



Daily Math Fluency

Build math fluency through
Math Talks & Number Strings



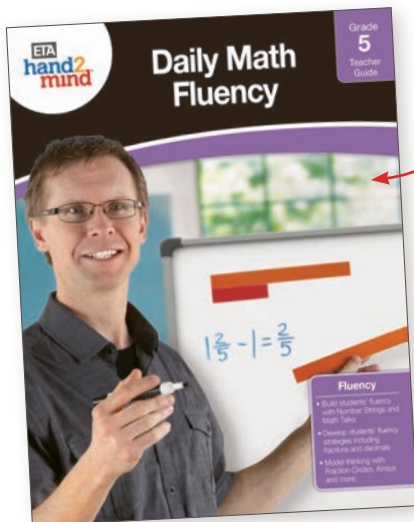
Grades
K-8

K-2

Fill the fluency gap in today's math curriculum

Daily Math Fluency is a year-long supplemental program that provides everything educators need to teach and reinforce multiple strategies that build number sense in 10 minutes a day. The powerful combination of 60 Math Talks and 120 Number Strings improves a student's ability to think about numbers flexibly, efficiently, and accurately. Created by teachers for teachers, Daily Math Fluency helps students build a strong foundation of mathematical reasoning for future math success.

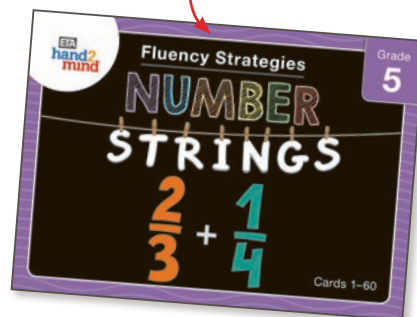
- **Teaches specific strategies** with targeted sets of related problems
- **Manipulatives and visual models** enable teacher demonstration
- **Easy to use** for quick classroom implementation



Daily Math Fluency, Grade 5

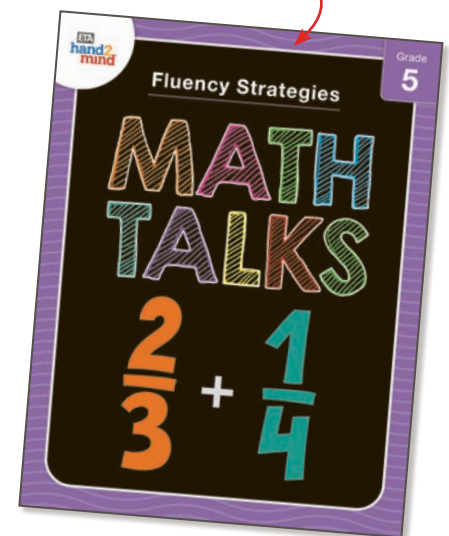
Teacher Guide features implementation tips, strategies & big ideas

120 Numbers Strings cards with 5 problems per card



Daily Math Fluency Number Strings, Grade 5

60 Math Talks include possible strategies, teacher notes & facilitating questions



Daily Math Fluency Math Talks, Grade 5



Meet the lead author and co-creator

Brittany Goerig is the lead author and co-creator of Daily Math Fluency. Brittany spent 17 years in the classroom as an elementary math teacher and has created and conducted professional development for teachers for the past 15 years. She is passionate about helping children and teachers construct their own mathematical knowledge based on understanding the relationships in mathematics.

Now's the time to address the numeracy issue in the U.S.



- **50% of today's jobs** require a strong number sense
- **1 in 5 adults in the U.S.** lack math competency at a middle school level
- **U.S. students continue to score significantly lower** on international math benchmarks compared to other developing nations

Supports SEL
hand2mind.com/sel

Daily Math Fluency can help change the way students think about math and create a generation of independent thinkers who are ready to creatively and efficiently solve math problems.

A customer favorite...

"There are many reasons I love hand2mind's Daily Math Fluency Kits, but one of my top reasons is the combination of Concrete-Representation-Abstract. The kits have my favorite manipulatives, but the guides included in the kits help teachers build the connections. **It's the perfect mix to help students build their fluency.**"

—Christina Tondevold, teacher educator & former middle school math teacher

"Daily Math Fluency from hand2mind **helps educators easily and effectively guide math talks with students.** This allowed our teachers the framework they were looking for to be intentional about math talks in their classrooms."

—Catherine Castillo, coordinator of 21st century numeracy, Springfield (MO) Public Schools

Number Strings help students construct strategies

Number Strings are a series of related problems focused on a particular strategy, big idea in mathematics, and/or a model. They are purposely designed to help students construct mental strategies and to systematically nudge them toward efficiency.

Sample Number Strings Card

Problem or quantity student explores

What the teacher says to students while presenting the problem

Target strategy

Counting On

8 $7 + 0$ Mark 7 on the number path	Teacher: I had 7 cubes. I didn't get any more. How many cubes do I have now? Goal: 7; I stayed on 7 and didn't add any, so it is $7 + 0$, which is 7.	$7 + 0 = 7$
$7 + 1$ Mark 7 on the number path	Teacher: I had 7 cubes. My friend gave me one more cube. How many cubes do I have now? Goal: 8; I started at 7 and I counted 7, 8.	$7 + 1 = 8$
$7 + 2$ Mark 7 on the number path	Teacher: I had 7 cubes. My friend gave me 2 more cubes. How many cubes do I have now? Goal: 9; I started at 7 and counted on: 7, 8, 9.	$7 + 2 = 9$
$2 + 7$ Show number path	Teacher: I had 2 cubes. My friend gave me 7 cubes. How many cubes do I have now? Goal: 9; Instead of starting at 2, I started at 7 and counted 7, 8, 9. $2 + 7 = 7 + 2$.	$2 + 7 = 7 + 2 = 9$
$6 + 2$ Show number path	Teacher: I had 6 cubes. My friend gave me 2 cubes. How many cubes do I have now? Goal: 8; I started at the 6 counted 6, 7, 8.	$6 + 2 = 8$

How the teacher poses the problem to the students

Example of how to model the student strategy

Example equation(s) teacher may write with the problem

What students might say to explain their thinking for the strategy



Number Path Pocket Chart

Math Talks encourage students to discuss & choose strategies

Math Talks are based on one problem that is given to students to compare strategies to solve the problem. They are designed to generate discussions about efficient, clever, and elegant strategies for the given problem and numbers. The teacher encourages multiple students to share different ways of solving the problem.

Sample Math Talk

The problem, picture card, or dot card the teacher poses to the students to begin the math talk

Strategy name

Student dialogue of the named strategy

Example of a way to model a student strategy using a manipulative or tool

Example equation(s) teacher may write to represent the problem

5 + 3

Use the Five/Ten Structure
8; I think of a rekenrek with 5 red beads and 3 white beads.

Use Doubles
8; I took 3 from the 5 and added it to the 3 to make 6 and 2 more is 8.

Use Known Facts
8; I took one from the 5 and gave it to the 3 to make 4 + 4 which is an easier problem for me because I know my doubles.

Counting On
8; I started at 5 and counted 6, 7, 8.

Teacher Notes
Start the math talk by writing 5 + 3. Give students time to mentally solve problem. Write all answers on the board and then have the students explain their thinking. Teacher models student thinking using a manipulative that will help make the strategy clear for all students to access. Teacher writes an equation(s) that represents the strategy.

Facilitating Questions: 1. Can you find two strategies that are similar? How are they the same? 2. Is there a strategy(s) that is more efficient than another? Why? 3. After observing other strategies, did you revise your thinking? How?

Daily Math Fluency encourages students to think, not to memorize



Creating a Generation of Independent Thinkers

by Brittany Goerig

Valuing Productive Struggle

While it's important for students to be able to recall basic math, educators should persist in teaching the deep relationship between

numbers. **Instead of just memorizing facts, we want students to be able to visualize models and construct strategies.** A surface-level understanding of numbers isn't going to cultivate the confidence students need to independently and creatively solve math problems.

Math classrooms are changing by letting students productively struggle. **Rather than encouraging them to get the correct answer quickly, educators are giving students the time they need to reason with mathematics.** Most of the time, the teacher isn't teaching strategy directly. The strategy is a natural outcome of the product. After students experience a few number strings, they are able to pick up on the patterns. From there, they can construct the path to reason about the numbers.

We don't know what future job markets look like, so **we have to make sure the future generation is full of thinkers.** We can help them prepare by equipping them with the ability to solve problems independently, without someone telling them what to do every step of the way.

—excerpted from *The Edvocate*; March 27, 2019.

Daily Math Fluency Numeracy Intervention Kits

Targeted instruction to meet the needs of all learners

These targeted instructional kits use Math Talks and Number Strings to build numeracy skills in students who are struggling with core number concepts. Each kit focuses on 1 of 5 core concepts and helps develop computational fluency in just 10 minutes a day. A customized blackline master is included in the Teacher Guide for each kit so teachers can track the progress of every student on an individual basis.

Kit Configurations:

- Basic Addition and Subtraction
- Multi-Digit Addition and Subtraction
- Basic Multiplication and Division
- Multi-Digit Multiplication and Division
- Fraction and Decimal Operations

Bundle of all 5 kits available

Kits include:

- Teacher Guide
- 60 Number String Cards
- 30 Math Talks
- Hands-on Manipulatives

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Progress Monitoring Sheet for Basic Multiplication and Division Kit

Order now at hand2mind.com/mathfluency



Daily Math Fluency Kit, Grade 1

Grades
K–5
Available
NOW

Grades
6–8
Available
January 2020

Daily Math Fluency Kits

Teach your students how to master math strategies using Number Strings and Math Talks. Includes Teacher Guide, Math Talks Book with 60 Math Talks, 120 Number String Cards, Anchor Charts, and Demonstration Manipulatives.

Daily Math Fluency Centers Kits

Extend your Daily Math Fluency lessons with hands-on student games and activities that are perfect for centers. Includes Teacher Guide, 40 student activities on a standing flip chart, and 10–12 manipulatives per grade level—all packed in a durable tote.



Daily Math Fluency Centers Kit, Grade 1

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Sample Lessons
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