.

Effective implementation of high-quality instructional materials can provide all learners with access to rigorous, on-grade-level learning that considers the unique needs and cultures of all classrooms. Great Minds professional development and curated coaching sessions engage teachers experientially in deepening their content knowledge, understanding how the design of the Eureka Math² curriculum fosters accessibility for all students, and preparing to leverage the curriculum resources to support students' confidence and success. Each session is designed to build on teachers' expertise and experience to foster teacher efficacy and give them tangible action steps to immediately put in place in their classrooms.

Professional development sessions can be sequenced in a custom plan to best meet the needs of Massachusetts educators. Sessions are available in both virtual and on-site formats, and foundational sessions are also available in on-demand formats. Virtual professional development sessions have a 35-participant maximum, while on-site sessions have a maximum of 50 participants.

<i>Eureka Math²</i> Projected Foundational Professional Development Sessions (Recommended for Year 1 Implementation)	
Lead: Facilitating Successful Implementation GK-5 G6-Algebra 1	School and district leaders are introduced to the <i>Eureka Math²</i> curriculum and are provided with guidance on how leaders can best support their teachers during implementation.
Launch: Bringing Curriculum to Life GK-5 G6-Algebra 1	Teachers who are new to math curriculum from Great Minds investigate the structure, design, and components of <i>Eureka Math²</i> while engaging with the curriculum's print and digital resources. Participants explore the instructional role of all the curriculum resources (including <i>Eureka Math²</i> Equip for those who also adopt the premium assessment tool) and are prepared to facilitate lessons with students.
Teach: Effective Instruction with Eureka Math ² GK-2, G3-5 G6-Algebra 1	Participants study the content of a common module, topic, and lesson by using the recommended process of previewing the learning, investigating the development of learning, and exploring the assessment. They use the knowledge they gain from their study to prepare a lesson for instruction. Participants explain how studying supports them in thinking about connections between content while planning, so they can make those connections visible when teaching, helping students to access grade-level content by relating new learning to prior knowledge. They apply the process to study a module, topic, and lesson at their own grade level. Participants leave this session having prepared and practiced a lesson they will teach.

Eureka Math² Sustaining Professional Development Sessions (Foundational sessions are pre-requisites)

<p>Assess: Embedded Opportunities to Inform Instruction GK–2, G3–5, G6–Algebra I</p>	<p>This session extends the learning from Teach: Effective Instruction with <i>Eureka Math²</i> to explore more deeply assessment opportunities that are an integral part of instruction rather than as separate, isolated events. Participants explore the suite of assessments provided with Eureka Math2 and understand each component’s role in making inferences about next-step instructional decisions, reflecting on instructional practice, and accurately communicating students’ proficiency with mathematical content. They analyze sample student work and relate the design of the assessment system to consider the recommended practices for scoring and grading. Participants leave this session feeling more comfortable and confident navigating the assessment system of <i>Eureka Math²</i>.</p>
<p>Inspire: Discourse, Engagement and Identity GK–Algebra I</p>	<p>In this one-day session, teachers experience the ways in which they shape their students’ identities and the learning community through language and instructional decisions, as well as by fostering discourse and engagement. Participants leave prepared to optimize discourse and engagement, inspiring all students to see themselves as doers and thinkers of mathematics.</p>
<p>Adapt: Optimizing Instruction GK–2, G3–5, G6–Algebra I</p>	<p>This one-day session is designed for teachers and instructional leaders as a sustaining session after they have participated in Launch, Teach, and Assess. Participants build on the framework from Teach: Effective Instruction with <i>Eureka Math²</i> by using curriculum materials and student data to plan for and facilitate instruction that supports all learners in accessing grade-level content. During this session, participants analyze student work and use the data to engage in a process to plan for responsive instruction.</p>

Learn more about *Eureka Math²* professional development [here](#).

Product Specifications

Describe what a school or district needs to implement your curriculum successfully, including instructional hours and technological infrastructure. Provide basic information about what products are associated with the curriculum (e.g., what texts a typical purchase includes, what tools are openly available online).

To ensure a successful implementation of Eureka Math², we strongly recommend Massachusetts schools/districts provide:

- The Teach books for educators (all grades) along with the Learn (all grades) and Apply (grades 1–5) student workbooks
- Great Minds Digital Platform access for teachers and students with the Eureka Math² premium assessment bundle that features summative Benchmark Assessments as well as the Eureka Math² Equip digital diagnostic assessment tool
- Math manipulative kits (all grades)
- Great Minds [professional learning](#) options, including foundational and sustaining professional development sessions as well as professional coaching sessions
- While not required, we recommend teachers have access to a desktop computer, laptop, or tablet device with broadband internet access and connectivity to a projector or an interactive whiteboard device to maximize the online resources. For students, computer, laptop, or tablet access is recommended for completing certain online activities and lessons, especially digital assessments.

Response to Report

At Great Minds, we believe every child is capable of greatness. We appreciate the commitment of CURATE and all Massachusetts educators to identify and utilize high-quality instructional materials that facilitate all children achieving greatness. Every classroom is unique, and *Eureka Math*² empowers teachers to make good choices for their students. We've applied the latest research on supporting multilingual learners, leveraging Universal Design for Learning principles, and promoting social-emotional learning. The instructional design, instructional routines, and lesson-specific strategies support teachers as they address learner variance and support students with understanding, speaking, and writing English in mathematical contexts.

We value the knowledge students bring into the classroom and acknowledge that deep learning happens when students can leverage life experiences while learning mathematics. The contexts throughout the curriculum serve as “windows and mirrors,” incorporating scenarios that may resonate with students' diverse experiences or as windows through which to view others' perspectives.

Words should not stand in the way of learning math. In *Eureka Math*² we designed written materials with active consideration for the perspective of students who need support with reading, especially those with dyslexia. We've reduced wordiness—eliminating unnecessary wording entirely—and we've been intentional in language choices and sentence length.

From differentiation suggestions to slide decks, from digital interactives to multiple forms of assessment, *Eureka Math*² teacher resources ensure that teachers have exactly what they need, right when they need it. Teachers spend their time engaged in the valuable work of delivering high-quality instruction that moves their students toward greatness.