Math Magic® — A Neuroscience-Aligned, Competency-Based Model for Middle School Math

THE PROBLEM WE'RE SOLVING

Many middle school students struggle with math not because they "can't do math," but because:

- Concepts are taught in isolation
- Cognitive load is too high
- Math anxiety activates the nervous system
- Students memorize procedures without understanding patterns

When the nervous system is dysregulated, learning shuts down.

THE MATH MAGIC® SOLUTION

Regulate first. Recognize patterns. Build mastery.

Math Magic® is a brain-based math learning model that combines:

- Visual pattern recognition
- Emotional safety & nervous system regulation
- Conceptual coherence
- Competency-based progression

All anchored by a single, shared visual framework:

The MULTIMAGIC Table

HOW MATH MAGIC® ALIGNS WITH

Competency-Based Learning Indicators

🧠 NEUROSCIENCE & LEARNING

Indicator: Learning aligns with how the brain works
Math Magic®:
✔ Pattern recognition (the brain's primary learning system)
✔ Reduced cognitive load through color, structure, and spatial design
✔ Visual anchors that support working memory and focus

🧩 CONCEPTUAL UNDERSTANDING

Indicator: Students understand *why* math works
Math Magic®:
✔ One visual model connects operations, factors, multiples, fractions, ratios, and proportions
✔ Students see relationships instead of memorizing steps
✔ Concepts transfer across units and grade levels

🎯 COMPETENCY-BASED PROGRESSION

Indicator: Progress based on mastery, not time
Math Magic®:
✔ Students demonstrate mastery through explanation, pattern use, and application
✔ Multiple entry points support varied readiness levels
✔ No stigma—same tool, different depth

🔄 FLEXIBLE LEARNING STRUCTURES

Indicator: Instruction adapts to learners
Math Magic®:
✔ Works in whole-class, small-group, station, or independent formats
✔ Supports self-paced and teacher-guided learning
✔ Easy integration into existing schedules and models

🌱 STUDENT AGENCY & CONFIDENCE

Indicator: Students take ownership of learning
Math Magic®:
✔ Students self-check, self-correct, and explain reasoning
✔ Visual system builds independence and confidence
✔ Success experiences reduce math anxiety

💬 ACADEMIC LANGUAGE & ACCESS

Indicator: Vocabulary supports thinking
Math Magic®:
✔ Math vocabulary is tied to visual meaning
✔ Reduces language barriers for multilingual learners
✔ Strengthens reasoning, discussion, and assessment performance

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🛡 EMOTIONAL SAFETY FIRST

Indicator: Learning environments reduce threat
Math Magic®:
✔ Predictable structure calms the nervous system
✔ Regulation precedes rigor
✔ Students feel safe enough to think, explore, and persist

⚖ EQUITY & INCLUSION

Indicator: All learners can engage meaningfully
Math Magic®:
✔ Visual, kinesthetic, and verbal access points
✔ Effective for neurodivergent learners and students with math anxiety
✔ Focus on understanding—not speed or memorization

WHAT MAKES MATH MAGIC® DIFFERENT

Not a worksheet.
Not a trick.
A learning model.

Math Magic® helps students:

- Feel safe first
- See the math
- Understand the structure
- Build durable mastery

Math Magic® is a neuroscience-aligned, competency-based math model that strengthens conceptual understanding by regulating the nervous system first and teaching students to recognize the patterns that make math make sense.

How Math Magic® Aligns with Competency-Based Learning Indicators

COMPETENCY INDICATOR	WHAT IT LOOKS LIKE	HOW MATH MAGIC® DELIVERS
Learning aligns with how the brain works	Instruction activates natural learning systems	• Pattern recognition (brain's primary system) • Reduced cognitive load through color & structure • Visual anchors support working memory
Students understand why math works	Conceptual understanding drives skill development	• One visual connects operations, factors, multiples, fractions, ratios, proportions • Students see relationships vs. memorizing steps • Concepts transfer across units and grades
Progress based on mastery, not time	Students advance when ready, not by calendar	• Mastery shown through explanation & application • Multiple entry points for varied readiness • No stigma—same tool, different depth
Instruction adapts to learners	Flexible structures support individualized learning	• Works in whole-class, small-group, station formats • Supports self-paced & teacher-guided learning • Easy integration into existing models
Students take ownership of learning	Learners self-direct, self-monitor, and reflect	• Students self-check, self-correct, explain reasoning • Visual system builds independence & confidence • Success experiences reduce math anxiety
Vocabulary supports thinking	Academic language taught and practiced meaningfully	• Math vocabulary tied to visual meaning • Reduces language barriers for multilingual learners • Strengthens reasoning, discussion, performance
Learning environments reduce threat	Emotional safety enables cognitive engagement	• Predictable structure calms nervous system • Regulation precedes rigor • Students feel safe to think, explore, persist
All learners can engage meaningfully	Diverse learners access grade-level content	• Visual, kinesthetic, and verbal access points • Effective for neurodivergent learners • Focus on understanding—not speed/memorization