Houghton Mifflin Harcourt™

Integrated Mathematics

1 2 3

Adaptive. Intuitive. Transformative.

PROGRAM OVERVIEW

The Next Generation Solution—Now!

What sets HMH® *Integrated 1, 2, 3* apart?

- Seamless integration of digital features reaches today's students in their preferred learning style.

- Digital course management tools offer teachers flexibility in planning, instruction, and assessment for in-class or on-the-go learning.

- Focused, balanced, and rigorous instruction encompasses the philosophy and intent of new state standards.

Plus, a strong emphasis on 21st-century skills

- *HMH Integrated* presents a digital-first solution— including the groundbreaking *HMH Player*® app allowing offline access to content and innovative collaboration features.

- Personalized and adaptive practice, homework and assessment is taken to the next level with **Personal Math Trainer® Powered by Knewton™.**

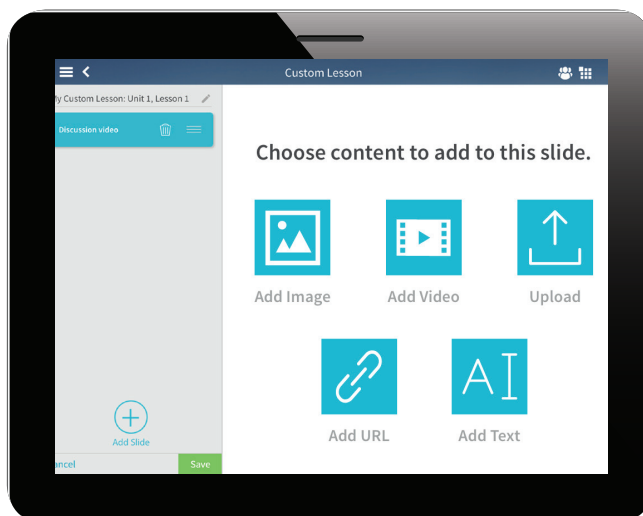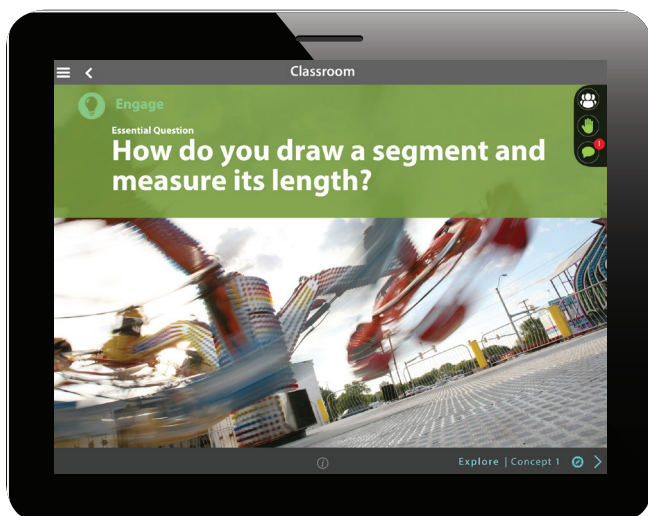- A wide array of apps and resources to supplement core instruction.

Digital Student Experience

- HMH Player app
- Interactive Student Edition
- Student Dashboard

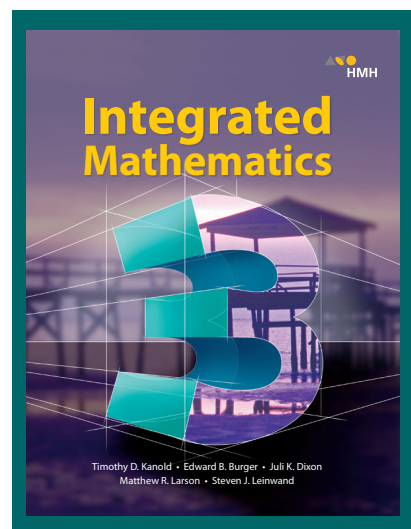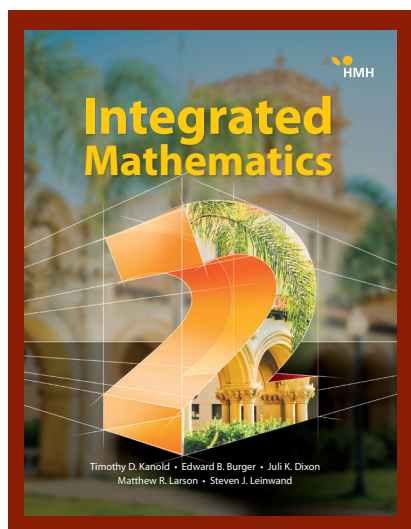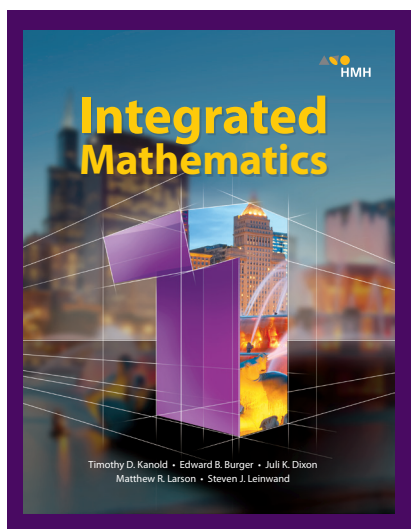**Personal Math Trainer** + **KNEWTON**

Digital Teacher Experience

- HMH Player app
- Interactive Teacher Edition
- Teacher Dashboard

Print Components

- Hardcover Student Edition
- Teacher Edition with Solutions Key
- Response to Intervention Teacher Resource
- Practice Workbook

Integrated Mathematics 1

Timothy D. Kanold • Edward B. Burger • Juli K. Dixon
Matthew R. Larson • Steven J. Leinwand

Integrated Mathematics 2

Timothy D. Kanold • Edward B. Burger • Juli K. Dixon
Matthew R. Larson • Steven J. Leinwand

Integrated Mathematics 3

Timothy D. Kanold • Edward B. Burger • Juli K. Dixon
Matthew R. Larson • Steven J. Leinwand

Digital Student Experience

HMHPLAYER™ An All-in-One Classroom Application

This game-changing app for teachers and students:

• Provides direct access to program materials and lesson resources.

• Includes digital engagement features, such as **collaborative classroom sessions.**

• Synchronizes with the Interactive Student Edition and Student Dashboard, so students can work **online** *or* **offline** without missing a beat.

Classroom Collaboration
Within *HMH Player,* students can collaborate in and out of the classroom by messaging the teacher.

CONNECT: Download HMH content when connected to the Internet, work offline, and then sync when back online.

COLLABORATE: Open a Collaborative Classroom Session to use dynamic presentation tools, conduct informal polling, or instant message directly with students.

COMMUNICATE: Teachers and students can quickly access real-time reporting to monitor progress and identify areas for improvement.

CUSTOMIZE: Create custom lessons, upload your own content, or link to external resources to target particular skills and topics.

### 5E instructional support your students can access with ease.

Digital lessons are the primary method of instructional delivery and follow the **research-based 5E model,** providing a lesson framework that balances the need for procedural fluency and conceptual development with mathematical processes.

ENGAGE

Have students preview the Real-World Video tied to the Lesson Performance Task in the Interactive Student Edition or *HMH Player*.
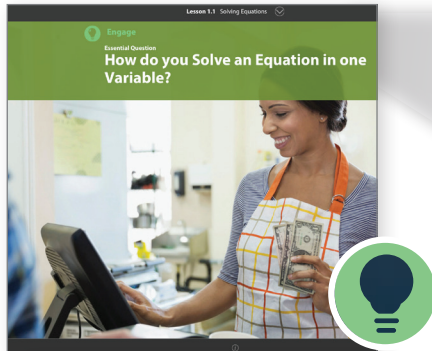
Lesson Performance Tasks provide students with an opportunity to apply their knowledge of the standards in a real-world context.
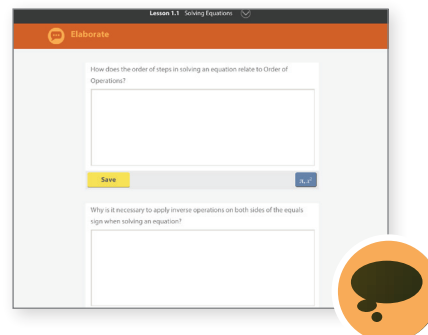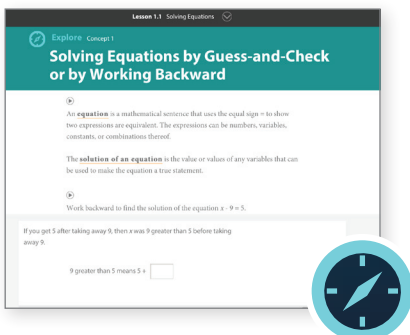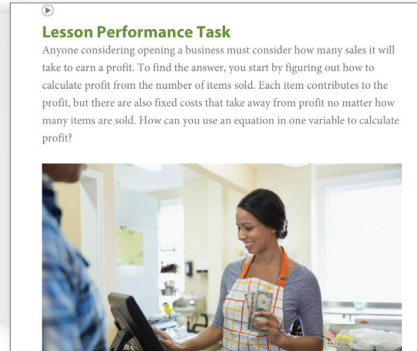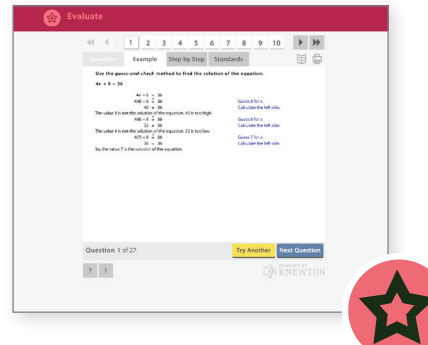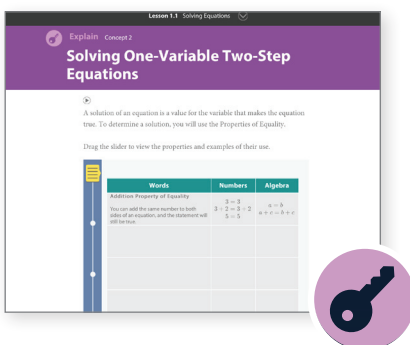

EXPLORE

Show them how they can interact with new concepts to develop a deeper understanding of mathematics.

ELABORATE

Ask them to show their understanding and reasoning with Reflect and Elaborate questions.

EXPLAIN

Assign step-by-step interactive examples and associated *Math on the Spot* video tutorials to help them develop procedural fluency. Then have them use *Personal Math Trainer* to check their understanding.

EVALUATE

Encourage them to practice and apply skills and concepts at various DOK levels with Evaluate exercises and a Lesson Performance Task.

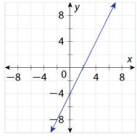# An Engaging and Interactive Approach to Learning

HMH Integrated delivers the next-generation Digital Student Experience. Compatible with all Internet-enabled devices, the Digital Student Experience enables students to access all their lesson content online or offline, features digital answer submission functionality, and offers point-of-use links to embedded media, interactivities, and assessments in every lesson.

INTERACTIVE STUDENT EDITION

The Interactive Student Edition is based on the 5Es of instruction with interactive pathways. Embedded features include Real-World Videos, *Math on the Spot* Video Tutorials, *Personal Math Trainer*, and the Student Resource Locker.
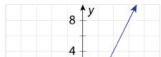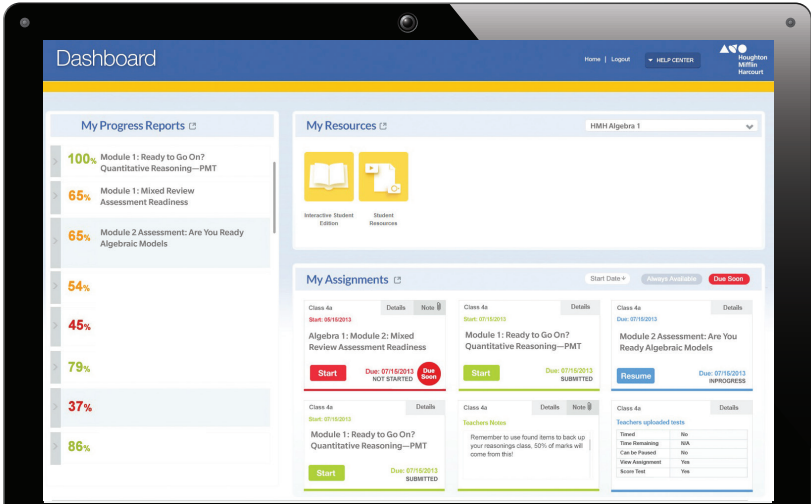

STUDENT RESOURCE LOCKER

The Student Resource Locker provides quick access to engaging videos, activities, and resources for every lesson!
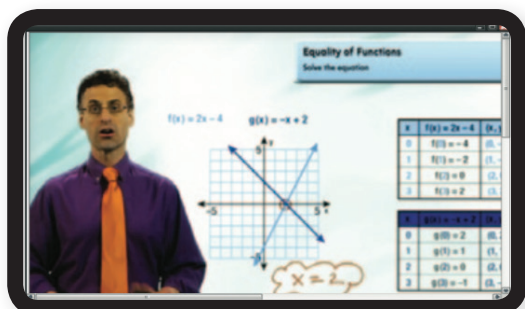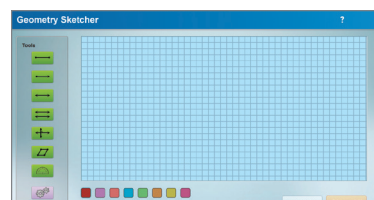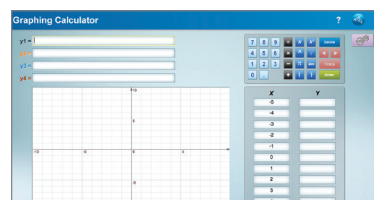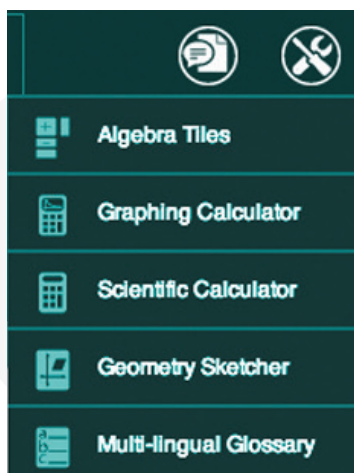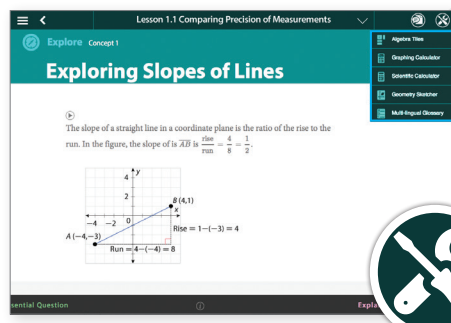
STUDENT DASHBOARD

The Student Dashboard provides student access to My Progress Reports, My Resources, and My Assignments.

All work done in *HMH Player* and the Interactive Student Edition syncs with the Student Dashboard.

VIRTUAL TOOLS

Virtual Tools allow students to explore interactively and practice key math concepts and skills.

Algebra Tiles

Graphing Calculator

Scientific Calculator

Geometry Sketcher

Multi-lingual Glossary

MATH ON THE SPOT VIDEO TUTORIALS

These engaging video tutorials, featuring our program authors, accompany **every example** in the program and give students step-by-step instructions and explanations of key math concepts.

They are the perfect tool for students in need of additional support or an alternative approach to instruction.

Download on the **App Store**

Compatibility: Requires iOS® 7.0 or later.
Compatible with iPhone®, iPad®, and iPod® touch.

REAL-WORLD VIDEOS

Real-world videos featuring HMH author Dr. Michael Heithaus engage students with interesting and relevant applications of each module's mathematical content, tied to each lesson's performance task.

Personalized and Adaptive Learning

Personal Math Trainer Powered by Knewton

Personal Math Trainer is the ultimate online, adaptive assessment and personalized learning system for students, with automatic scoring and adaptive workflows that provide personalized intervention and enrichment.

POWERED BY ⚛ **KNEWTON**

Personal Math Trainer Powered by Knewton, part of **Houghton Mifflin Harcourt's** flagship **HMH Integrated 1, 2, 3** program, is the first K–12 solution to combine **HMH** content with Knewton technology. This technology allows teachers to:

- **Analyze** each student's interactions with the program content down to the concept level to determine personal strengths, weaknesses, preferences, and pace.

- **Provide a personalized learning path** for every student to ensure the most efficient path to achieving learning goals.

- Deliver **targeted recommendations** for assignments.

- **Gain real-time insights** into each student's needs, challenges, and learning styles, so they can quickly and easily change the course of their instruction to meet ALL student needs.

Personal Math Trainer®

Personal Math Trainer (PMT) is a powerful tool that monitors student assessments, quizzes, and homework to provide them with targeted support such as daily, course, and standards-based intervention.

Each question is supported by learning aids that help develop students' understanding of concepts, including guided examples, step-by-step solutions, video tutorials, and Animated Math.

Included in each assessment are a variety of item types and tech-enhanced items. In both practice and homework exercises, students receive real-time feedback for every problem they answer.

With multiple reporting options, *Personal Math Trainer* enables teachers to view information by individual student, whole class, standard, and test items—all with predictive analytics.

Digital Teacher Experience

Multiple Capabilities to Plan, Create, and Manage

INTERACTIVE TEACHER EDITION

Based on the 5E instructional model, the Interactive Teacher Edition allows teachers to add personalized content to lessons and save notes online while sharing the content with students from an interactive whiteboard.

The Interactive Teacher Edition supports teachers with point-of-use Questioning Strategies, teaching tips, resources for differentiated instruction, additional activities, professional development videos, and more.

All work done in the Interactive Teacher Edition and *HMH Player* syncs with the Teacher Dashboard.
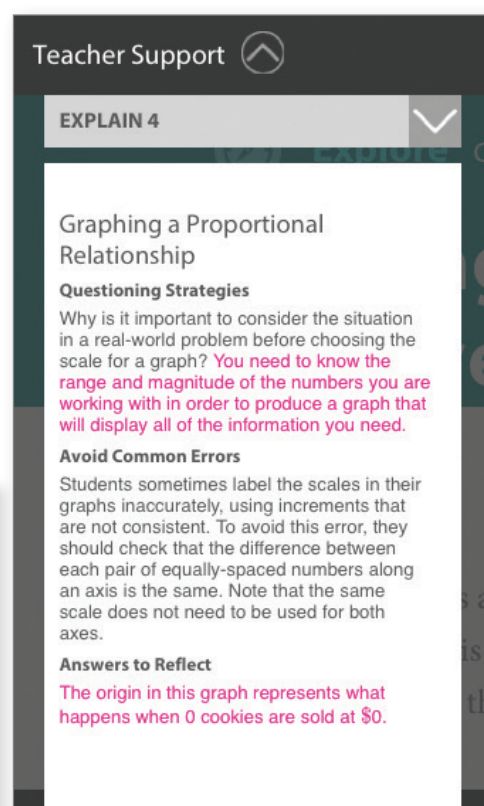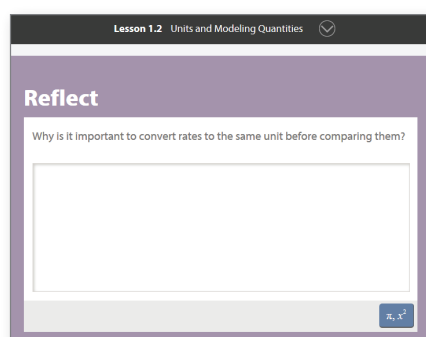
TEACHER DASHBOARD

The Teacher Dashboard provides quick access to the Interactive Teacher Edition, Reports, Assignments, Professional Development Videos, *my*SmartPlanner, presentation tools, and more.

All student work and grades are synced with the Teacher Dashboard. Best of all, work in *HMH Player* and the Interactive Teacher Edition automatically syncs with the Teacher Dashboard.
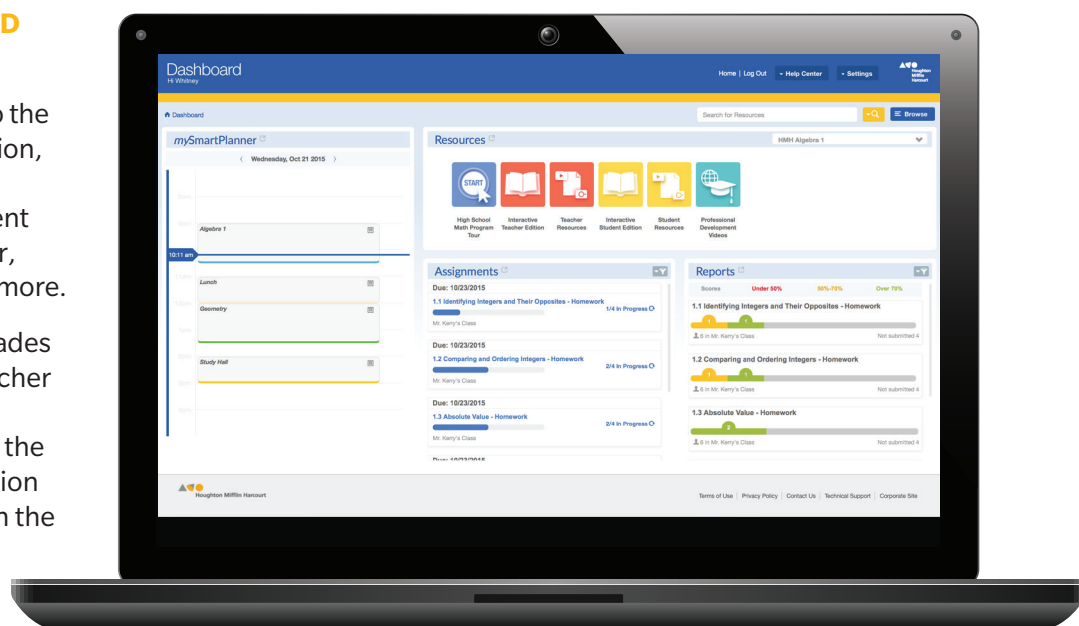
*my*Smart PLANNER

With *my*SmartPlanner, teachers can easily plan their classes, create and view assignments, and access all program resources with online, customizable planning tools.
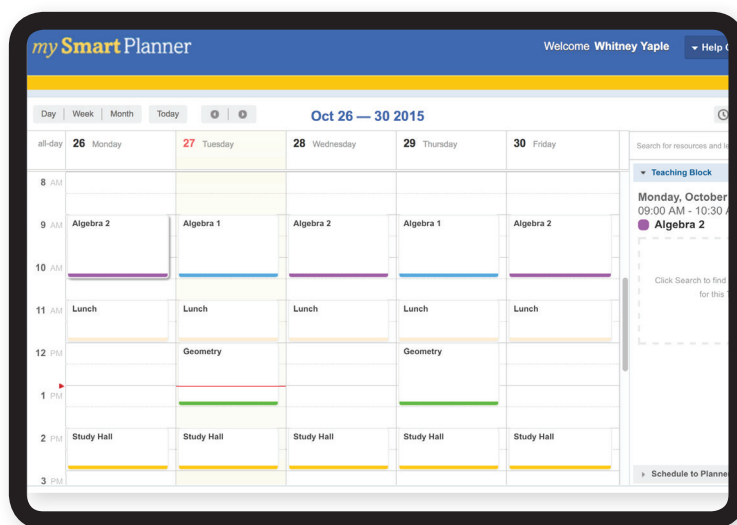
DIFFERENTIATED INSTRUCTION AND INTERVENTION

Support all learners with Differentiated Instruction Resources, including:

• Leveled Practice and Problem Solving

• Reading Strategies

• Success for English Learners

• Challenge

• Leveled question sets for every Explore and Explain example

Personal Math Trainer will automatically create daily personalized intervention assignments for students, targeting each student's individual needs— for both struggling and advanced students.
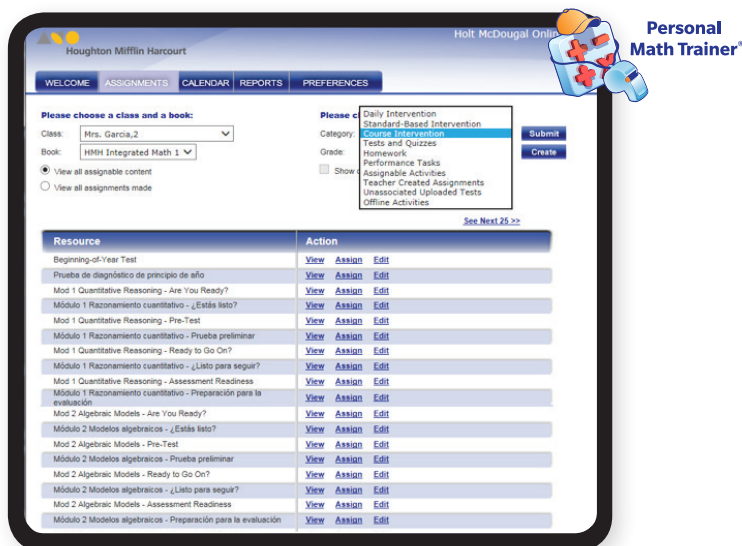
HMH**PLAYER**™

Online, Offline, or On-the-Go

The Digital Teacher Experience is also built around *HMH Player*, which supports teachers through **every stage of their instruction,** from planning and implementation, to assessment and remediation.

With *HMH Player*, teachers have access to a full suite of instructional resources–online, offline, or on-the-go—with no disruption in the visual or educational experience from one device to another. Teachers can also create custom lessons and import their own content from external sources. Once class begins, teachers can present interactive lessons to the entire class right from their app.
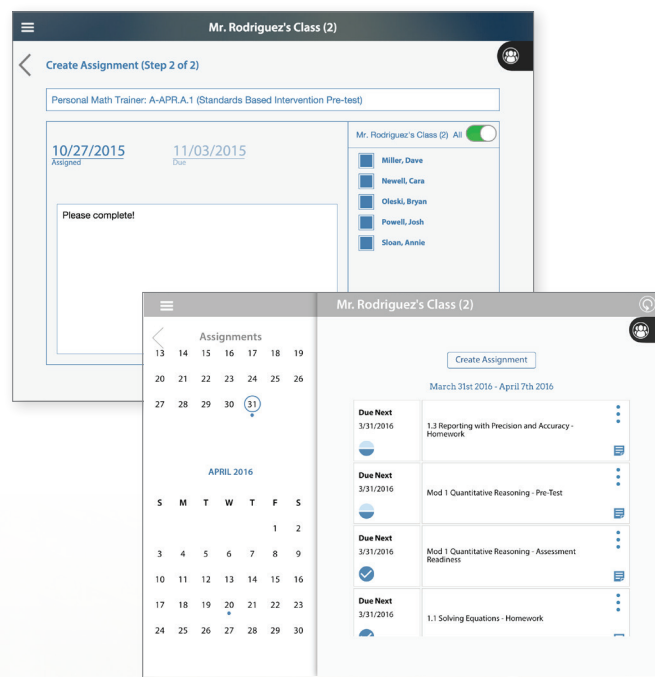
HMH Player is available for iPad, Chromebook™, and computers with Windows® 7 or higher, Mac® OS 10.7 or higher and running the Chrome™ browser.

HMH Player Features

ASSIGNMENTS

HMH Player offers a teacher-friendly assignment feature that enables teachers to select HMH lessons and *Personal Math Trainer* activities and assign the content to one or more students within a class. A start date and due date, assignment title, and notes are all that are required to create a lesson. The process is straightforward and can be used for homework, in-class work, or any other application where a teacher needs to track student progress against a specific lesson, assignment, or standard.

TWO REPORTING VIEWS

The teacher has two reporting views in *HMH Player*: **Assignments** and **Progress**. The Assignment view provides the teacher with a simple and elegant "gradebook" style view showing assignments in each column and students in each row.

The Assignment view offers features such as average class and per-student scores, and provides the ability to drill down into an assignment detail or an item-analysis view that indicates if the student selected a correct or incorrect answer for each item in the assessment.

The Progress report provides a quick-view "temperature check" on student progress against standards. This view is intended to give teachers a pivot from the score-based view of the Assignment feature to a standards-based view, which is critical for teachers and students who are accountable for achieving mastery against required educational standards.

Print Resources

Student Print Components

The **Student Edition** contains rigorous problem sets, as well as real-world problem solving and performance tasks. Digital learning aids are referenced and linked using QR codes.

The **Practice Workbooks** for *Integrated 1, 2,* and *3* contain practice and problem-solving levels A, B, and C.

Students can scan the QR code in their Student Edition to access their Resource Locker, where they'll find engaging videos, activities, and more for each lesson!

Resource Locker

---

23. Astronomy The radius of Earth is 6378.1 km, which is 2981.1 km greater than the radius of Mars. Find the radius of Mars.

24. Maggie's brother is 3 years younger than twice her age. The sum of their ages is 24. How old is Maggie?

H.O.T. Focus on Higher Order Thinking

25. Analyze Relationships One angle of a triangle measures 120°. The other two angles are congruent. Write and solve an equation to find the measure of the congruent angles.
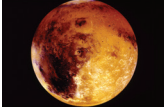
26. Explain the Error Find the error in the solution, and then solve correctly.

$$9x + 18 + 3x = 1$$
$$9x + 18 = -2$$
$$9x = -20$$
$$x = -\frac{20}{9}$$

27. Check for Reasonableness Marietta was given a raise of $0.75 per hour, which gave her a new wage of $12.25 per hour. Write and solve an equation to determine Marietta's hourly wage before her raise. Show that your answer is reasonable.

Lesson Performance Task

The formula $p = 8n - 30$ gives the profit p when a number of items n are each sold at $8 and expenses totaling $30 are subtracted.

a. If the profit is $170.00, how many items were bought?

b. If the same number of items were bought but the expenses changed to $40, would the profit increase or decrease, and by how much? Explain.

Lesson Performance Task

The formula $p = 8n - 30$ gives the profit p when a number of items n are each sold at $8 and expenses totaling $30 are subtracted.

a. If the profit is $170.00, how many items were bought?

b. If the same number of items were bought but the expenses changed to $40, would the profit increase or decrease, and by how much? Explain.

1.1 Solving Equations

Essential Question: How do you solve an equation in one variable?

Resource Locker

Explore Solving Equations by Guess-and-Check or by Working Backward

An **equation** is a mathematical sentence that uses the equal sign = to show that two expressions are equal. The expressions can be numbers, variables, constants, or combinations of these.

There are many ways to solve an equation. One way is by using a method of guess-and-check. The guess-and-check method involves guessing a value for the variable in an equation and checking to see if it is the solution by substituting the value in the equation. If the resulting equation is a true statement, then the guess is the solution of the equation. If the equation is not a true statement, then adjust the guess and try again, continuing until you find the solution.

Another way to solve an equation is by *working backward*. In this method you begin with the end result and work toward the beginning.

Solve the equation $x - 6 = 4$ using both methods.

Use the *guess-and-check* method to find the solution of the equation.

(A) Guess 11 for x.

$$x - 6 = 4$$
$$\boxed{?} - 6 \overset{?}{=} 4$$
$$\boxed{?} \overset{?}{=} 4$$

Is 11 the solution of $x - 6 = 4$?

(B) ...

Use the *working backward* method to find the solution of the equation.

$$4 + 6 = \boxed{?}$$ Is this the value of x before taking away 6?

$$\boxed{?} - 6 \overset{?}{=} 4$$

Reflect

1. Discussion Which method of solving do you think is more...

Module 1   5

MODULE

1

Quantitative Reasoning

Essential Question: How do you use quantitative reasoning to solve real-world problems?

LESSON 1.1
Solving Equations

LESSON 1.2
Modeling Quantities

LESSON 1.3
Reporting with Precision and Accuracy

REAL WORLD VIDEO
In order to function properly and safely, electronics must be manufactured to a high degree of precision. Material tolerances and component alignment must be precisely matched in order to not interfere with each other.

MODULE PERFORMANCE TASK PREVIEW

What an Impossible Score!

Darts is a game of skill in which small pointed darts are thrown at a circular target mounted on a wall. The target is divided into regions with different point values, and scoring depends on which segment the dart hits. Is there some score that is impossible to achieve no matter how many darts are thrown in a simple game of darts? Keep your eye on the target and let's figure it out!

Module 1   3

EMPHASIS ON PROBLEM SOLVING

Higher-Order Thinking problems highlight mathematical practices and require students to explain, justify, and critique reasoning in a problem-solving setting.

Teacher Print Components

The **Teacher Edition with Solutions Key** is a hardcover resource that supports instruction through explanation of best practices, and directions on how to incorporate the digital resources in the classroom.

A **Response to Intervention** Teacher Resource provides in-depth support for struggling or advanced students, including prerequisite tests, skills fluency worksheets, and formative assessments. Teachers are provided with strategy pages with information on identifying and combating misconceptions, as well as information on when and how to utilize *Personal Math Trainer.*
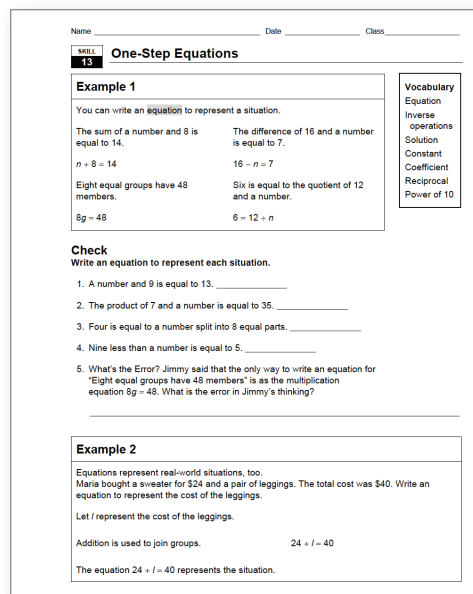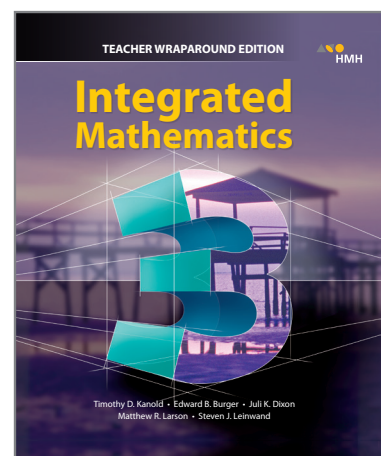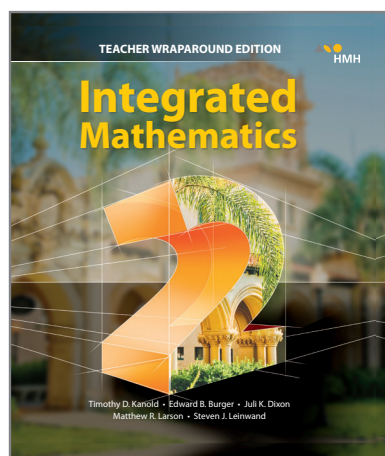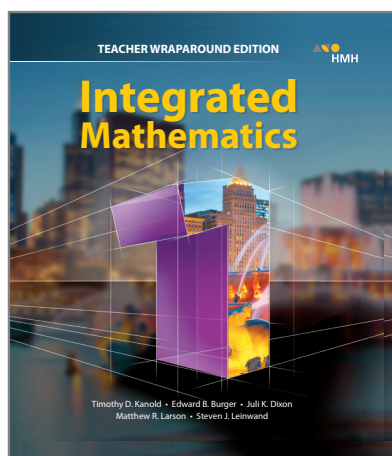
Mobile Mathematics for a Generation on the GO!

Mobile Convenience for 21st-Century Teaching and Learning

HMH Integrated 1, 2, and 3

FOR THE STUDENT

Access program content and resources 24/7,
online and offline with *HMH Player.*

Use QR codes to gain instant access to the Student Resource Locker with
instructional videos and virtual tools.

Learn and reinforce concepts with step-by-step interactive examples
supported by *Math on the Spot* video tutorials.

Check comprehension of new concepts and skills and get individualized
support automatically with *Personal Math Trainer.*

FOR THE TEACHER

Access a full suite of teaching resources when and where you need them.

Create custom lessons and present course materials with collaborative activities and
integrated formative assessments.

Plan, present, and manage classes, assignments, and activities through the Digital
Teacher Experience.

View professional development videos by program authors for instructional support
for each module.
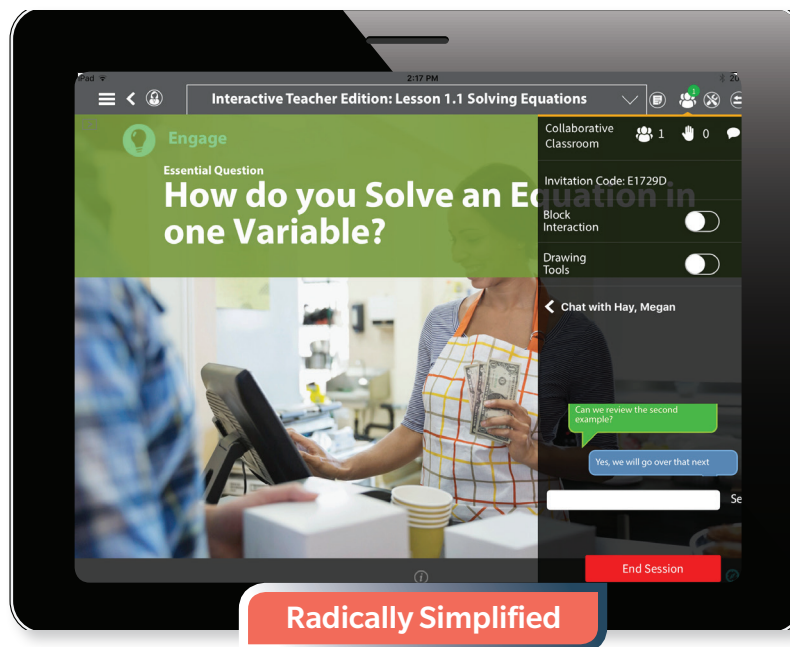
Online Editions Preview: Take a Closer Look!

FOLLOW THESE STEPS AND SEE HOW INTERACTIVE
AND ENGAGING ONLINE PROGRAMS CAN BE!

1	Go to:	**preview.hrw.com**
2	Enter Sample Word:	**HMHINT123**
3	Enter your registration information, select "Register" and follow the on-screen instructions to receive your credentials.	**REGISTER**
4	Using your credentials, log in at:	**my.hrw.com**
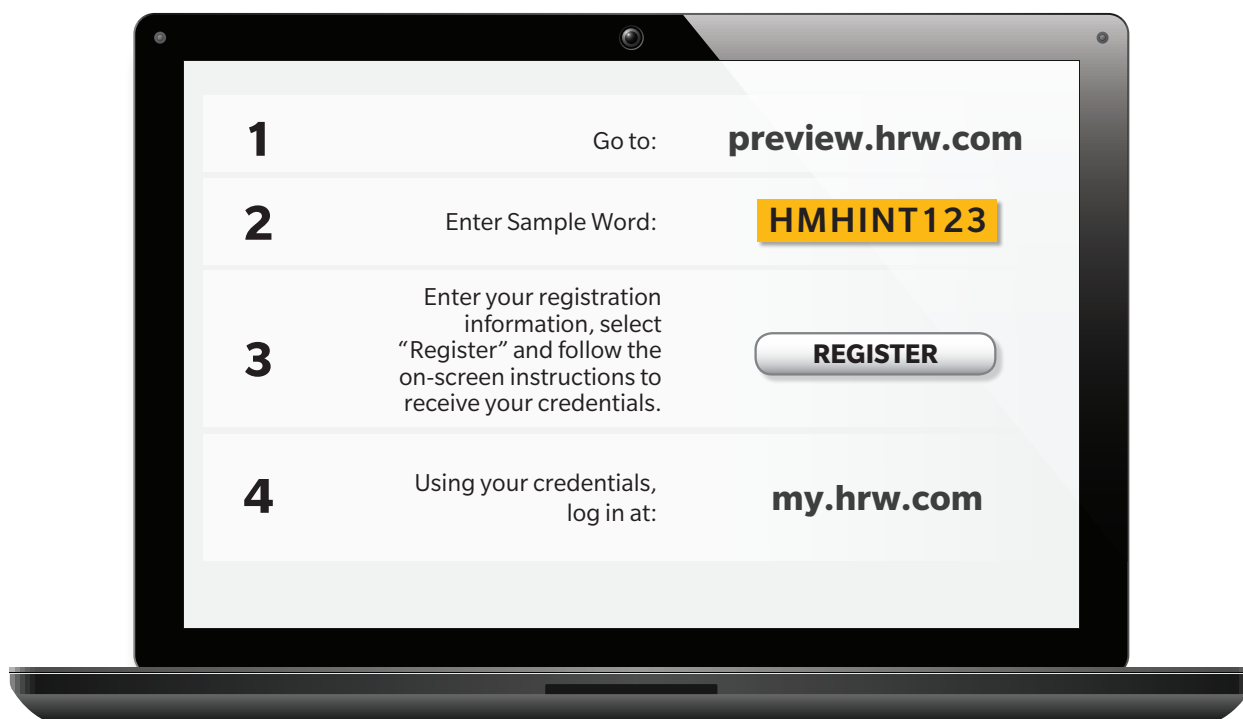
The Support You Need— When You Need It

Our comprehensive Professional Learning solutions for leaders, teachers, and families are data- and evidence-driven, mapped to your goals, centered around 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 and careers.

START STRONG, FINISH STRONGER

A *Getting Started with HMH Integrated* 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 **HMH Integrated Math** digital tools. We can help enhance your technology with learning management system interoperability, rostering, and single sign on within your environment.

BUILD CAPACITY, ENSURE SUCCESS WITH IN-CLASSROOM SUPPORT

Our professional learning will provide you with a deeper knowledge of mathematical standards, in-class support to facilitate instructional strategies and routines, and confidence to teach mathematics.

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.

80
PERCENT

For more information, please visit us at:

HMHCO.COM/PROFESSIONALSERVICES

You'll get even more personalized support with our **Team, Individual, and Virtual Coaching**. We'll be there to help you plan your lessons and model effective mathematics instruction.

- Deliver focused, coherent and rigorous lessons

- Connect learning with and across the grade levels

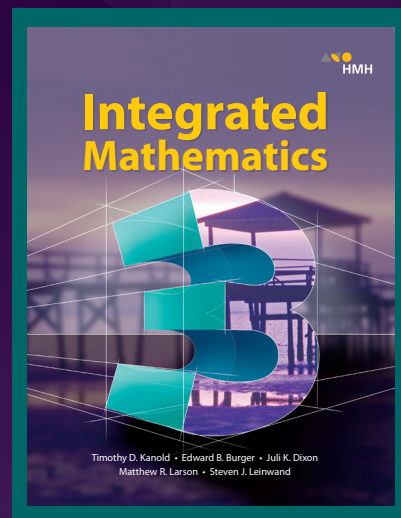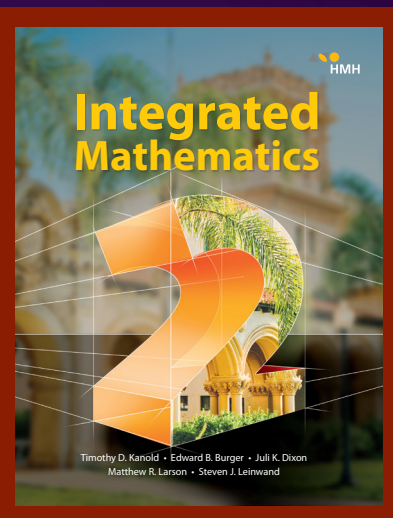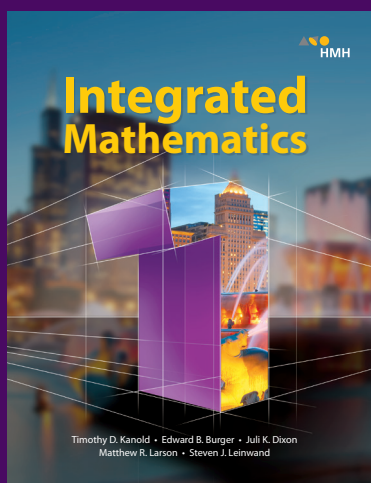- Provide equal intensity to conceptual understanding, fluency, and application

Our deep bench of thought leaders from Math Solutions® make innovative approaches to teaching mathematics a reality. Created by renowned mathematics educator, Marilyn Burns, **Math Solutions Professional Learning** services help teachers focus on developing mathematical practices, differentiation, and using formative assessments to impact student learning.

Integrated Mathematics

1 2 3

An innovative **digital-first program** for your high school mathematics instruction!

Integrated Mathematics 1
Timothy D. Kanold • Edward B. Burger • Juli K. Dixon
Matthew R. Larson • Steven J. Leinwand

Integrated Mathematics 2
Timothy D. Kanold • Edward B. Burger • Juli K. Dixon
Matthew R. Larson • Steven J. Leinwand

Integrated Mathematics 3
Timothy D. Kanold • Edward B. Burger • Juli K. Dixon
Matthew R. Larson • Steven J. Leinwand

Program Features

Digital Student and Teacher Experiences

- **HMH Player app**
- Interactive Student and Teacher Editions
- Student and Teacher Dashboards
- **Personal Math Trainer Powered by Knewton**

Print Resources

- Hardcover Student Edition
- Teacher Edition with Solutions Key
- Response to Intervention Teacher Resources
- Practice Workbook

Connect with us:

hmhco.com • 800.225.5425

Houghton Mifflin Harcourt.

hmhco.com/hmh-int123