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**EUREKA
MATH²**

Getting Started Guide
Level 2 Module 1

Getting Started

This Getting Started Guide provides contextual information as you review *Eureka Math*². Follow along as we explore the contents of the *Teach*, *Learn*, and *Apply* books. The guide also highlights some **key components of the digital experience** that are seamlessly integrated into *Eureka Math*².

Exponentially More

Eureka Math[®] revolutionized math teaching in the United States. The curriculum has helped students understand the *why* behind the math, not just the *how*. It has become the most widely used K-5 math curriculum in the country—so why would we change it? Because we listened to feedback from our dedicated team of *Eureka Math* teachers throughout the country and studied the findings of current educational research. Armed with this knowledge, we decided to expand the accessibility and efficacy of our materials so that even more students can achieve greatness in math.

*Eureka Math*² is exponentially more efficient. Exponentially more engaging. Exponentially more accessible. And this adds up to exponentially more knowledge and joy for students and teachers alike.



$$\text{Teachability}^2 + \text{Engagement}^2 + \text{Accessibility}^2 = \text{Joy}^2$$

Thinking and Talking *About Math*

The teacher-writers who crafted *Eureka Math*² realize the value of student discourse. Starting in kindergarten, *Eureka Math*² students engage with the teacher and with one another to make their thinking visible. Students work in pairs and in groups as they engage in a variety of instructional routines and participate in whole class discussions to explore mathematical ideas. The Talking Tool, detailed on the inside cover of every *Learn* book, provides sentence frames and sentence starters to help guide student discourse.

Similar to the Talking Tool, the Thinking Tool, on the inside back cover of the *Learn* book, is a scaffold to support students in developing and applying metacognitive skills. It provides a set of questions students can ask themselves before, during, and after engaging in a task.

Thinking and talking about math helps students develop a deeper understanding of the topics they learn. These activities are key factors in creating an equitable classroom culture—and in helping students find the joy in mathematics.

How Students *Build Knowledge*

*Eureka Math*² is organized into three coherent stories that build from year to year: *A Story of Units*[®] for Grade Levels K–5, *A Story of Ratios*[®] for Grade Levels 6–8, and *A Story of Functions*[®] for Grade Levels 9–12.

Each grade level is organized into six modules. Within each module, related lessons are organized into topics.

A close look at the module map reveals that the major work of the grade level is delivered earlier in the school year. This allows students to have ample opportunities to establish strong foundational knowledge. *Eureka Math*² reinforces this knowledge later in the year by connecting supporting content to major grade-level work and providing students with real-world context.

Talking Tool	
I Can Share My Thinking 	My drawing shows I did it this way because I think _____ because
I Can Agree or Disagree 	I agree because I disagree because I did it a different way. I
I Can Ask Questions 	How did you . . . ? Why did you . . . ? Can you explain . . . ?
I Can Say It Again 	I heard you say _____ said Can you say it another way?
	

Implement with Fidelity and *Confidence*

The same team of teacher-writers who crafted *Eureka Math*² also developed an Implementation Guide to help educators bring the curriculum into their classrooms. The guide provides a detailed map of the resources built into the curriculum and offers advice on how to prepare to teach each module. [Access the full Grade Levels 1–2 Implementation Guide.](#)

Below we'll highlight some of the information covered in the Implementation Guide to help you explore *Eureka Math*² Level 2 Module 1.

An Intentional and Meaningful Integration of *Digital Learning*

The *Eureka Math*² writers strategically integrated digital components with K–5 lessons so that technology enhances instruction without the need for individual student devices. *Eureka Math*² *Equip*[™], a companion product to *Eureka Math*², is a digital diagnostic tool that offers a Pre-Module Assessment for every student. It identifies learning gaps and provides teachers with content tailored to address those gaps so that all students can access grade-level content. The curriculum's digital platform includes teacher facilitation slides that display lesson visuals such as mathematical representations, images, videos, or digital interactives. Every module includes at least one context video that shows an application of the module's math in real-life scenarios. Students also participate in a teacher-led class demo with interactive tools on the Great Minds[®] Digital Platform to visualize various mathematical models.

When students have their own devices, they can access the *Learn* book content and complete assignments digitally.

[Access the Great Minds Digital Platform](#) to review *Eureka Math*² assessments, digital interactives, context videos, and more.

Bringing Fine Art *into Math*

Among all math curricula, *Eureka Math*² is unique in its integration of fine art. The cover of each module features an impressive work of fine art that is visually or conceptually connected to the math. Level 2 Module 1 features the painting *Pote della Paglia* by Maurice Prendergast, and a note on the inside cover helps students understand how the artwork is connected to the math they will learn.



A Map to the *Learning*

Every *Teach* book begins with an Overview. In Level 2 Module 1, the Overview begins on page 6. The Overview notes any previous knowledge students use and build upon in the module, summarizes the student learning taking place on each topic in the module, and shows where in the curriculum students will next access the module's learning to build new layers of understanding and more complex knowledge.

Following the Overview is the Why section. The Why section gives insight into the decisions made during the writing of the module, helping you understand the underlying structure of the module, the flow of the content, and the coherence of the different parts of the curriculum.

What Does Understanding *Look Like*?

Beginning on page 13, the *Teach* book highlights the Achievement Descriptors addressed in the module. Achievement Descriptors are clear, concise, standards-aligned descriptions that detail what students should know and be able to do based on the instruction. The first page of each lesson identifies the Achievement Descriptors aligned with that lesson. Proficiency Indicators for each Achievement Descriptor support teachers with interpreting student work in the module. The Proficiency Indicators begin on page 262 of the Level 2 Module 1 *Teach* book.

History of the Math

Math Past is another way that *Eureka Math*² helps students build knowledge—by telling the history of some of the big ideas that shape the mathematics in the module. Math Past frames mathematics as a human endeavor by telling the story of the discipline through artifacts, discoveries, and other contributions from cultures around the world. Math Past provides material that can inform your teaching and offers lesson-specific ideas about how to engage students in the history of mathematics. The Math Past summary for Level 2 Module 1 appears on page 276.

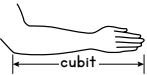
Math Past

Cubits and Other Handy Measures

What is a cubit?
How can a cubit be used as a standard length?
How long is a cubit in modern units?

If you ask your students what they know about Egypt, they may have heard of pyramids, mummies, and pharaohs. But have they heard of cubits?


Measure the length of a moderately large object in the classroom, such as the whiteboard, but don't measure it in feet or yards or inches. Instead, measure it in cubits, as shown in this picture.



First, invite one or more students to measure the object using their cubit by just giving the number of whole cubits that fit. Then measure it again by using your cubit. Have students notice that the numbers are different and explain why. Taller people tend to have longer cubits, so your cubit is probably longer than most of your students' cubits.

Ask your students whether they think all grown-ups have exactly the same length cubits. Students have probably noticed that adults aren't all the same size. They may realize that even a "grown-up cubit" isn't a set length. It depends on whose cubit is used!

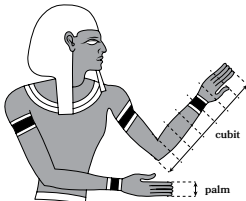
Cubits were made the standard unit of length in ancient Egypt. Egyptian symbols are called *hieroglyphics*. This is the hieroglyph for a cubit.



Ask your students whether they think this looks like a forearm. It is supposed to!

For everyday work, an Egyptian could just lay his forearm down on whatever he was measuring to mark off a cubit, just as you and your students did. The nice thing about a cubit is that most people have one with them!

A cubit is great for measuring a whiteboard, but it is too long for measuring a whiteboard eraser. To build their walls and pyramids, the Egyptians needed to make lots of bricks, some of which are about the same size as whiteboard erasers. In order to measure them, the Egyptians used their palm.



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Dive into a *Topic*

It's time to dive into a topic to better understand the *Eureka Math*² learning design. On page 189 in Level 2 Module 1, we begin Topic D: Solve *Compare Problems* by Using the Ruler as a Number Line. Every topic begins with an overview that summarizes the development expected as students engage with the upcoming content. In the Topic D overview, the teacher can see that students will use tape diagrams and rulers as number lines to represent and solve comparison word problems. This learning will help students as they represent and solve addition and subtraction problems that become increasingly complex over the year. The teacher can also see how this learning will continue in the topic.

Each topic also includes a Progression of Lessons list on page 190. This list shows sample content from each lesson along with a student-friendly statement about the major learning.

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Progression of Lessons

<p>Lesson 15 Use a measuring tape as a number line to add efficiently.</p> <p>I can add 14 cm to 107 cm more efficiently by using 110 and 120 as benchmark numbers.</p>	<p>Lesson 16 Use a measuring tape as a number line to subtract efficiently.</p> <p><i>Beth's Way</i> <i>Lee's Way</i></p> <p>Beth subtracted 6 from 54 by starting at 54 and thinking about a close benchmark number, 50. She took away 4 all at once to get to 50, and then she subtracted 2 more to get to 48.</p>	<p>Lesson 17 Represent and solve comparison problems by using measurement contexts.</p> <p>I solved the car problem by adding 3 to 87 to get to 90 because it's a benchmark number. Then it was easy to add 5 more and get 95. Altogether, I added on 8.</p>
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Lesson Structure *and Support*

Every Grade Level K–5 *Eureka Math*² lesson is organized into four sections, providing the teacher with a clear lesson plan for the day's learning.

- **Fluency** opens each lesson and provides distributed practice with previously learned material. This practice prepares students for new learning by activating prior knowledge and bridging small learning gaps.
- **Launch** creates an accessible entry point to the day's learning with activities that build context and create productive struggle, which helps build new knowledge.
- **Learn** presents new math concepts related to the lesson objective, usually through a series of instructional segments.
- **Land** provides time for teachers to facilitate a brief closing discussion and for students to complete the Exit Ticket.

Throughout the lesson, margin notes provide information about facilitation, differentiation, and coherence. The curriculum has six types of margin notes: Teacher Notes, Universal Design for Learning, Language Support, Differentiation, Promoting the Standards for Mathematical Practice, and Math Past.

Dive into a *Lesson*

The lesson overview on page 216 helps teachers prepare to teach Lesson 17.

- The **Lesson at a Glance** is a snapshot of the lesson framed through what students should know, understand, and do while engaging with the lesson.
- The **Key Question** helps focus instruction and classroom discourse.
- The **Achievement Descriptors** appear again, this time mapping what students should know and be able to do based on the instruction of the specific lesson to the standards covered.
- An image of the **Exit Ticket** from the end of the lesson shows what this formative assessment includes.

Finally, page 217 lays out the learning agenda as well as the materials list and lesson preparation notes. These are all shared up front to help teachers feel organized and ready for the lesson from the start.

During the Lesson 17 Fluency exercise on page 218, students engage in a choral response activity to identify the next ten and how many more to make the next ten in preparation for addition and subtraction on the number line. This activity will be interleaved and distributed throughout the module to ensure fluency with the skill.

In Launch, students watch a math content video as they begin to make sense of a *compare* situation. Each video in our *Eureka Math*² digital experience has been crafted with special care to ensure representation of students from different backgrounds and abilities. These videos do not include spoken words because we want to make them accessible to multilingual learners and striving readers so that the focus is on the math story and not the dialogue. You can access the video for this lesson on the webpage where you accessed this guide.

Page 222 includes two teacher margin notes to support the facilitation of this lesson. The Language Support provides support so students can make the connection between the actual measuring tape and the model.

The Differentiation: Support note suggests providing students with a measuring tape as a concrete representation of a number line.

Language Support

The term *tape* is a multiple-meaning word. Provide support by gesturing to the tape diagram and pairing it with the respective term. Support students to make the connection between the actual measuring tape and the model by asking the following question:

- How is the tape shown in the video similar to a tape diagram?

Differentiation: Support

Consider providing access to measuring tapes for students who may benefit from using the tool to add on the number line.

After representing and solving the problem a variety of ways by using a number line, as well as going through a Share–Compare–Connect routine, students turn to their *Learn* books to work on a Problem Set. Before students begin this work, teachers should note the guidance provided to the teacher on page 224. The problems students will encounter have been organized from simple to complex.

The Student Experience:

Learn

On page 91 of the *Learn* book, students begin the Problem Set for Lesson 17. Notice the gears icon in the top corner of the page. This icon is used to indicate a Problem Set section. Other icons that may appear in lessons include a magnifying glass and a ticket with a check mark. The magnifying glass indicates a lesson page that students use during the guided or directed portion of the lesson, and a ticket with a check mark indicates that the page is the Exit Ticket for the lesson.

Let's look at readability. You will notice that the student materials are intentionally designed to be readable by young students while maintaining the rigor that you've come to expect from Great Minds curricula. We have reduced wordiness—eliminating unnecessary wording entirely—and we have been intentional in our language choices and sentence length. The Grade Level K–2 *Learn* books consistently use the same visuals paired with words that may still be beyond a student's decoding ability, and each problem has been written with guidance from our Great Minds phonics experts.

EUREKA MATH™ 2 • M1 • TD • Lesson 17

Name _____

1. How much farther does the red plane go than the blue plane?

79 cm

90 cm

Write an equation. _____

The red plane goes _____ farther than the blue plane.

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Read

Kate has 40 pennies. Jack has 27

How many fewer pennies does Ja

Draw

Write

Jack has _____ fewer pennies than Kate.

100 PROBLEM SET Copyright © Great Minds PBC

EUREKA MATH™ 2 • M1 • TD • Lesson 17

Land 10

Debrief 5 min

Objective: Represent and solve comparison problems by using measurement contexts.

Use the following prompts to facilitate a discussion about ways to represent and solve comparison problems.

How can number lines and tape diagrams be used to represent, or show, and solve comparison problems?

The tape diagram shows the problem and helps me figure out what I need to do to solve it.

I can make jumps up or back on the number line to show addition or subtraction.

How can you solve the same comparison problem by using different equations?

I can count on, which means I'm adding. Or I can count back, which means I'm subtracting.

I can add 87 and 8. Or I can add 87 and 3 and 5. Either way, I get the same answer.

Exit Ticket 5 min

Provide up to 5 minutes for students to complete the Exit Ticket. It is possible to gather formative data even if some students do not complete every problem.

Help students recognize the word correct in print. Invite students to underline the word as you read it aloud.

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After students work independently on their Problem Set, the class comes back together for the Land portion of the lesson. For Lesson 17, this section begins on page 225 of the *Teach* book. In this portion of the lesson, the teacher facilitates a discussion by using suggested questions related to the lesson's objectives and guides students to synthesize the day's learning. Following the discussion, students complete the Exit Ticket on page 93 of their *Learn* book. This gives teachers a sense of what students understand so they can help make instructional decisions for the next lesson.

Continued Practice *at Home*

The final book in the module series is *Apply*. The *Apply* book offers students more practice with the concepts learned in class. It has three components that support students in deepening their understanding of the concepts covered in the daily lesson.

- **Family Math** is a letter to families that describes the major concepts in the current topic. The letter uses words and phrases that should be familiar to the students from the class lessons. It also includes visual supports that students can use to explain the concepts or strategies to their family or that can help adults at home understand a concept.
- **Practice** problems interleave and distribute practice, providing students with opportunities to discern and recall which knowledge, concepts, and strategies are appropriate for solving different problems.
- **Practice Partners** provide a unique kind of support. Students work through the thinking of an imagined partner who is solving problems like those in the Practice.

Module 1
Topic D

FAMILY MATH

Solve Compare Problems by Using the Ruler as a Number Line

Dear Family,

Your student is learning to use a number line to add. They see a number line on a familiar tool—a measuring tape. The number line can help them count and make hops up and back as they solve problems. Your student looks for benchmark numbers (10, 20, 30, 40) on the number line. Benchmark numbers help your student add and subtract more efficiently.

Your student also uses tape diagrams to represent word problems. Flexibility is encouraged as they solve in a way that makes sense to them. Flexible thinking allows your student to notice the relationship between addition and subtraction and discover that different equations can be used to solve the same problem.

To add 76 and 7, begin at 76 on the number line.

Instead of counting by ones, hop 4 to get to the benchmark number 80.

Then hop 3 more to finish adding 7.

$76 + 7 = 83$

Choose to subtract or add to find the difference between 54 and 30.

To subtract, start at 54. Break apart 30 and count back.

To add, start at 30. Break apart 54 and count on.

$54 - 4 = 50$

$50 - 10 = 40$

$40 - 10 = 30$

$54 - 24 = 30$

$30 - 10 = 40$

$40 - 10 = 50$

$50 + 4 = 54$

$30 + 24 = 54$

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EUREKA MATH[™] 2 • M1 • TD • Lesson 17

17

Name _____

1. How much farther does the big bee fly than the little bee?

57 cm

70 cm

Write an equation. $57 + 13 = 70$

The big bee flies 13 cm farther than the little bee.

I can count on to find the difference between 57 and 70.

I start at 57. I can use 60 as a benchmark number. I hop 3 from 57 to 60.

I hop 10 from 60 to 70.

I know 10 and 3 is 13.

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EUREKA MATH[™] 2 • M1 • TD • Lesson 17

17

Name _____

1. How much farther does the big bird go than the little bird?

68 cm

80 cm

Write an equation. _____

The big bird goes _____ farther than the little bird.

2. How much farther does the squirrel jump than the grasshopper?

132 cm

117 cm

The squirrel jumps _____ farther than the grasshopper.

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Assessment with *Eureka Math*²

The assessment system for Grade Levels 1 and 2 helps teachers understand student learning by generating data from many perspectives. The system includes four components.

- **Observational Assessments** are made in the provided Recording Sheet for every module in Grade Levels 1 and 2. This sheet comprises short checklists that summarize the module's Achievement Descriptors and Proficiency Indicators. Teachers use the Recording Sheet to make notes during any part of the lesson to inform their understanding of student performance.
- **Exit Tickets** are formative assessment opportunities that use at least one problem or question to assess whether a student has learned the basic skills and concepts needed for success in upcoming lessons. Items reflect the minimum that students must demonstrate to meet the lesson objective.

Students complete Exit Tickets independently on paper, with directions or problems read aloud as necessary, and they are not graded. Most students with a basic understanding of the math can finish within 3–5 minutes. Generally, teachers should strictly observe this time frame because a student's inability to finish within 5 minutes can be valuable proficiency information.

- **Topic Tickets** replace the Exit Ticket in the final lesson of each topic, serving as short sets of items that assess proficiency with the major concepts and skills from the topic.
- **Module Assessments** consist of 6–10 items that assess proficiency in the major concepts, skills, and applications taught in the module. Module Assessments represent the most important content, but they may not assess all the strategies and standards taught in the module.

In Grade Levels 1 and 2, students independently work Module Assessments on paper with the directions or problems read aloud as necessary.

In Level 2 Module 1, all assessment resources appear in the Resources section beginning on page 562 of the *Teach* book.

In addition to the assessments above, *Eureka Math*² Equip diagnostic assessments are available for print and digital administration.

[Click to review the *Eureka Math*² assessments](#) on the Great Minds Digital Platform.

EURKA MATH² 2 • M1 • TD

Name _____

1. Use the number line to subtract.

$65 - 6 = \underline{\quad}$

← 50 60 70 →

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EURKA MATH² 2 • M1 • Module Assessment

Module Assessment Name _____

1. Make a picture graph.

Animals at the Park

2	5	3	4

Key: Each _____ stands for _____.

Raising the Bar to the *Second Power*

In the world of math curricula, *Eureka Math*² stands alone. Our curriculum invites student discourse, provides accessibility, and advances equity. Its combination of digital and print resources helps *all* students build a strong foundation of mathematical knowledge that they will build upon, module after module and year after year.



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