

Everyday Mathematics®

How Children Learn.



GRADES
K–6

Be the Teacher They Will Always Remember



An *Everyday Mathematics* classroom has a unique energy that's a result of student engagement and excitement about learning math. This environment encourages growth mindset and a positive disposition about learning that will help your children succeed long after they've left your classroom.

An Investment in How Your Children Learn

Behind each student success story is a team of teachers and administrators who set high expectations for themselves and their students. *Everyday Mathematics* is designed to help you achieve those expectations with a research-based approach to teaching mathematics. The goal is to help elementary students acquire deeper conceptual understanding of mathematical concepts and greater mathematical fluency, helping them become life-long mathematical thinkers, problem solvers, and collaborators.



Research-Based

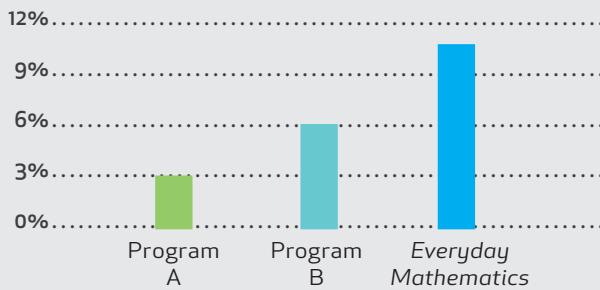
Everyday Mathematics is developed and written by a team of education researchers at UChicago STEM Education, a research and development center that resides within the University of Chicago.

Research-Proven

Decades of research show that children who use *Everyday Mathematics* develop deeper conceptual understanding and greater depth of knowledge than children using other programs. They develop powerful, life-long habits of mind such as perseverance, creative thinking, and the ability to express and defend their reasoning.

What Works Clearinghouse™ Improvement Index

Expected Percentile Gain for the Average Student using *Everyday Mathematics* versus other programs.



The U.S. Department of Education What Works Clearinghouse™ recognizes *Everyday Mathematics* as the most effective core elementary mathematics program in the country.

A Commitment to Educational Equity

Everyday Mathematics was founded on the principle that every child can and should learn challenging, interesting, and useful mathematics. The program is designed to ensure that each of your students develops positive attitudes about math and powerful habits of mind that will carry them through college, career, and beyond.



Provide Multiple Pathways to Learning

Through *Everyday Mathematics*' spiraling structure, students have multiple opportunities to access math concepts in a variety of ways.



Access High Quality Materials

You can be confident teaching with *Everyday Mathematics* because your instruction is grounded in a century of research in the learning sciences and has been rigorously field-tested and proven effective in classrooms.



Use Data to Drive Your Instruction

The data you collect in the Teacher Center drives a suite of reports that help you easily tailor your instruction to meet the needs of every child in your classroom.



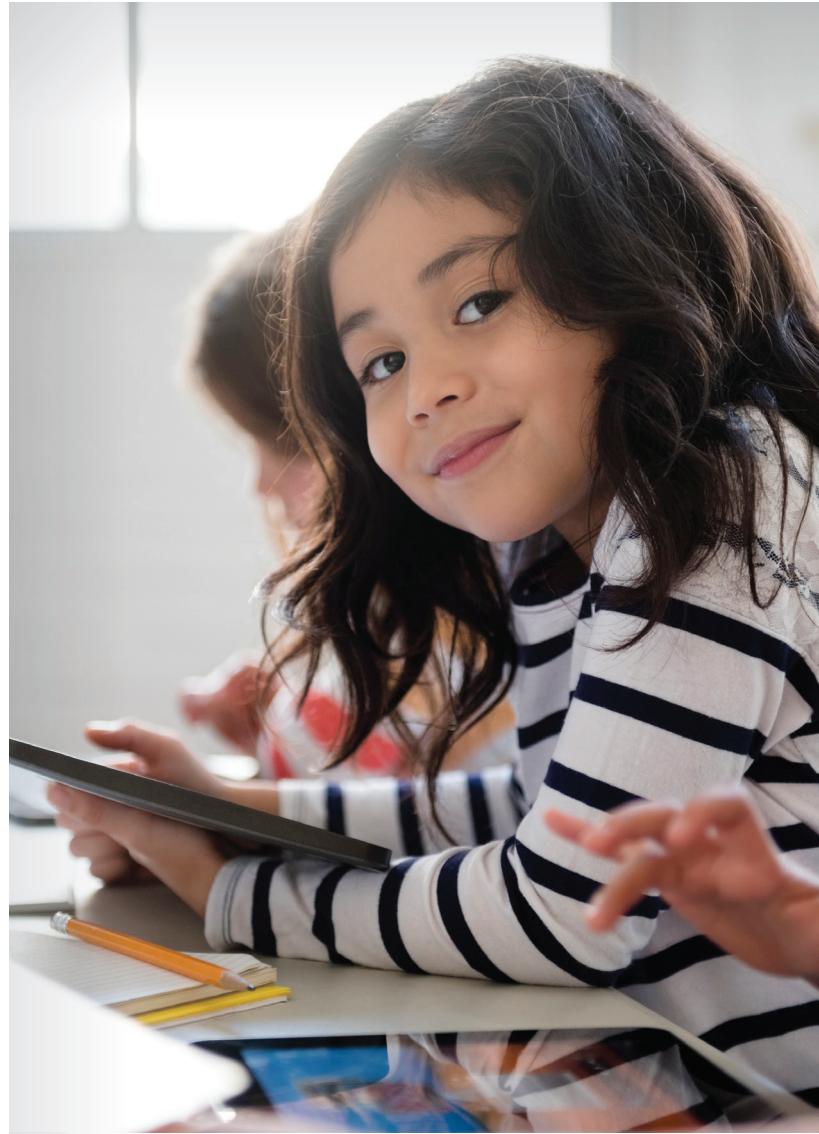
Create a System for Differentiation in Your Classroom

Turn your classroom into a rich learning environment that provides multiple pathways for each of your children to acquire content, make sense of ideas, develop skills, and demonstrate what they know.



Build and Maintain Strong Home-School Connections

Everyday Mathematics provides a wealth of resources to help you extend what your students learn in your classroom to what they can do beyond the classroom.



Transforming Your Classroom

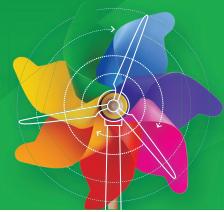


The *Everyday Mathematics* Classroom

A pervasive element of an *Everyday Mathematics* classroom is collaborative learning. Working collaboratively in classrooms creates an atmosphere for sharing ideas and problem-solving strategies. As students encounter different ways of solving problems from peers, they learn to interpret and evaluate each other's point of view and engage in discussions that address the strengths and weaknesses of a variety of approaches.

Each lesson activity includes recommendations for one or more grouping options, helping you create a flexible, dynamic learning environment every day.





The Everyday Mathematics Lesson

Embedded Rigor and Spiraled Instruction

Each lesson weaves new content with practice of content that was introduced in earlier lessons. The structure of the lesson ensures that your instruction includes all elements of rigor in equal measure with problem solving at the heart of everything you do.

Review

Warm Up

Fluency

Lessons begin with scaffolded problem-solving activities that provide fluency practice and opportunities for math talks.

Introduction of New Content

Focus

Conceptual Understanding and Application

Math Message Students first show what they know with an engaging task that provides data that will inform the rest of the lesson.

Focus Activities

Introduce new content, skills, and concepts.

Review

Practice

Application and Fluency

Spiraled practice that revisits content from earlier lessons.

Lesson 2-2

Addition Number Stories

Overview Children write and solve addition number stories.

Before You Begin
Select and sequence Quick Look Cards 102, 78, and 82 for the Mental Math and Fluency activity. For the Focus portion of the lesson, create a unit box for display.

Vocabulary
addition number story • unit box • label • number model

Standards

Focus Clusters

- Represent and solve problems involving addition and subtraction.
- Add and subtract within 20.

1 Warm Up 15–20 min

Mental Math and Fluency Children solve addition facts using Quick Look Cards.	Materials Quick Look Cards 102, 78, and 82	2.OA.2
Daily Routines Children complete daily routines.	See pages 4–43.	See pages xiv–xvii.

2 Focus 20–30 min

Math Message Children solve an addition number story.	2.OA.1, 2.OA.2	
Representing Number Stories Children are introduced to unit boxes and number models.	2.OA.1, 2.OA.2	
Creating and Solving Addition Number Stories Children create addition number stories and represent them with unit boxes and number models.	2.OA.1, 2.OA.2 SMP2	
Writing Number Stories Children write and solve number stories about a picture.	2.OA.1, 2.OA.2 SMP2	
Assessment Check-In See page 160. Expect most children to be able to write an addition number story to match a picture, write a number model to represent their number story, and solve their number story.	Math Journal 1, p. 19	2.OA.1, SMP2

3 Practice 10–20 min

Completing Number-Grid Puzzles Children fill in missing numbers on number-grid puzzles.	Math Journal 1, p. 20	2.NBT.2, 2.NBT.8
Math Boxes 2-2 Children practice and maintain skills.	Math Journal 1, pp. 21 and inside back cover	See page 161.
Home Link 2-2 Homework Children write an addition number story.	Math Masters, p. 28	2.OA.1, 2.OA.2

Go Online to see how mastery develops for all standards within the grade.

Supporting Rich Mathematical Instruction

Everyday Mathematics includes a wealth of resources that help you implement research-based instructional practices in every lesson.

Math Talk

Opportunities to share strategies and reasoning as well as critique others' reasoning are embedded throughout *Everyday Mathematics*, making it easy to facilitate math discussions every day.

Collaboration

Students work in small groups and with partners formed according to their needs, helping you create a rich learning environment that supports powerful instruction.

Perseverance and Productive Struggle

Everyday Mathematics helps you create a culture for growth mindset with lessons, activities, and games designed to embrace the habits of mind.

Hands-On Exploration

Activities often involve modeling mathematics concretely, visually, and verbally—deepening your students' understanding of concepts, skills, and representational fluency.

Rich Tasks and Mathematical Reasoning	Journal p. 18: Writing/Reasoning	Creating and Solving Addition Number Stories, p. 159 Writing Number Stories, pp. 159–160	■ Using Double Ten Frames, pp. 164–165 Journal p. 23: Writing/Reasoning	■ Exploring the Making-10 Strategy, pp. 170–172 ■ Practicing the Making-10 Strategy, p. 172 ■ Extra Practice, p. 169
Mathematical Discourse	Making Exchanges pp. 152–153 Introducing and Playing The Exchange Game, pp. 154–155 Summarize, p. 155	Creating and Solving Number Stories, p. 159	Math Message, pp. 164 ■ Using Double Ten Frames, p. 164	■ Exploring the Making-10 Strategy, pp. 170–172 Playing The Number-Grid Game, p. 173
Distributed Practice	Daily Routines Mental Math & Fluency, p. 152 Introducing and Playing The Exchange Game, p. 155 Math Boxes 2-1, p. 155	Daily Routines ■ Mental Math & Fluency, p. 158 Completing Number-Grid Puzzles, p. 161 ■ Math Boxes 2-2, p. 161	Daily Routines ■ Mental Math & Fluency, p. 164 ■ Playing Fishing for 10, p. 167 Math Boxes 2-3, p. 167	Daily Routines ■ Mental Math & Fluency, p. 170 Playing The Number-Grid Game, p. 173 ■ Math Boxes 2-4, p. 173
Differentiation Support	Differentiation Options, p. 151 ELL Support, p. 151 Online Differentiation Support 2-1 Adjusting the Activity, p. 154	Differentiation Options, p. 157 ELL Support, p. 157 Online Differentiation Support 2-2 Common Misconception, p. 159 Adjusting the Activity, pp. 160–161	Differentiation Options, p. 163 ELL Support, p. 163 Online Differentiation Support 2-3	Differentiation Options, p. 169 ELL Support, p. 169 Online Differentiation Support 2-4 Adjusting the Activity, p. 171

Every Unit Organizer includes a helpful chart that shows where the building-blocks for rich mathematical instruction appear throughout every unit.

The Everyday Mathematics Difference

Resources available only from *Everyday Mathematics*

Open Response and Reengagement Lessons

Each unit includes a specific lesson that develops students' ability to think mathematically by explicitly engaging in the mathematical practices to solve a non-routine, rigorous problem.

2-Day Lesson 1–5
Open Response and Reengagement

Number-Grid Puzzles

Overview **Day 1:** Children use patterns to solve an open response problem. **Day 2:** Children discuss selected solutions and explanations and revise their work.

Day 1: Open Response

Before You Begin
Make sure the Number-Grid Poster is visible during work on Problem 1 of the open response problem. Have copies of Math Masters, page T4 available for children who need it. If possible, schedule time to review children's work and plan for Day 2 of the lesson with your grade-level team.

Vocabulary
pattern • number grid

1 Warm Up 3–5 min **Materials**

Mental Math and Fluency
Children count by 5s and 10s.

2a Focus 56–60 min

Math Message
Children extend a pattern and discuss how they

Standards
Focus Clusters

- Understand place value.
- Use place value understanding and properties of operations to add and subtract.

2.NBT.2

Math Journal 1, p. 3 **SMP7**

Activity Cards

Activity Cards provide rich tasks for readiness, enrichment, and extra practice and are perfect for flexible stations.

Finding Combinations of 100

What You Need
Number Grid, page 146
crayons or markers

What To Do

- On the Number Grid page, look for a pair of numbers that add to 100.
- Shade in the pair of numbers with the same color.
- Example: 49 and 51 could be colored yellow.
- Find other pairs of numbers that add to 100. Shade each pair with a different color.

Activity Kit **Writing Tools** **eTools**

Playing Two-Fisted Penny Addition

What You Need
10 pennies or counters
paper

What To Do
Work with a partner:

- Put 10 pennies on the table in front of you.
- Take some pennies in each hand. Make sure you take all 10 pennies.
- Count the pennies in each hand. Tell your counts to a partner.
- Record your penny counts on paper.
- Repeat Steps 1–4 again.

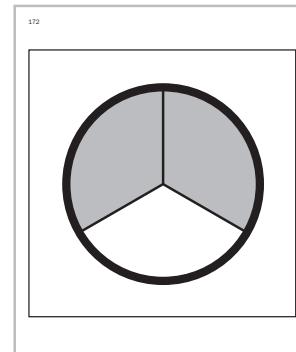
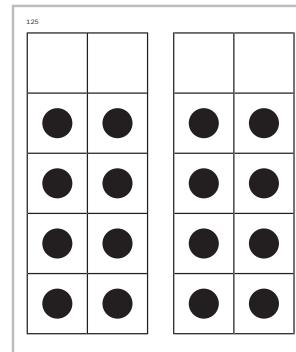
Talk About It
How many ways did you and your partner make 10?

More You Can Do
Do the activity again. Try using 9, 12, or 20 pennies.

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Quick Looks

Quick Look routines develop number sense by allowing children to visually group quantities, break them apart and put them back together. As students encounter various combinations, they develop fact strategies that lead to fact fluency.



Data-Driven Instruction

Everyday Mathematics includes a complete set of tools and resources to help teachers evaluate the development of each child's mathematical understanding and skills, while providing actionable data to inform instruction.

Evaluate

Assessment Check-In 2.OA.1

Math Journal 1, p. 19

Expect most children to succeed at writing an **addition** number story that matches the picture on journal page 19, writing a number model to represent their number story, and solving their number story. For those who struggle with one or more of these tasks, suggest that they **model** their stories with **manipulatives** or **tallyies** as described in the Adjusting the Activity note or have them complete the Extra Practice activity on page 157. **GMP2.1**

Daily Formative Assessments

Assessment Check-In provides daily lesson-based assessment opportunities.

Pre-Unit Assessment

Preview Math Boxes appear in two lessons toward the end of each unit and help you gauge readiness for upcoming content, plan instruction, and choose appropriate differentiation activities. In addition, data recorded in prior units can provide valuable information to inform instruction in the upcoming unit.

Unit Assessments

Progress Check lessons at the end of each unit provide formal opportunities to assess children’s progress toward mastery of content and process/practice standards that are the focus of the unit.

Record

A full suite of tools including rubrics and class checklists are available to help you track your children's progress.

Lesson 2-13 (Day 1): Assess: Unit 2 Assessment					
Add Notes		Anna Z.	Brain L.	Danny R.	Ellie C.
Score All ▾		Score ▾	Score ▾	Score ▾	Score ▾
Score ▾	Problem 1	M	M	NM	A
Score ▾	Problem 2 – Content	NM	M	M	M
Score ▾	Problem 2 – Practices	M	PM	NM	PM
Score ▾	Problem 3	M	M	NM	PM
Score ▾	Problem 4	M	PM	M	M
Score ▾	Problem 5	M	M	M	M

Report

The Data Dashboard is a responsive reporting tool that delivers actionable information to help you adapt and personalize your instruction and provide feedback to families and administrators.

The screenshot shows the 'Data Dashboard' for 'Grade Card Report' under 'Everyday Mathematics'. It includes a 'Data Dashboard' section with a bar chart for 'Student Progress' and a 'Recommendations Report' section with a list of 2.OA.1 and 2.NBT.5 problems. The 'Recommendations Report' also includes a 'Differentiation Assets' section with three items: 'Comparing Number Stories', 'Comparing Number Stories (h & 2-Digit Numbers)', and 'Comparing Number Stories (h & 2-Digit Numbers) Differentiation Activity'. The bottom of the dashboard shows a progress bar for 'Student Average: 79%'. The bottom of the page has a footer with '2.NBT.5 Fluency Add and subtract within 100 using strategies based on place value, properties of operations, and/or relationship between addition and subtraction. Standard Met' and 'Student Average: 79%'. The bottom right corner shows the date '08/20/2017 - 02/26/2018' and a user icon.

Online Resources

Digital tools to help you confidently deliver effective mathematics instruction in your classroom are included with every implementation. Everything you need is included in one easy-to-navigate place and you can customize your lessons by adding resources and notes—and everything is saved and available to you year after year.

The Teacher Center

You'll never waste time looking for resources because everything you need for every lesson is right where you need it, when you need it, including editable versions of every lesson and activity.

The screenshot shows the 'Everyday Mathematics' Teacher Center interface. At the top, there's a navigation bar with a 'menu' icon, the 'EverydayMathematics' logo, a user profile icon, and a search icon. Below the navigation is a breadcrumb trail: a house icon for 'Unit 2' followed by 'Lesson 2-2' with a right-pointing arrow. The main content area features a large image of a sailboat made of green leaves on a blue background. To the left of the image is a blue button labeled 'Lesson Presentation' with a play icon. To the right of the image is a section titled 'Addition Number Stories' with a list of icons and links: 'Plan Your Lesson' (green circle with a white circle), 'Resources' (purple square with a white image icon), 'Games' (yellow square with a white game controller icon), 'Quick Entry Evaluation' (red square with a white checkmark icon), 'Today's Data' (red square with a white bar chart icon), 'Differentiation' (blue square with a white person icon), and 'Print Worksheets' (green square with a white document icon). Below the main image, there's a 'OVERVIEW AND MATERIALS' section with a 'Children write and solve addition number stories.' paragraph, a 'Before You Begin' section with a 'Select and sequence Quick Look Cards 102, 78, and 82 for the Mental Math and Fluency activity. For the Focus portion of the lesson, create a unit box for display.' note, a 'Vocabulary' section with 'addition number story • unit box • label • number model' terms, and a 'Materials' section with a 'PRINT' link. The 'Expand' link is located in the top right corner of the materials section.

The Student Learning Center

Engineered to help each of your students experience confidence and develop positive feelings about math in a digital environment that keeps them engaged and excited about learning.

The screenshot shows the 'Everyday Mathematics' Student Learning Center interface on a tablet. At the top, there's a 'menu' icon, the 'EverydayMathematics' logo, and a house icon. The main content area is titled 'Welcome' with a 'Go to Lesson 2-2' button. Below the button is an image of a sailboat. The 'Addition Number Stories' section is visible, along with 'Lesson 2-1' and 'Lesson 2-3' buttons. To the right of the sailboat image are two large green buttons: 'My Reference Book' (with a book icon) and 'eToolkit' (with a geometric shapes icon). Below these are several smaller buttons: 'Geometer's Sketchpad Activities' (with a geometric shapes icon), 'Tutorial Videos' (with a play button icon), 'EM Games Online' (with a game board icon), 'Favorites' (with a heart icon), 'Assignments' (with a clipboard icon), and 'EM at Home' (with a house icon).

Building Mathematical Literacy

Build a solid foundation for success in your classroom through meaningful practice opportunities, discussion of reasoning, communicating mathematically, and engaging in math practices every day.

Focused Instruction

The instructional design allows you to focus on critical areas of instruction for each grade.

Focus

In Unit 1, children explore number patterns, number names, comparisons of numbers, and mathematical tools.

Major Clusters

2.OA.B Add and subtract within 20.

2.NBT.A Understand place value.

Supporting Clusters

2.MD.C Work with time and money.

Coherence Within and Across Grades

Each unit contains information about how its Focus Standards were developed in prior units and grades, and how they lay the foundation for future lessons.

Coherence

The table below describes how standards addressed in the Focus parts of the mathematics that children have done in the past and will do in the future.

Links to the Past	
2.OA.2	In Unit 1, children played <i>Fishing for 10</i> to review their recall of addition combinations of 10. In Grade 1, children added and subtracted within 20 and demonstrated fluency for addition and subtraction within 10.
2.OA.3	In Unit 1, children explored even and odd numbers using concrete and visual models. In Grade 1, children wrote number models to represent pictures of real-world items with paired features.

Rigorous Content

Everyday Mathematics gives you the tools and resources you need to emphasize conceptual understanding, procedural fluency, and application with equal intensity.

Unit 2 Organizer

Planning for Rich Math Instruction

RIGOR	2-1 Grouping by 10	2-2 Addition Number Stories	2-3 Doubles and Combinations of 10	2-4 The Making-10 Strategy
Conceptual Understanding	Place value Making Exchanges, pp. 152–153	Addition number models Representing Number Stories, pp. 158–159	Doubles and combinations of ten ■ Using Double Ten Frames, pp. 164–165 ■ Naming Doubles and Combinations of 10, pp. 165–166 ■ Playing <i>Fishing for 10</i> , p. 167 Math Boxes #1, #4 Home Link 2-2, p. 167	Additional strategies ■ Math Message, p. 170 ■ Exploring the Making-10 Strategy, pp. 170–172 ■ Practicing the Making-10 Strategy, p. 172 ■ Playing <i>The Number Grid Game</i> , p. 173 ■ Enrichment, p. 169 ■ Extra Practice, p. 169 ■ Home Link 2-4, p. 173
Procedural Skill and Fluency	Daily Routines Mental Math & Fluency, p. 152 ■ Making Exchanges, pp. 152–153 ■ Counting Money, p. 153 Home Link 2-1, p. 155 ■ Introducing and Playing <i>The Exchange Game</i> , p. 154 Extra Practice, p. 151	Daily Routines Mental Math & Fluency, p. 158 ■ Math Message, p. 158 ■ Home Link 2-2, p. 158	Daily Routines Mental Math & Fluency, p. 158 ■ Using Double Ten Frames, pp. 164–165 ■ Making Doubles and Combinations of 10, pp. 165–166 ■ Playing <i>Fishing for 10</i> , p. 167 Math Boxes #1, #4 Home Link 2-2, p. 167	Daily Routines Mental Math & Fluency, p. 164 ■ Using Double Ten Frames, pp. 164–165 ■ Making Doubles and Combinations of 10, pp. 165–166 ■ Playing <i>Fishing for 10</i> , p. 167 Math Boxes #1, #4 Home Link 2-2, p. 167
Applications	Daily Routines ■ Making Exchanges, pp. 152–153 ■ Counting Money, p. 153 Home Link 2-1, p. 155 ■ Introducing and Playing <i>The Exchange Game</i> , p. 154 Extra Practice, p. 151	Daily Routines ■ Representing Number Stories, pp. 158–159 ■ Creating and Solving Addition Number Stories, p. 159 Writing Number Stories, pp. 159–160 Home Link 2-2, p. 161	Daily Routines ■ Mental Math & Fluency, p. 164 ■ Using Double Ten Frames, pp. 164–165 ■ Making Doubles and Combinations of 10, pp. 165–166 ■ Playing <i>Fishing for 10</i> , p. 167 Math Boxes #1, #4 Home Link 2-2, p. 167	Daily Routines ■ Mental Math & Fluency, p. 164 ■ Using Double Ten Frames, pp. 164–165 ■ Making Doubles and Combinations of 10, pp. 165–166 ■ Playing <i>Fishing for 10</i> , p. 167 Math Boxes #1, #4 Home Link 2-2, p. 167



Practice Embedded in Every Lesson

Because *Everyday Mathematics* is a problem-based curriculum, practice opportunities appear naturally in daily instruction. The lessons' practice activities create confidence that your students are progressing toward mastery.

Math Boxes

Provide students with daily distributed practice of previously taught skills and concepts to improve long-term retention.

Home Links

Allow students to practice today's lesson and help family members support their math learning.

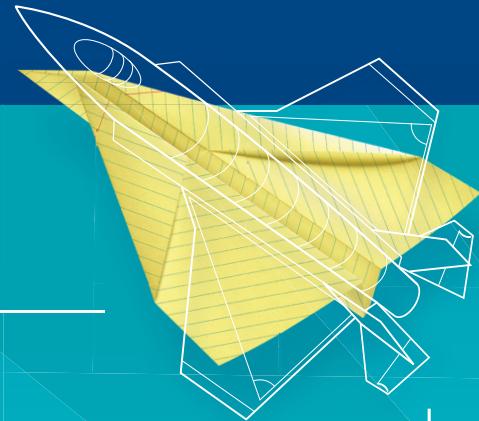
Games

Provide opportunities for fluency practice, along with collaborative learning experiences.

Mathematical Literacy Sets The Stage for Algebra

Everyday Mathematics encourages children to recognize and analyze patterns, study and represent relationships, make generalizations, and analyze how things change—which are the building blocks of algebraic thinking.

GRADE	K	1	2	3	4	5	6	►
Instruction leverages children's natural love and curiosity about mathematics by having them work with patterns.	The use of patterns becomes a tool that helps children recognize and understand relationships between numbers.	Children focus on connecting numbers and operations to more symbolic representations.						



Everyday Mathematics. How Children Learn.

- Fully digital options that adapt to your classroom
- Gives each student the opportunity to achieve
- Connects math to the world outside the classroom

Learn more at everydaymath.com

