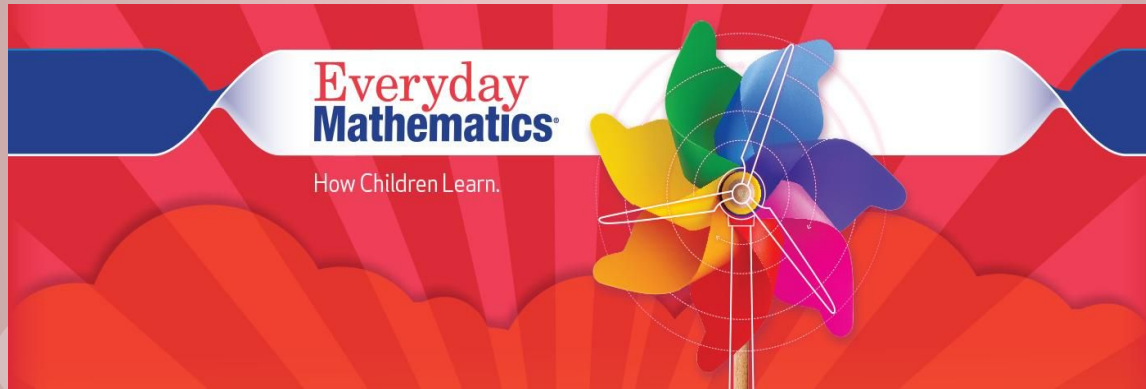


Math Curriculum
Update
PHM Forum



MISSION CRITICAL:
A strong math program focused on critical
thinking and reasoning.

Elementary



What our teachers are saying about the program...

- Updated program is more visually appealing to support increased student engagement.
- The new curriculum meets State standards better than the previous version.
- The pacing is good and the curriculum frequently spirals back (math boxes) to reinforce skills already introduced.
- The online lessons, resources, virtual manipulatives, and games are all very helpful for our virtual learners.
- The curriculum aligns really well with our district created curriculum maps and pacing guides.
- The program includes numerous resources that support differentiation.

Some Challenges

- **Becoming familiar with EM4 website in order to more efficiently navigate when looking for specific digital resources is time consuming.**
- **Feeling overwhelmed at times with the number of resources.**
- **Additional (in-person) professional development next school year will help teachers be more efficient with remediation resources that are lesson-based rather than standard/skill-based.**

Student Impact

- The “spiral tracker” in this curriculum helps the teacher know when something is introduced and when concept mastery should be expected.
- Improved student outcomes with 2nd grade skills like counting money and analyzing graphs because of daily repetition in lesson warm-ups.
- Updated version encourages more student discussion related to open-ended response items, increasing the level of critical thinking and understanding.
- EM4 requires students to explain their thinking and problem solving steps in writing, promoting increased “number sense” and a higher mathematical depth of knowledge.

Middle School



What PHM teachers are saying about the program...

- I love the pre-made Google Slides~ they are easy to share and work with!
- The teacher implementation guide and video supports teachers in preparation.
- MATHia has been so helpful for my students to practice skills aligned with content. Students can work at their own pace and use “hints” as necessary.
- I appreciate the pre-made and editable assessments through Edulastic.
- Their level of customer service is outstanding. I’ve never sent a question that took them longer than an hour to answer!

Some challenges...

- It is rigorous. Having students think conceptually has taken some time and exploring higher level questioning has been an adjustment- but students are starting to see the “why” behind mathematics in the real world.
- My lessons are taking longer than expected.
- The first year of the program is taking some time to have students understand the approach to math.
- Covid has made some things more challenging- I have had to alter some of the group work and collaboration because of virtual learning and social distancing.

Student Impact

- We just concluded our module (Thinking Proportionally). I can confidently say in over 20 years of teaching I have never had kids understand this concept so thoroughly!
- The depth of discussion with students about math is exciting! Students are talking about and seeing real-world connections to math!
- Hearing students utilize the new vocabulary while explaining their process/approach to problems is great.

High School



What are teachers saying about the program?

- The biggest benefit has been My Agile Assessment, which allows us to ask low floor, high ceiling questions.
- Online interactive lessons are already made, and are easy to assign and gather information from virtual and live students for formative data.
- Review assignments are not simply duplicates of questions on the assessments, but ones that provide additional opportunities for students to practice applying concepts to different situations.
- Students aren't memorizing processes to solve problems!
- Formative and summative assessment questions vary in DOK, and are formatted using technology enhanced items students may see on standardized tests.

"Oh wow, I've never seen it taught that way. That makes way more sense conceptually!"

Some challenges

- Changing the way in which students learn math is a transition that takes time.
- Gaining student trust when guiding them to learn math in a new way can be tricky.
- Intentionally explaining to learners why it is important that we learn math conceptually is an important reminder.
- Teachers look forward to in-person professional development with Agile Mind when it is safe to do so.
- We have learned where we need to supplement with additional practice.

Student Impact

- Agile Mind is available on Chromebooks, tablets, and smartphones to help all learners gain access.
- The animations are excellent for visual and kinesthetic learners. Students often go back and interact with them to review concepts.
- There is flexibility for students to solve problems in ways that make the most sense to them, rather than a predetermined process they are required to master.
- Agile Mind has formative assessments embedded in each lesson, where students can respond to questions and check their answers. The questions vary in DOK, and are formatted using technology-enhanced items students may see on standardized tests.

Standards for Student Mathematical Practice


1 Make sense of problems and persevere in solving them.



Keep on going!

2 Reason abstractly and quantitatively.

Write a story for the mathematical equation



$$\frac{1}{2} \times 4$$

DeJuan exercises $\frac{1}{2}$ hour a day for 4 days. How many total hours does he exercise?

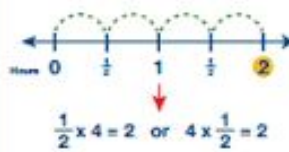
Think what makes sense.

3 Construct viable arguments and critique the reasoning of others.



Talk and explain.

4 Model with mathematics.



Show your thinking.

5 Use appropriate tools strategically.



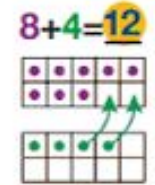
Use the right tools.

6 Attend to precision.



Check your work.

7 Look for and make use of structure.



See the pattern or connection.

8 Look for and express regularity in repeated reasoning.



See the pattern or connection.

Questions

