



SPARK PROBLEM SOLVING

*Igniting Deep Thinking Through
Math Instruction * K-4th Grade*

FROM ROTE STEPS TO REAL UNDERSTANDING

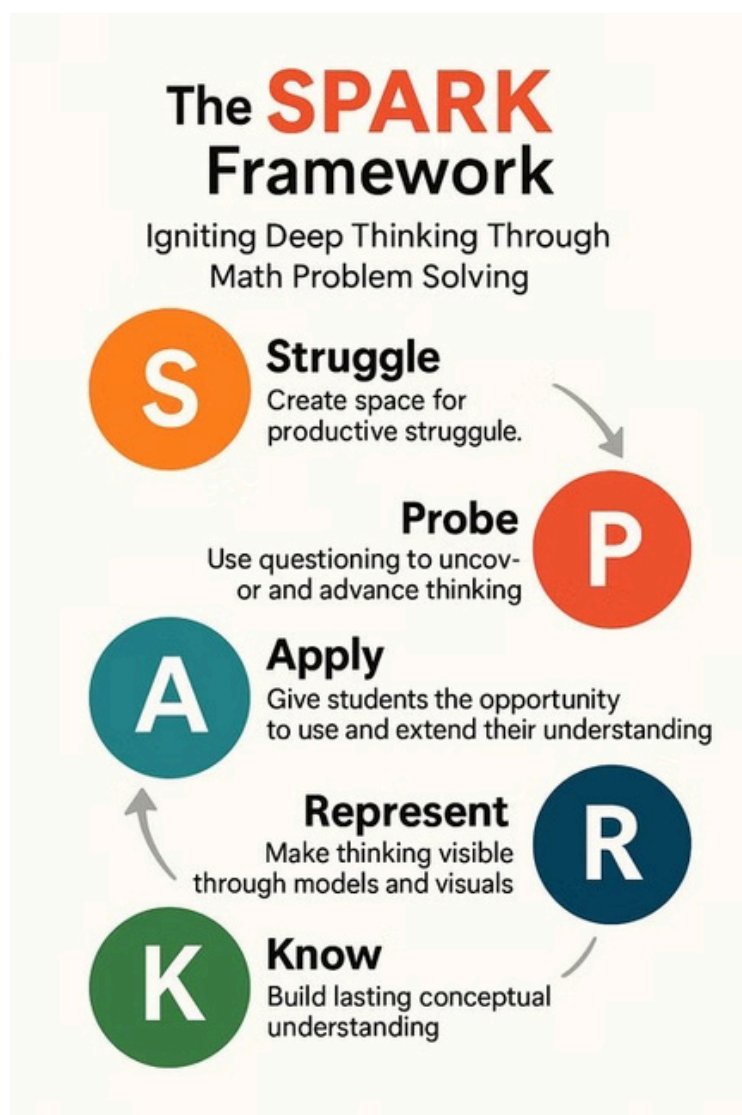
Practical coaching and professional development that helps teachers shift from procedural teaching to rich, conceptual learning.

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Available virtually & in person

WHAT IS SPARK?

The SPARK Framework is a comprehensive approach to teaching math that fosters deep, meaningful learning for every student. It guides educators in creating classrooms where students engage actively with challenging problems, think critically about their reasoning, apply flexible strategies, and develop strong conceptual understanding. By shifting away from rote memorization and toward authentic problem solving, the framework builds both student and teacher confidence while promoting intellectual curiosity and mathematical depth.



SPARK IMPLEMENTATION GUIDE

At the heart of effective instruction is the belief that every student can think deeply, communicate their ideas, and make meaning of rigorous content. These professional development sessions are designed to empower educators with practical tools, intentional planning moves, and responsive teaching strategies—so that classrooms become spaces where learning is driven by curiosity, clarity, and student thinking.

SPARK is flexible by design. Whether integrated into the full math block or focused specifically on story problems, SPARK adapts to your context—while staying grounded in its core pillars.

Workshops are organized into two pathways choices:

- ▶ **Pathway 1: The Main Math Block Trajectory**, which develops strong instructional practices across any math unit
- ▶ **Pathway 2: The Math Stories Trajectory**, which focuses on improving students' understanding and success with math word problems, especially in Grades K–4



Pathway Details

PATHWAY 1: Main Math Instruction Pathway

Designed for schools ready to embed SPARK across the daily math block. Workshops build sequentially to strengthen teacher clarity and student problem-solving outcomes.

Sample Objectives:

- ▶ Deepen teacher understanding of conceptual math foundations.
- ▶ Develop routines that prioritize reasoning, discourse, and representation.
- ▶ Strengthen lesson design and planning precision.

Sample Workshop Menu:

- ▶ Creating a Classroom Culture that Encourages Productive Struggle
- ▶ Facilitating a Strong Discussion – Your Questions Matter
- ▶ How to Respond to Students with Gaps in Content Understanding
- ▶ Landing the Key Point in a Math Lesson

PATHWAY 2: Math Story Problem Pathway

For schools wanting to sharpen focus on problem solving through word/story problems. Workshops emphasize models, reasoning, and flexible strategies across grade levels.

Sample Objectives:

- ▶ Build teacher skill in teaching problem-solving strategies with models.
- ▶ Help students move beyond keywords to real sense-making.
- ▶ Increase student perseverance and confidence in solving challenging problems.

Sample Workshop Menu:

- ▶ Types of Story Problems
- ▶ Using Representations to Help Students Understand Math Story Problems
- ▶ Deep Dive into Bar Models Across the Grades
- ▶ From Key Works to Understanding: Shifting Student Strategies

Options for Small-Scale Implementation

- Workshop Series (à la carte): Schools select 2–3 priority workshops for immediate strategies and a taste of SPARK.
- Problem-Solving Lab Cycles: A 6-week focus with one grade band analyzing student work, rehearsing moves, and testing strategies.
- Leader Learning Sprint: Short cycles (2–3 sessions) for coaches/APs to experience SPARK practices and build alignment.
- Demo Lesson + Debrief: Erica models a SPARK lesson live, followed by a debrief to highlight teacher moves and student responses.



Erica Provides:

- ✓ Thoughtful modeling of instructional strategies aligned to SPARK pillars
- ✓ 1:1 and team coaching that supports planning, reflection, and implementation
- ✓ Support with adapting curriculum to meet student needs while staying concept-focused
- ✓ Tools for diagnosing and addressing unfinished learning and foundational gaps
- ✓ Guidance on designing and facilitating rich, student-centered tasks
- ✓ Scaffolds to shift teacher talk and promote student ownership of thinking
- ✓ Strategies for using models and representations to build conceptual understanding
- ✓ Feedback cycles that build teacher confidence and instructional precision