

Mathematics Instruction

Vision & Core Beliefs

Grades K–8 | 2026–2027

Our Vision: *Mathematics instruction at Endeavor Charter School is intentional, rigorous, and student-centered — grounded in evidence-based practice and designed to ensure deep understanding and success for every learner.*

OUR PURPOSE

Mathematics instruction at ECS is intentionally designed to develop deep conceptual understanding, strong problem-solving and reasoning skills, and procedural fluency that students can confidently apply to real-world situations. Instruction emphasizes meaning-making, mathematical discourse, and multiple representations so that all students understand why mathematics works — not just how to perform procedures.

Every instructional decision — from how we structure our lessons to how we assess and group students — is made in service of this purpose. The beliefs and principles below describe what that looks like in practice.

CORE BELIEFS

We believe effective mathematics instruction at ECS:

01 Prioritizes conceptual understanding before procedural efficiency.

Instruction begins with meaning, relationships, and mathematical structures. Procedures and algorithms are introduced only after students have explored concepts concretely and visually. We follow the Concrete–Representational–Abstract (CRA) progression in every unit: hands-on exploration comes first, followed by visual models, and finally symbolic notation. Even after abstract understanding is introduced, concrete and representational experiences remain embedded in instruction. Concrete exploration using manipulatives and real-world materials comes first. Representational work with drawings, diagrams, number lines, and visual models follows. Abstract symbolic work completes the arc — but never replaces the earlier stages. Hands-on and visual experiences remain woven throughout instruction even as students work abstractly.

We teach the "why" before the "how."

02 Develops mathematical language, reasoning, and representation.

Teachers explicitly teach academic vocabulary and hold students accountable for using precise mathematical language. Lessons are structured so students explain, justify, write, and represent their thinking using physical, visual, and symbolic models. Vocabulary is reinforced orally, visually through anchor charts and word walls, and in writing across all

grade levels. We avoid shortcuts, tricks, and mnemonics that bypass understanding in favor of language that builds it.

03 Positions students as sense-makers and thinkers.

Students do the majority of the thinking, talking, problem-solving, and writing in our classrooms. Teachers facilitate, question, and respond strategically rather than delivering information passively. We minimize note-taking in favor of discovery, and we design lessons with high Depth of Knowledge (DOK) tasks that require students to analyze, justify, and evaluate — not just recall.

Students are working more than teachers are talking.

04 Uses meaningful contexts and real-world applications as entry points.

Whenever possible, new concepts are introduced through word problems and real-world situations that activate prior knowledge and give purpose to mathematical learning. We teach students to analyze the situation in a problem rather than hunt for keywords, building genuine reasoning rather than surface-level pattern matching.

05 Intentionally incorporates productive struggle and error analysis.

Grappling with challenging problems is a sign of learning, not failure. Our lessons include deliberate opportunities for students to struggle productively, make mistakes, analyze misconceptions, and revise their thinking. Instruction consistently includes open-ended and multi-step problems, routine and non-routine tasks, multiple solution paths, and high-DOK questioning. Students are expected to justify their reasoning, compare strategies with peers, and evaluate the reasonableness of their answers. Both problem types — those with known solution paths and those that require creativity and persistence — are essential. We cultivate classrooms where errors are examined and discussed respectfully, and where multiple strategies and approaches are celebrated as evidence of mathematical thinking.

Mistakes are learning opportunities, not endpoints.

06 Maintains high expectations and rigorous thinking for all learners.

We plan instruction for our highest-level thinkers first, then scaffold access so all students can engage with grade-level mathematics. We do not offer remedial tracks. Instead, we differentiate within Tier 1 instruction through flexible small groups, targeted questioning, and responsive support — ensuring every student is growing, not just some.

07 Is guided by mathematical conversation and daily discourse.

Math Talk is a non-negotiable part of our daily routine. Structured discussion — number talks, think-pair-share, whole-class strategy sharing — makes student thinking visible and builds understanding through collaboration. Students are expected to explain their reasoning, listen to peers, and refine their thinking through conversation. Writing about math, including journals and written justifications, extends this discourse beyond spoken language. Students use complete sentences and academic vocabulary when explaining their thinking.

08 Builds fluency and retention through spiral review.

Learning is not a one-time event. We intentionally revisit previously taught concepts through interleaving, warm-up retrieval practice, and spiral review woven into daily instruction. Previously taught standards remain fair game for warm-ups, homework, and assessments. Fluency with number facts, estimation, and procedures is developed through frequent, purposeful practice — not isolated drill.

09 Is continuously informed by assessment data and student evidence.

Formative assessment is embedded in every lesson. Exit tickets, whiteboard checks, NC Check-Ins, IXL diagnostics, and common assessments all provide data that teachers use to group students flexibly, adjust pacing, target reteaching, address misconceptions, and extend learning for advanced students. Small group instruction occurs at least once per week per class, with grouping decisions driven by evidence — not assumption.

10 Is strengthened by a culture of teacher collaboration and shared ownership.

Our instructional practice is a collective endeavor. Through weekly grade-level meetings, monthly IMPACT sessions with our Instructional Coach, and co-planning and co-teaching experiences, we continuously refine our craft together. We share data, analyze student work, and hold each other to high standards — because the quality of our collaboration directly shapes the quality of our students' learning.

WHAT WE EXPECT STUDENTS TO BE ABLE TO DO

As a result of consistent, high-quality mathematics instruction, ECS students will:

✓	Understand mathematical concepts and relationships deeply, not just procedurally.
✓	Apply procedures accurately, efficiently, and with understanding of why they work.
✓	Break down, set up, and solve complex word problems across all domains.
✓	Communicate mathematical thinking clearly using precise vocabulary and multiple representations.
✓	Use multiple strategies flexibly and evaluate which approach is most efficient.
✓	Approach mathematics with confidence, perseverance, and genuine curiosity.
✓	develop mathematical confidence, curiosity, and a growth mindset through consistent routines that honor thinking over speed and understanding over answer-getting.

These beliefs and principles are not aspirations for the future — they are our commitments today. They guide every lesson we plan, every group we pull, every question we ask, and every conversation we have about student learning.