

ACTIVE

INSTRUCTION
PROVEN

math
expressions

RESULTS





Math Expressions is a research-proven curriculum that encourages students to get **hands-on** with math—exploring, discussing, and demonstrating an understanding of key math concepts. Now for 2018, new digital components and professional support provide teachers with a truly **balanced** classroom math solution.



Take an active approach to math instruction and **see results!**

INVESTIGATE!

Smarter digital learning tools complement the hands-on learning approach through inquiry.

MOTIVATE!

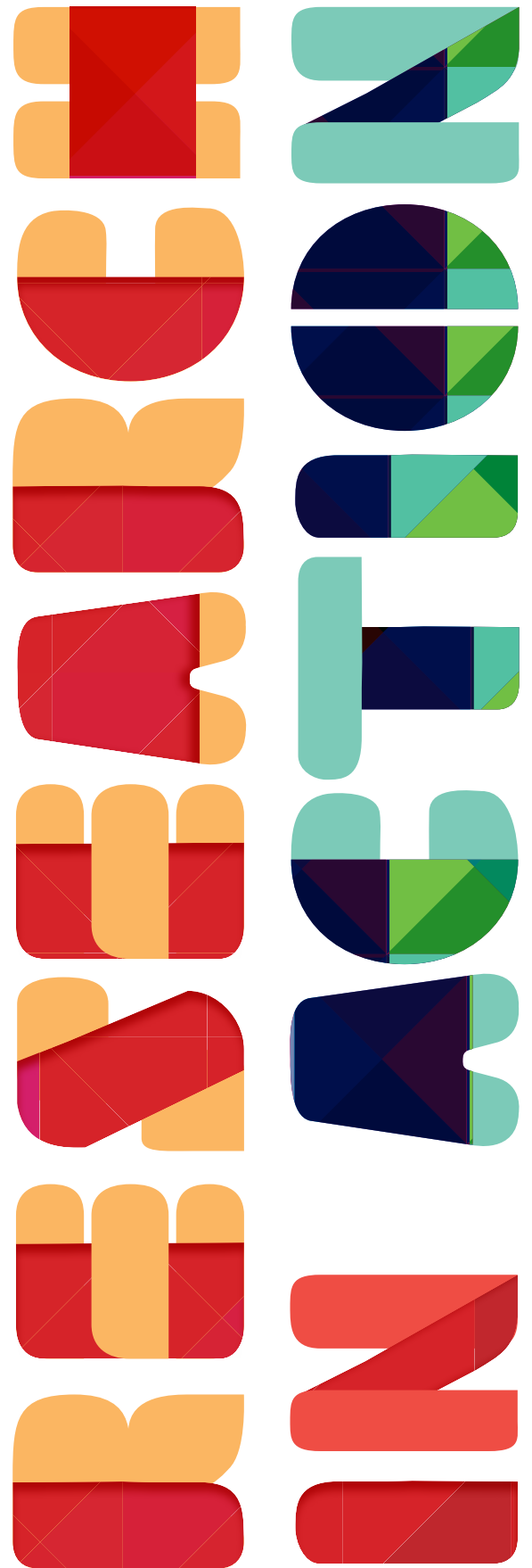
Personalized math instruction keeps students motivated and connected to lessons.

ENGAGE!

More access to content and digital connectivity provides opportunities for students to take ownership of learning.

EMPOWER!

Insightful resources provide educators with opportunities to monitor student progress and differentiate instruction. New point-of-use digital teacher components and Teacher Edition make instruction easier and more intuitive!



THIS IS

math expressions

EXPLORE

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Math Expressions is a balanced, research-proven math solution for Grades K–6. With inquiry-based, interactive instruction, it consistently keeps students motivated and progressing forward, provides explicit instructional support to teachers, and delivers real, measurable results.

SUPPORTS DEEPER MATHEMATICAL MASTERY • FUNDED BY NSF*
PROVEN EFFECTIVE BY RESEARCH • PREFERRED BY TEACHERS NATIONWIDE

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RESEARCH

is the cornerstone of the curriculum

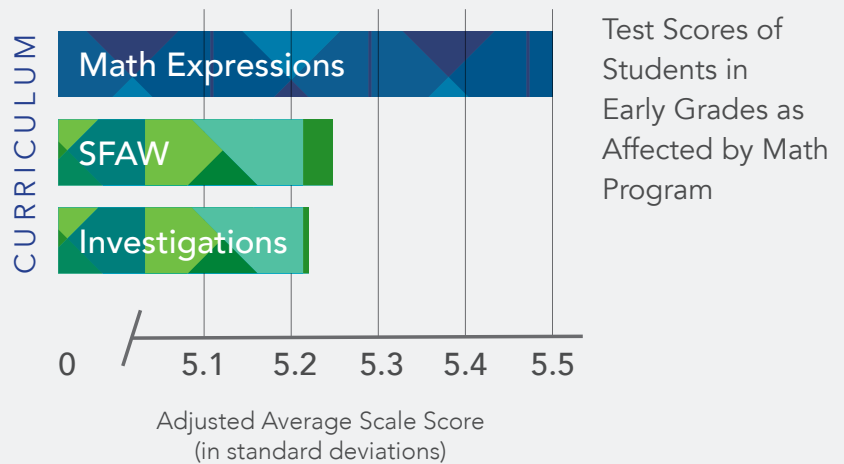


Math Expressions was developed using the methods of learning science design research focused on building students' conceptual understanding of math, interwoven with the other components of math proficiency.

The program was part of a large-scale study sponsored by the U.S. Department of Education to determine the effectiveness of four elementary math curricula on student academic achievement.

The results were clear—

Math Expressions students were performing at higher levels of math achievement when compared with students using similar programs.



Agodini, R., Harris, B., Atkins-Burnett, S., Heaviside, S., Novak, T., & Murphy, R. (2009). *Achievement Effects of Four Early Elementary School Math Curricula: Findings from First Graders in 39 Schools (NCEE 2009-4052)*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

MEET PROGRAM AUTHOR DR. KAREN FUSON



Math Expressions author Dr. Karen Fuson is Professor Emerita of Learning Sciences for the School of Education and Social Policy, as well as the Department of Psychology, at Northwestern University. Dr. Fuson's research is highly regarded in the field of elementary mathematics. Dr. Fuson coauthored five NCTM grade-level books for teachers on the focal points (PK, K, G1, G2, and G5).

She was involved in the National Research Council's Mathematics Learning Study Committee and spearheaded the Children's Math Worlds (CMW) Research Project—a 10-year study of how to effectively teach students math from an early age.

The CMW Research Project examined how teachers can build conceptual supports, including meaningful language, drawings, manipulatives, and classroom communication methods, to facilitate mathematical competence. The results from this research helped create **Math Expressions**.

What makes *Math Expressions* content

DIFFERENT

from the rest?

Math Expressions supports higher-order and critical thinking for each grade level.

With content that focuses on student inquiry, Math Talk, and modeling of examples with practice, students are able to progress while deepening mastery of grade-level concepts.

FOCUS



Content is focused on essential learning of core concepts for Mathematics, with big ideas at each grade so that students master content before they progress.

COHERENCE



Program content is organized into meaningful progressions that connect key topics between the grade levels.

RIGOR



Content is presented for students to gain a deep conceptual understanding, fluency with procedures, and the ability to apply their understanding to solve problems.

New technology **ENHANCES** the learning experience

Math Expressions pairs traditional methods of engagement with technology-based features that actively engage students, building their confidence to become proficient problem solvers through conceptual understanding, skills fluency, and subject mastery.

New digital tools enhance the educational experience and encourage students to take charge of their own learning.





Personal Math Trainer® Powered by Knewton™ provides an online assessment and personalized learning system for students.

- Instantly assign homework, quizzes, and tests with automatic scoring and real-time reporting
- Take advantage of optional personal study plans for students using intervention and enrichment Knewton Adaptive Modes



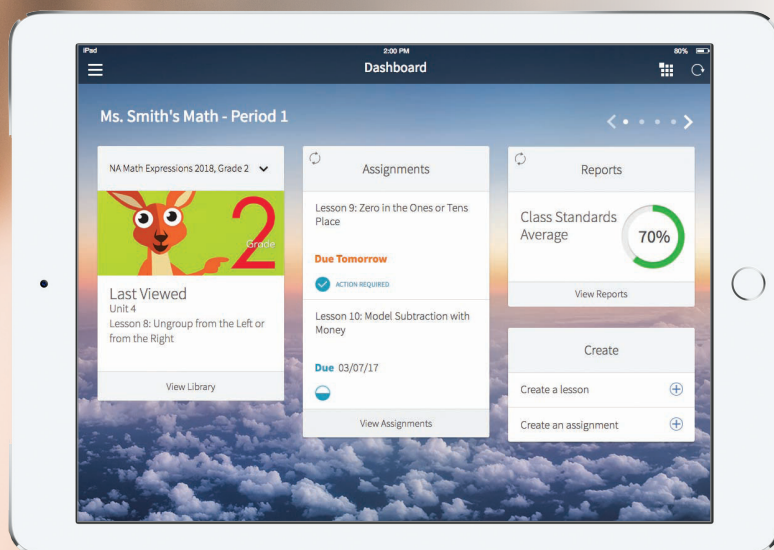
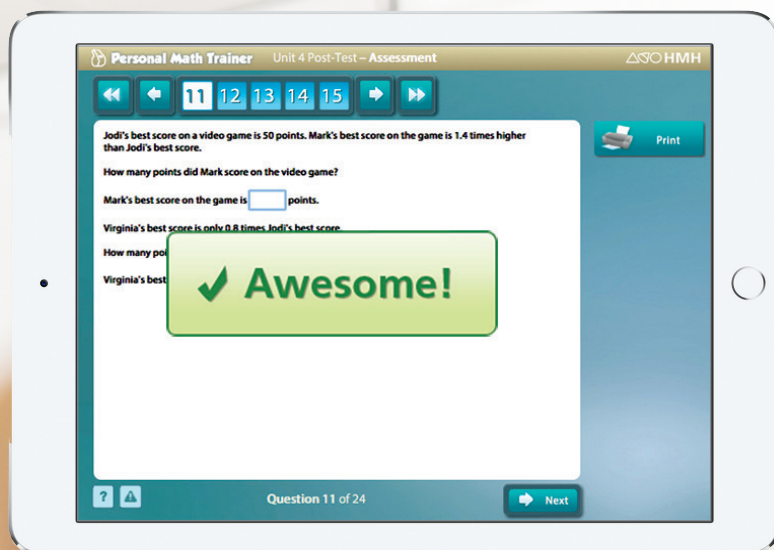
The *HMH Player*® app seamlessly merges technology with **Math Expressions** instruction, opening up the way you teach and how your students will learn.

CONNECT anytime with offline access to content and sync when reconnected.

COLLABORATE in the classroom using dynamic presentation tools, teacher/student instant messaging, and more.

COMMUNICATE by quickly accessing real-time reporting to monitor progress and identify areas for improvement.

CUSTOMIZE instruction and lessons by uploading your own content or link to external resources to target particular skills and topics.



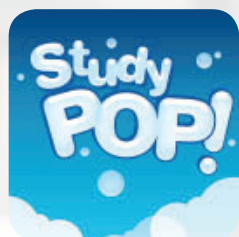
Instruction provides more hands-on, more **INTERACTIVE,** and more accessible learning

Through drawings, conceptual language, real-world examples, and integrated digital solutions, **Math Expressions** helps students make sense of mathematics by developing a foundational approach that serves as a gateway to more complex thinking.

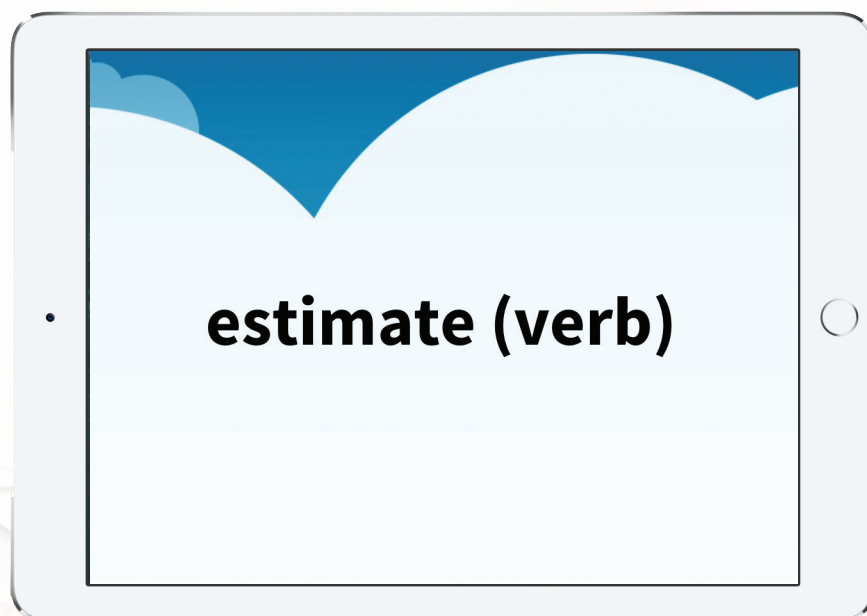




- Increase mathematical understanding with engaging, hands-on opportunities.
- Build concrete to pictorial relationships using the iPad®.
- Use physical manipulatives (Secret Code Cards and red/yellow counters) in a digital gaming environment.
- Lesson plans and worksheets for using Osmo™ with **Math Expressions**



StudyPOP! is a fun and interactive digital charades iOS® app that includes **Math Expressions** vocabulary words to help students practice and develop mathematical language.



Students solve problems and **CONNECT** with real-world concepts



Having the opportunity to solve problems helps students develop higher-level critical thinking skills. With **Math Expressions**, problem-solving situations are placed into a meaningful or real-world context, encouraging students to make connections.

Program resources provide visual and interactive support that moves the student rapidly toward content knowledge, with fluency practice and applications that continue the emphasis on understanding and explanation.



WRITE-IN CONSUMABLE STUDENT ACTIVITY BOOK

This all-in-one student book supports lesson activities with resources that allow students to understand and explain their conclusions, in addition to such features as:

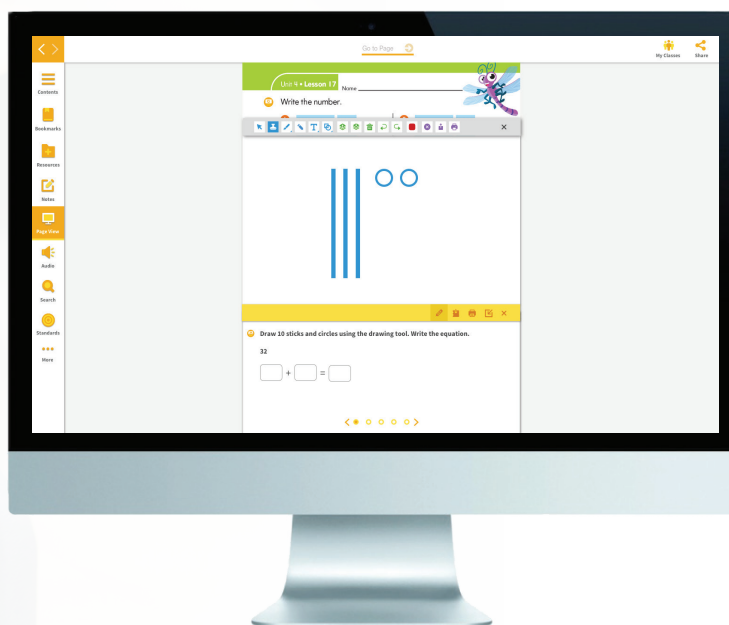
- Unit vocabulary cut-out cards
- Family letters
- Assessments
- Pages to support lesson activities
- Application problems
- Paper manipulatives
- Fluency checks
- Hard-cover Student Activity Book available at Grades 3–6



PLUS!

Homework and Remembering Books include daily homework and spiral review.

ONLINE STUDENT ACTIVITY BOOK eBook



- Dynamic audio
- Answer prompts
- Drawing tool
- On-demand guided practice
- Links to lesson-level resources for expanded coverage

Sense-making is through **EXPLORATION,** math models, and math talk

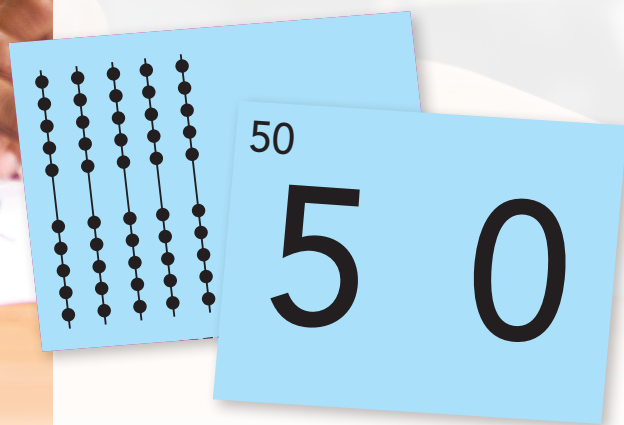
With ***Math Expressions***, students represent and explain their solutions with confidence. Students are more engaged and learn more meaningfully through inquiry-based lessons with meaningful math models/drawings and Math Talk.

MEANINGFUL MATH DRAWINGS AND MATH TALK

Large, dry-erase MathBoards allow students to show their work and use Math Talk to explain and justify their solutions.

RESEARCH-BASED VISUAL MODELS

Based on Dr. Fuson's research, unique and effective visual models help students make sense of math concepts.



TEACHER EDITION

The Teacher Edition follows an Inquiry Learning Path, which encourages constructive discussion and includes comprehensive guidance for standards-based instruction in addition to unparalleled teacher support resources. The refreshed lesson design makes it easier to navigate, plan lessons, and differentiate instruction.

Professional Learning features that can be found inside the Teacher Edition include the following:

MATH TALK COMMUNITY

Collaborative strategies nurture sense-making. Students share mathematical ideas and problem solving while being prompted to:



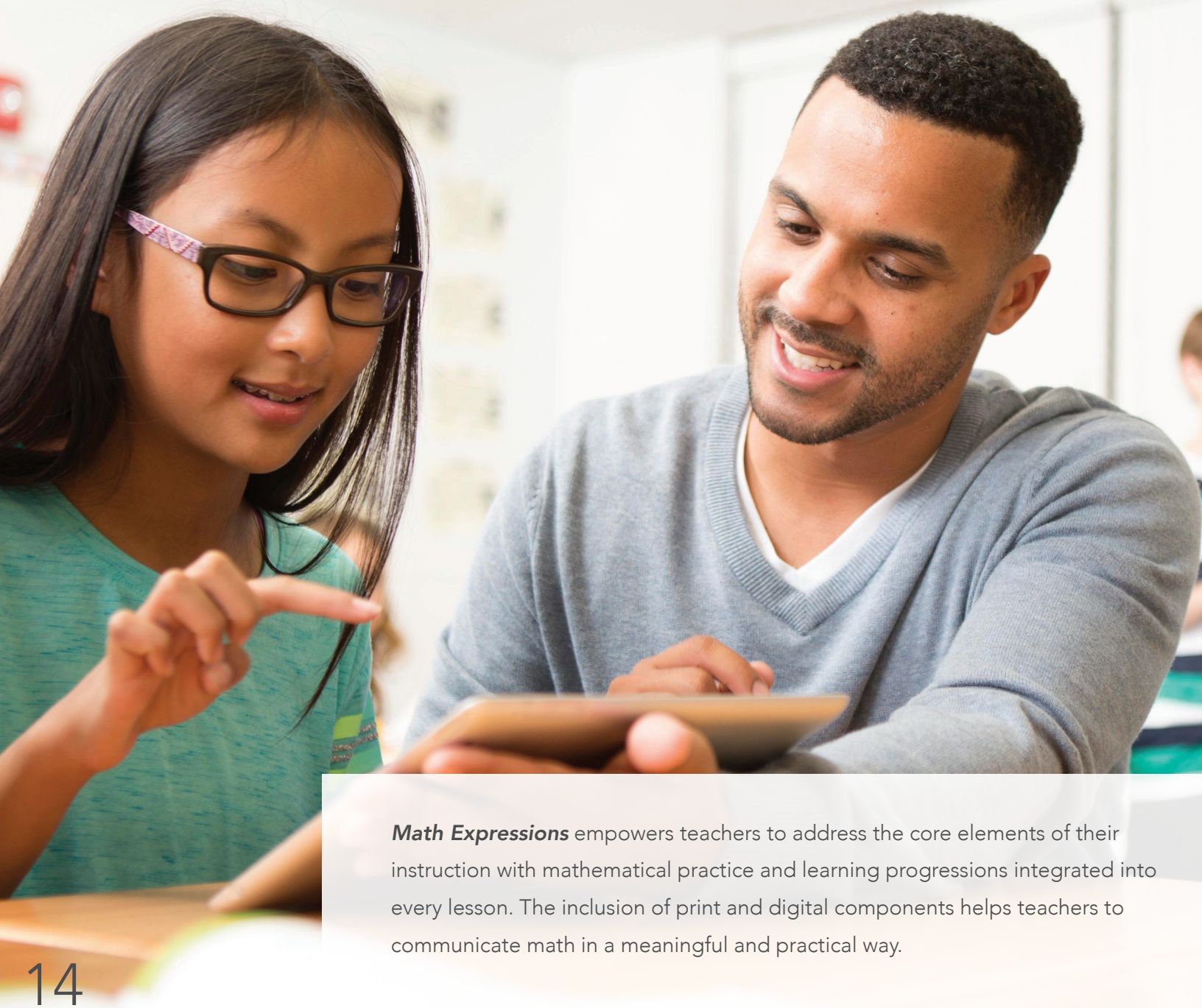
UNIT OVERVIEWS

Lesson-by-lesson support with helpful teaching notes ensure standards coverage and maintain accountability in the classroom

The Teacher Edition

EMPOWERS

more meaningful and effective
math communication and
inquiry-based learning



Math Expressions empowers teachers to address the core elements of their instruction with mathematical practice and learning progressions integrated into every lesson. The inclusion of print and digital components helps teachers to communicate math in a meaningful and practical way.

TEACHER EDITION

The **Math Expressions** Teacher Edition

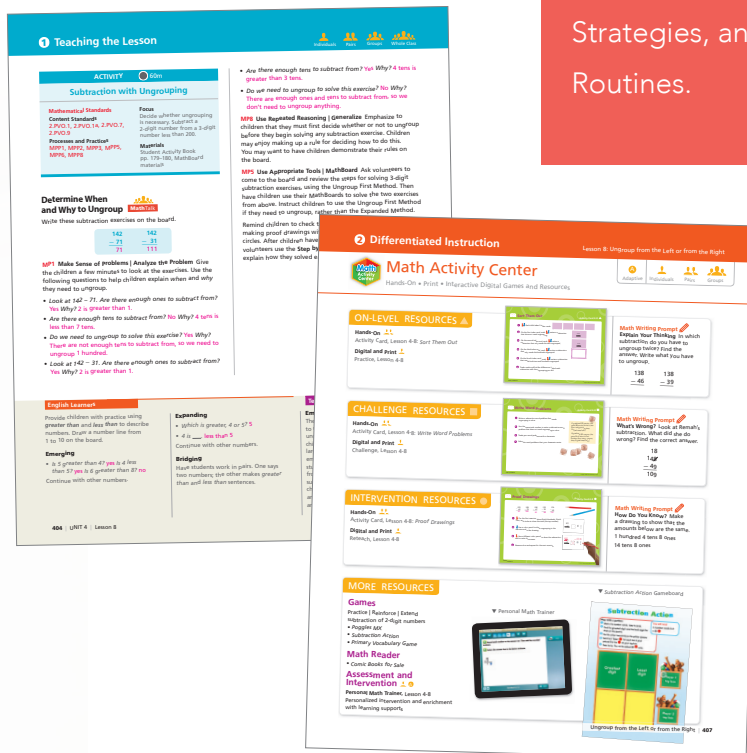
allows teachers to structure learning paths for students based on their own progressions of learning, with a focus on understanding and fluency.

Students spend the majority of their time on the major work of the grade level.

Research notes, consistent lesson organization, and differentiated instruction for each lesson all in a learn while teaching style.

NEW VIDEOS!

Classroom Content, Strategies, and Daily Routines.



NEW!

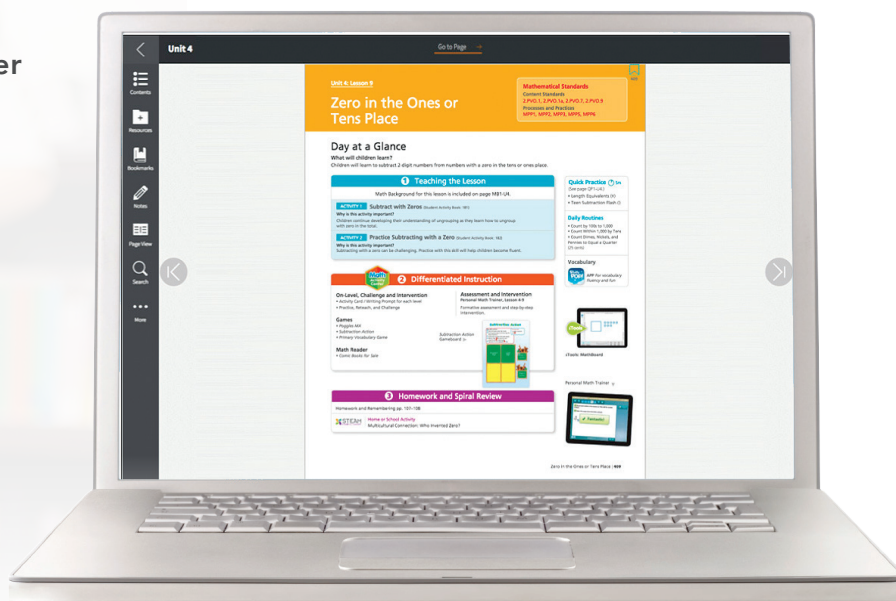
ONLINE TEACHER EDITION

The **Math Expressions** Online Teacher Edition

featuring new HTML 5

format works on a variety of devices, including tablets.

This online version of the print Teacher Edition links to lesson-level projectable resources and offers a view of each student's Student Activity Book eBook responses, professional development, and much more.



Learning is

DIFFERENTIATED

for **ALL** students

Math Expressions makes math accessible to all learners. Every lesson includes intervention, on-level, and challenge differentiation to take math from concept to real-world application.



NEW!

MATH ACTIVITY CENTER FOR DIFFERENTIATED INSTRUCTION

Available in print and digital, this is the perfect resource for setting up classroom math centers with:

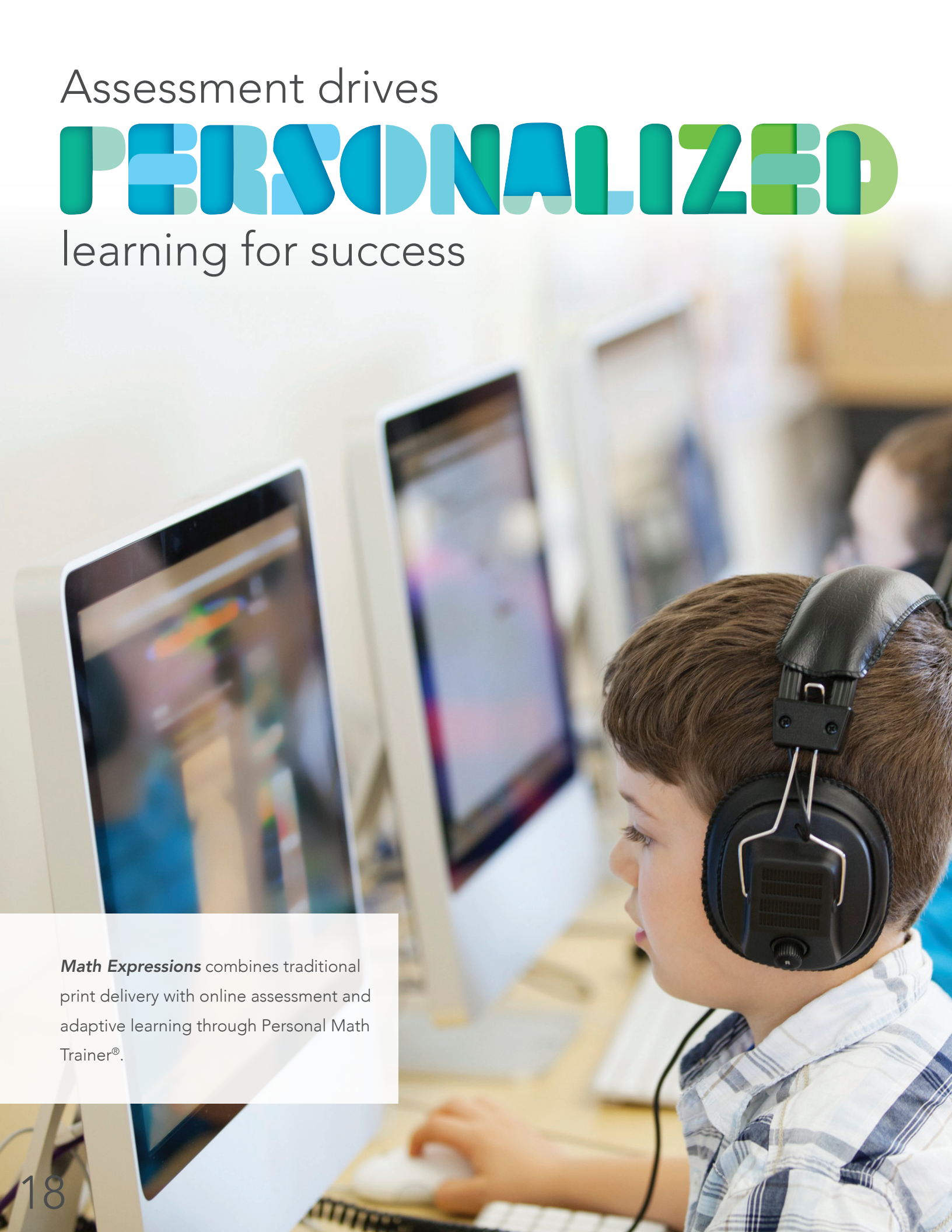
- Leveled Activity Cards and Writing Prompts
- In-depth Inquiry-Based Task Cards
- Math Readers
- Game Boards and Online Games
- Practice, Reteach, and Challenge Worksheets
- Math Center Planning Guide



Assessment drives

PERSONALIZED

learning for success



Math Expressions combines traditional print delivery with online assessment and adaptive learning through Personal Math Trainer®.

Formative and summative assessment items mirror state standards and other high stakes assessments to help students prepare for testing success.

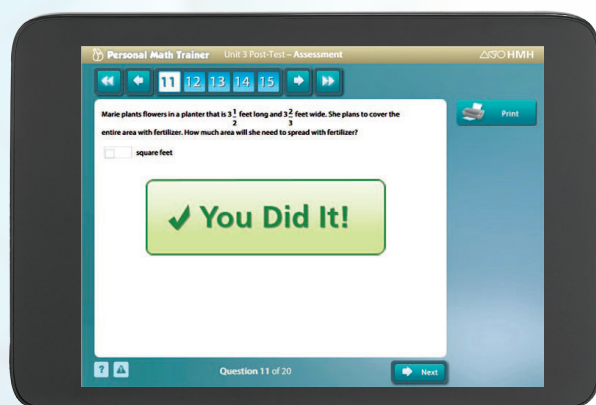
Form B of the Unit Test mirrors item types found on more traditional high-stakes assessments. It includes problems like drawing 125 using Quick Hundreds, Quick Tens, and ones, and solving word problems involving money and rocks. The form also shows a student's work for the rock problem, including a possible answer and a check.

Form B of the Unit Test mirrors item types found on more traditional high-stakes assessments.

Performance Tasks include scoring rubrics and student work samples in the Assessment Guide. The tasks are designed to assess students' ability to apply math skills in real-world contexts. The rubrics provide a clear framework for scoring student work, and the work samples show how students might approach the tasks.

Performance Tasks include scoring rubrics and student work samples in the Assessment Guide.

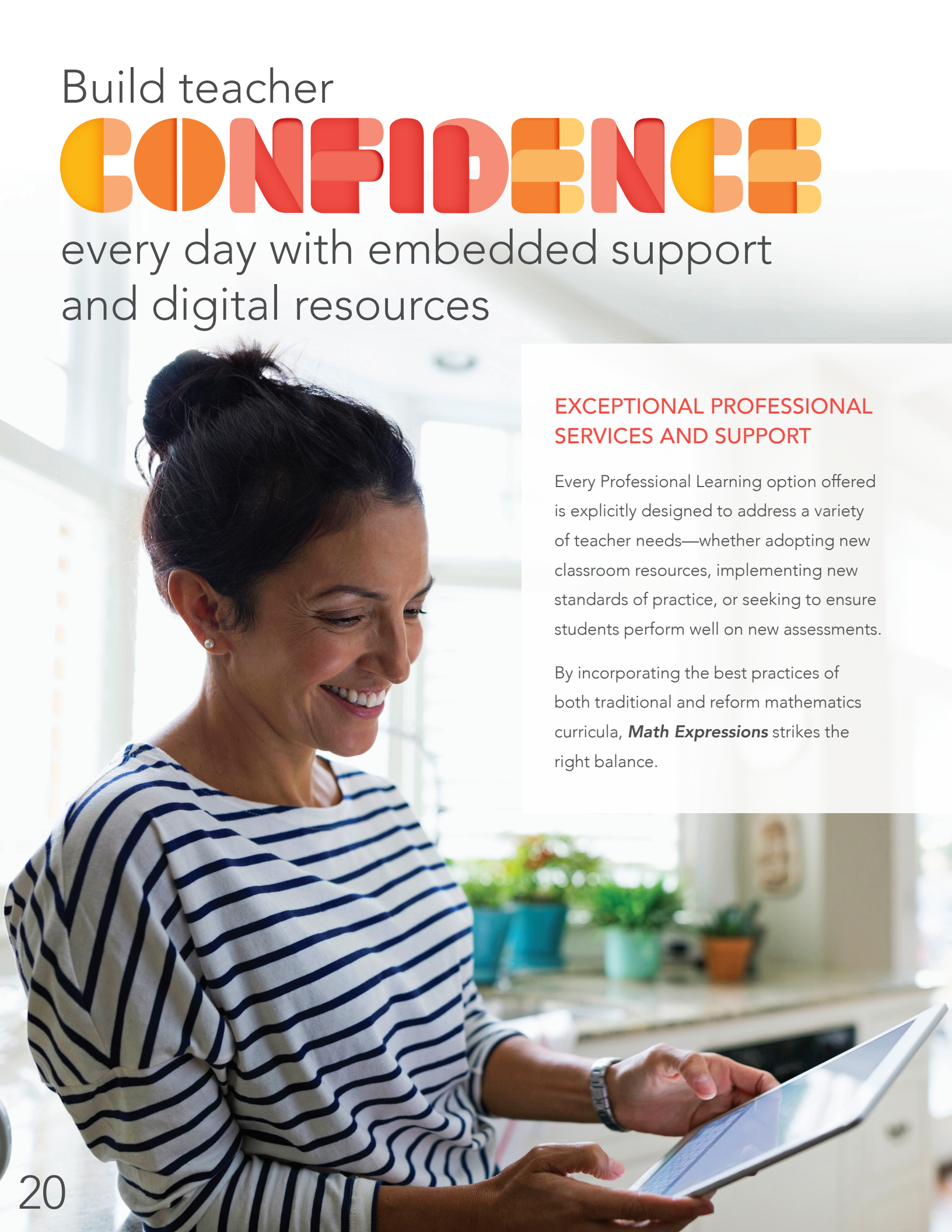
A fully balanced assessment system includes multiple choice, short answer, extended response, and performance tasks



PERSONAL MATH TRAINER POWERED BY KNEWTON

for Online Assessment, Differentiation, and Reporting

- Online assessment, practice, homework, intervention, and enrichment
- Adaptive capabilities for personalized instruction
- Tech-enhanced items that prepare students for high-stakes online assessments
- Student supports that include Learning Aid and Wrong Answer Feedback
- Ability to generate a variety of progress reports



Build teacher

CONFIDENCE

every day with embedded support
and digital resources

EXCEPTIONAL PROFESSIONAL SERVICES AND SUPPORT

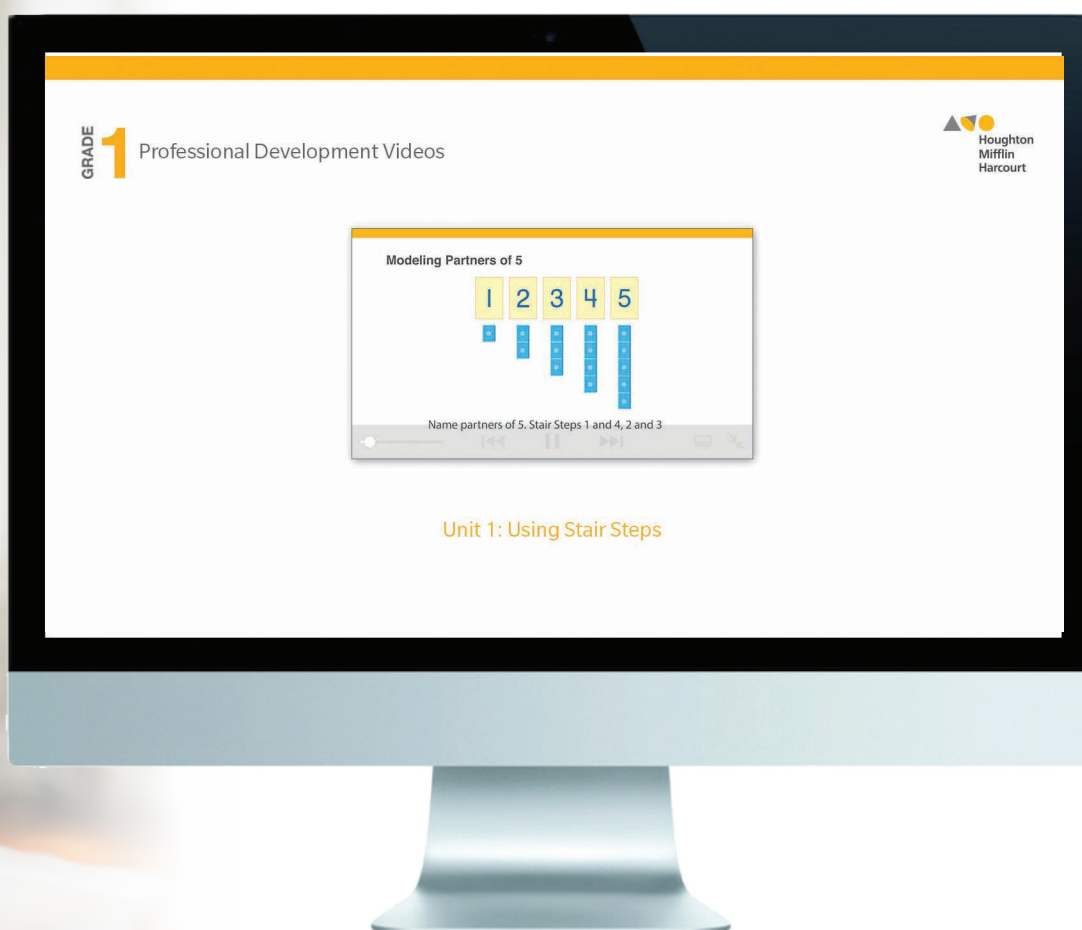
Every Professional Learning option offered is explicitly designed to address a variety of teacher needs—whether adopting new classroom resources, implementing new standards of practice, or seeking to ensure students perform well on new assessments.

By incorporating the best practices of both traditional and reform mathematics curricula, **Math Expressions** strikes the right balance.



Teachers can download section overviews and detailed instructional content created by teachers from across the country.

Trainer podcast videos, available online and referenced in the Teacher Edition, instill teachers with the confidence needed to lead students through teaching phases and to help them move through their own learning paths.



The **SUPPORT** You Need—When You Need It

Professional Services resources are available whenever and however support is needed.

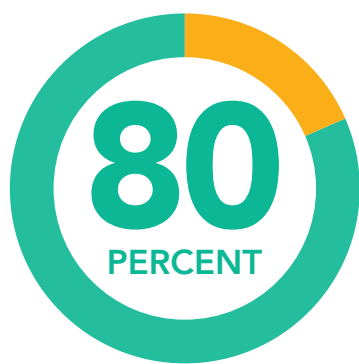
Our comprehensive Professional Learning solutions for leaders, teachers, and families are data- and evidence-driven, mapped to your goals, centered on your students, and delivered by master educators. These tailored, flexible solutions were designed with one goal in mind: to help you more effectively prepare students for college, career, and civic life.

START STRONG, FINISH STRONGER

A Getting Started with **Math Expressions** course will orient you to the program materials and technology, examine the instructional routines, help you support differentiation, and provide effective whole- and small-group instruction.

Need additional support with technology? Our **technical services team** can help you plan, prepare, implement, and optimize your technology so you can get the most out of **Math Expressions** digital tools. We will help to enhance your technology with learning management system interoperability, rostering, and single sign on within your environment.

PROVEN RESULTS



In 2014, 80% of teachers reported that coaching significantly strengthened their classroom instruction.

Based on national survey data collected from teachers who received coaching from HMH® during the 2014–2015 school year



BUILD CAPACITY, ENSURE SUCCESS WITH IN- CLASSROOM SUPPORT

Our Professional Learning solutions will provide you with a deeper focus on inquiry-based learning, in-class support to facilitate instructional strategies and routines, and confidence to teach mathematics by focusing on learning progressions, grade-level goals, and fluency.

You'll get additional support with our **Team and Individual Coaching**. We'll be there to help you plan your lessons and model how to incorporate instructional strategies that help students master mathematics concepts that prepare them for college and careers.

- Take part in constructive discussions
- Invent, question, represent, and explore
- Develop mathematical fluency



Program Components

CORE PRINT

- Teacher Edition
- Student Activity Book
- Student Hardcover Book (3–6 only)
Companion Workbook (3–6 only)
- Homework and Remembering Book
- Assessment Guide

READY-MADE CLASSROOM RESOURCES

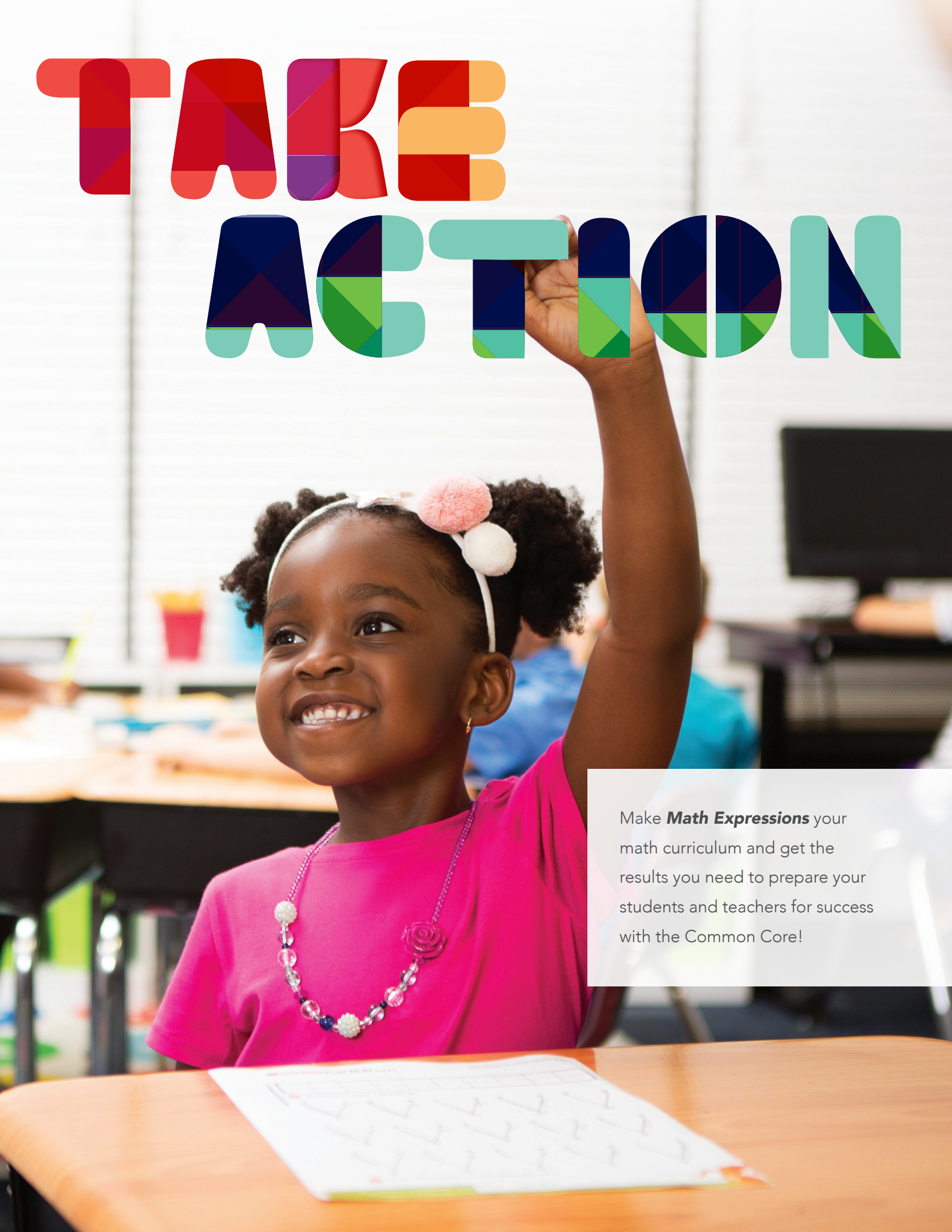
- Math Activity Center
- MathBoards
- Individual Manipulative Kit
- Manipulatives and Materials Kit
- Custom Manipulatives Kit
- Teacher Modeling Kit
- Teacher Resource Book
- Literature Library Collection
- Anno's Counting Big Book (K only)

DIGITAL RESOURCES

- Online Teacher Edition
- Online Student Activity Book
- Online Math Activity Center
- Online Daily Routines (K–2 only)
- iTools (Virtual Manipulatives)
- e-Glossary
- Professional Development Videos
- Personal Math Trainer
- Interactive Response to Intervention (Rtl)
- **HMH Player®** App
- Osmo™ (K–4 only)



TAKE ACTION

A young girl with dark skin and curly hair is sitting at a wooden desk in a classroom. She is wearing a bright pink t-shirt, a necklace with colorful beads and a pink rose, and a headband with two large pom-poms (one pink, one white). She is smiling and raising her right hand. In front of her on the desk is a worksheet with a grid of numbers. The background is a blurred classroom setting with other students and a computer monitor.

Make ***Math Expressions*** your math curriculum and get the results you need to prepare your students and teachers for success with the Common Core!



math expressions



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or contact your local HMH Account Executive.

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