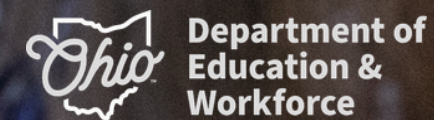




PROFESSIONAL DEVELOPMENT

Partnering With Families to Support
Math Learning for
Students With Disabilities

Wednesday, April 8, 2026



ANNOUNCEMENTS

Parent Mentor Needs Assessment

- Survey will close Friday, April 10th
- If you completed at the spring conference, you should not completed it again

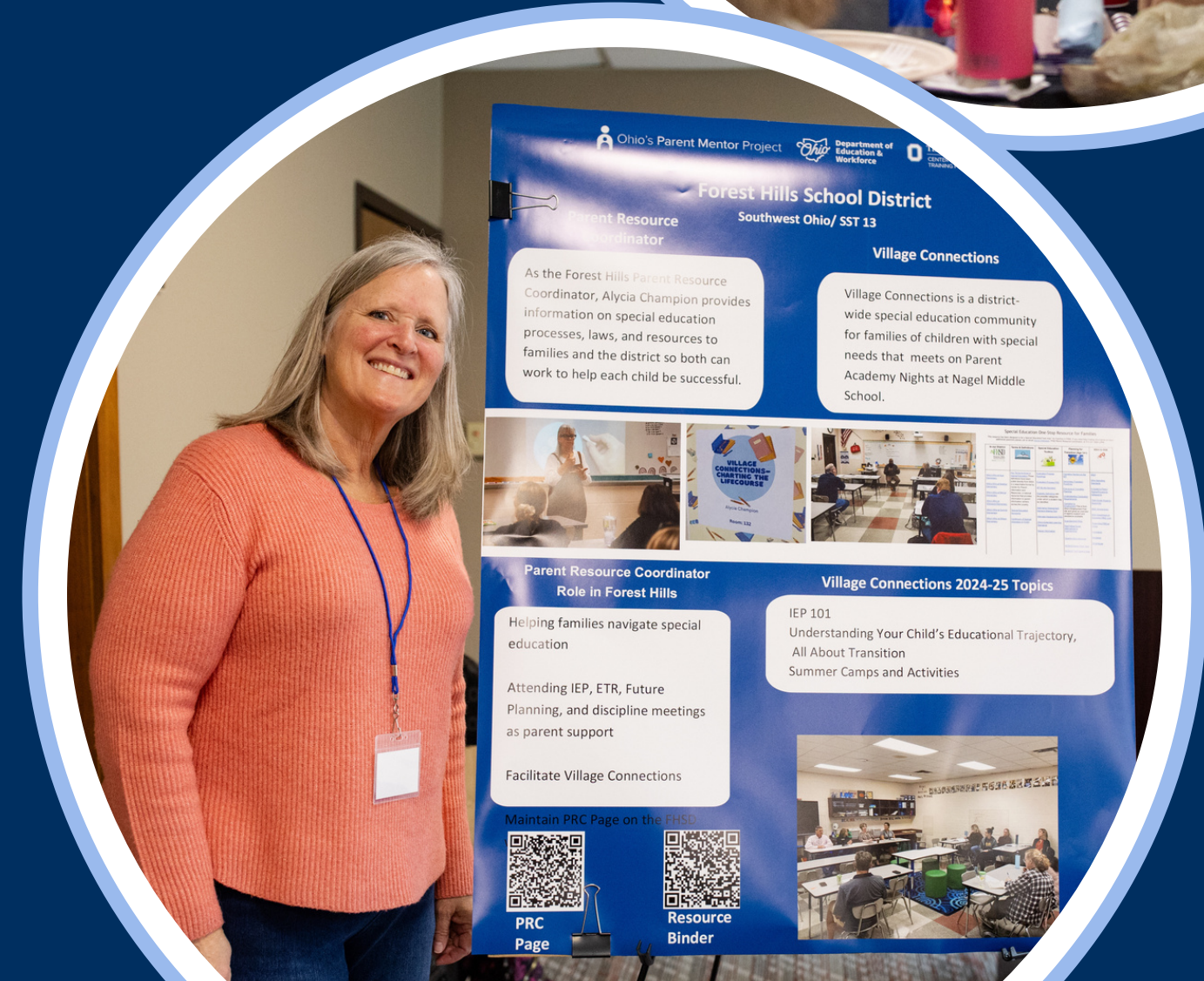
Parent Mentors Scan Here

EA Representatives Scan Here



Closeout Meeting & Needs Assessment Review

- Wednesday, May 6th, 10:00 am - 12:00 noon



Partnering With Families to Support Math Learning for Students With Disabilities

Amber Jordan

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Brian Bickley

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**Department of
Education &
Workforce**

Progress Toward Our Education Priorities



LITERACY: Literacy remains a top priority.

English language arts proficiency rates have seen a slight dip while Ohio schools are in the early stages of Science of Reading implementation. However, the statewide Performance Index has reached a five-year high, with students in the highest performance categories continuing to excel.



ACCELERATING LEARNING: Math proficiency is on the rise, with improvement at nearly every grade level.

Statewide math achievement has reached its highest level in five years. Continued focus on expanding access to high-quality math instruction is essential to sustaining growth and driving higher levels of student success.



STUDENT WELLNESS: Chronic Absenteeism is decreasing statewide.

Strengthening supports for students' well-being and addressing barriers to consistent attendance are central to ensuring academic progress.



WORKFORCE READINESS: More graduates earned industry credentials, college credit, and technical skills.

For the first time, the College, Career, Workforce, and Military Readiness is a rated component, and 61.4% of the Class of 2024 met at least one of the state's 11 readiness measures—an increase from 56.3% the year before.

SESSION NORMS

Listen

Listen with the intent to understand. Ask questions!

Focus

Focus on how this applies to your daily work. Imagine the possibilities!

Create

Create a safe place to air confusion and raise questions.

Support

Support ideas with evidence. Bring your vast experience to the table.
Support the participation of all.

Purpose:

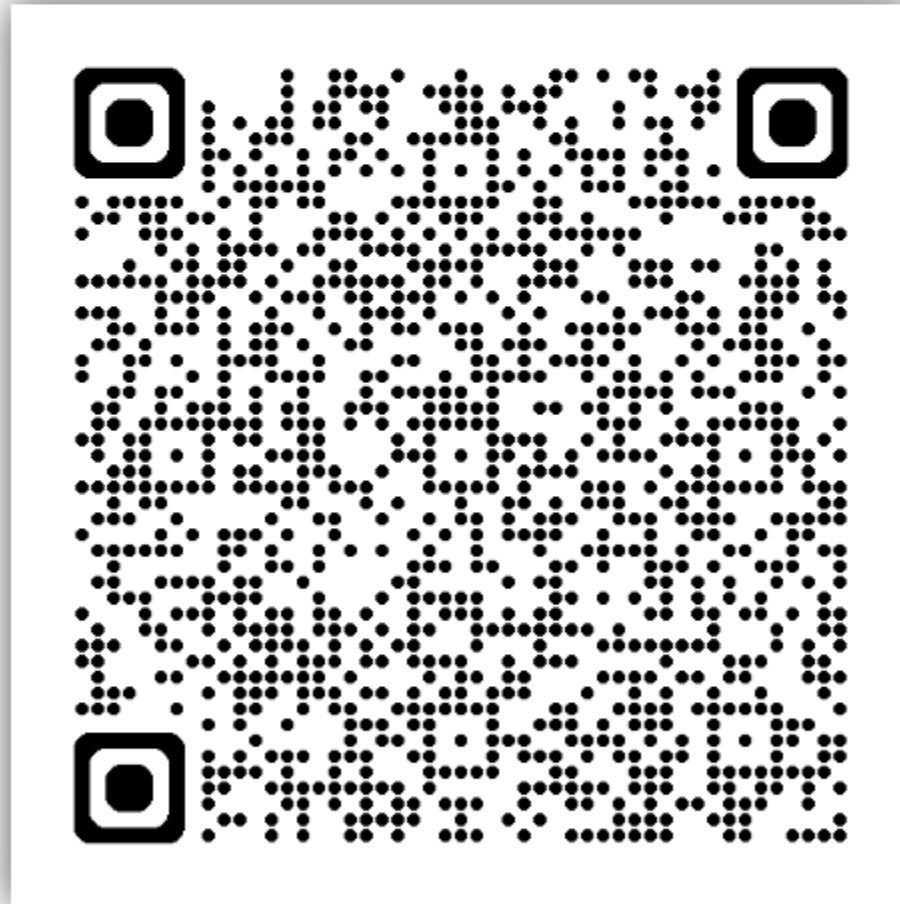
- *The purpose of this session is to help families understand Ohio's math vision and how to support their students with disabilities in learning grade-level math.*

Connections Before Content

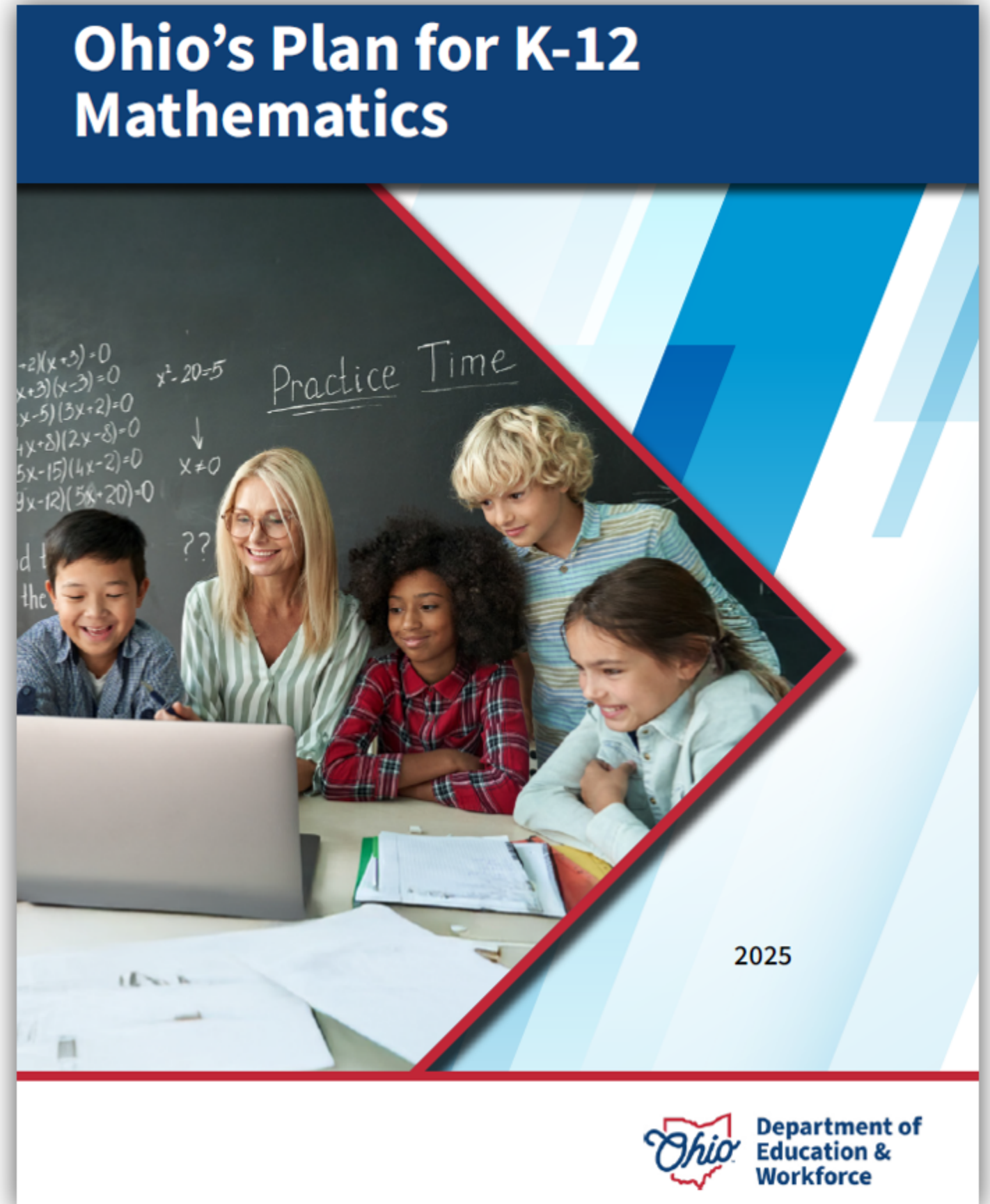
Mathematics has been at the center of every recorded human civilization (Sharma, 2024, p. xiii). We use math constantly from the mundane to the most complex cerebral tasks.



Ohio's Plan for K-12 Mathematics



education.ohio.gov/math



STRUCTURE OF OHIO'S PLAN

Why?

- **Section 1:** Why a Comprehensive Mathematics Plan is Needed

What?

- **Section 2:** Ohio's Mathematics Vision

How?

- **Section 3:** Ohio's Theory of Action
- **Section 4:** Strategies and Activities

Section 1: Why a Comprehensive Mathematics Plan is Needed

Math Proficiency in Ohio

Ohio's K-12 Mathematic Improvement Initiatives

Other Factors Influencing Math Performance

Section 2: Ohio's Mathematics Vision

The Importance of
Mathematics

A Shift Toward
Rigor

Ohio's Vision for
Mathematics
Instruction

OHIO'S VISION FOR MATHEMATICS INSTRUCTION

MATHEMATICAL TASK

How many different ways can you make 28?

MATHEMATICAL TASK DEBRIEF

As a parent mentor, what stood out to you about how this task could support a child's math thinking at home?

OHIO'S MATHEMATICS VISION

Ohio's vision is to empower ALL students with the confidence and ability to apply mathematical concepts, procedures, and reasoning, enabling students to thrive in a variety of contexts, life experiences, and career pathways.

Grade Level	Recommended Instructional Focus
Preschool	The mathematics domain in Ohio's Early Learning and Development Standards includes standards within the strands of Number Sense, Number Relationships and Operations, Geometry, and Measurement. It is essential that children leave preschool having developmental experiences with counting using the number sequence, as numbers are central to all of mathematics. Mathematics has many connections to the other domains of growth and development, such as language and the ability to recall information from memory. Mathematical ideas and skills developed through everyday experiences in early childhood serve as a foundation for later learning and everyday life.
Kindergarten	In Kindergarten, instructional time should focus on two critical areas: (1) representing and comparing whole numbers, initially with sets of objects; and (2) describing shapes and spaces.
Grade 1	In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes.
Grade 2	In Grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes.

Grade Level	Recommended Instructional Focus
Grade 3	In Grade 3, students instructional time should focus on five critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes. Students should be provided with abundant opportunities to explore these concepts using both manipulatives and mathematical symbols; and (5) solving multi-step problems.
Grade 4	In Grade 4, instructional time should focus on three critical areas: (1) developing an understanding and fluency with multi-digit multiplication and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, and particular angle measures.
Grade 5	In Grade 5, instructional time should focus on five critical areas: (1) developing fluency with addition and subtraction of fractions and developing an understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system, and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; (3) developing understanding of volume (4) modeling numerical relationships with the coordinate plane; and (5) classifying two-dimensional figures by properties

Grade Level	Recommended Instructional Focus
Grade 6	In Grade 6, instructional time should focus on five critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; (4) modeling numerical relationships with the coordinate plane; and (5) classifying two-dimensional figures by properties.
Grade 7	In Grade 7, instructional time should focus on five critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; (4) drawing inferences about populations based on samples; and (5) investigating chance.
Grade 8	In Grade 8, instructional time should focus on four critical areas: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence and understanding and applying the Pythagorean Theorem; and (4) working with irrational numbers, integer exponents, and scientific notation.
High School	High school instructional time should continue to focus upon the six major conceptual categories: (1) number and quantity; (2) algebra; (3) geometry; (4) functions; (5) modeling; and (6) statistics and probability. The degree of focus upon any specific topical area should correspond to the specific high school math course and the standards established for that subject area.

Concepts, Representations, and Strategies

Concepts

- What are the topics being learned?
- What is the specific focus of learning in this grade, in this topic, in this lesson?

Representations

- Manipulatives / physical models
- Pictures / Visuals
- Written Symbols
- Real-World situations / context
- Oral / written language

Strategies

- How are students using their representations to make sense of the concepts?

(How might you use these to move learning forward?)

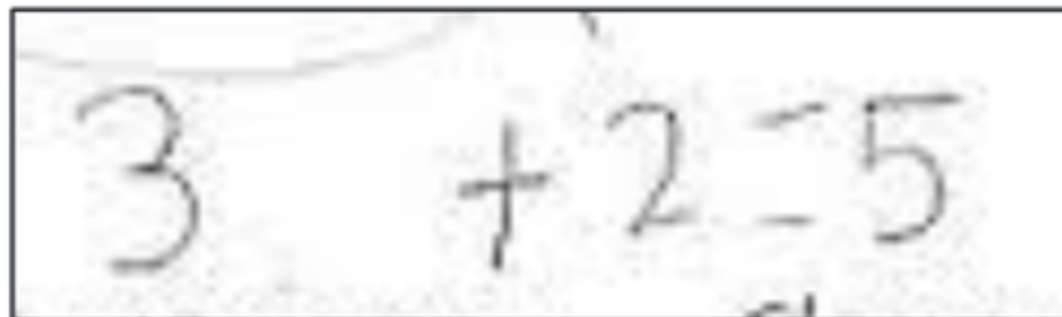
Kindergarten Example

Concepts

Counting:

- Knowing numbers are always counted in a certain order (i.e. by ones and tens)
- One number for each object counted
- Knowing the last number said tells “how many” in a collection (in a line, rectangular array, circle, or scattered)

Representations



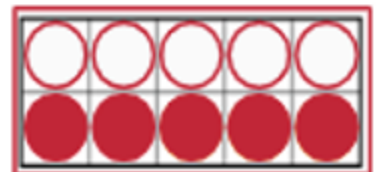
Strategies

Counting each set of items, then count the whole group restarting at 1.

Hold a number, then count on.

Skip count by fives.

“Just know” visualizing 10 frames



7th Grade Example

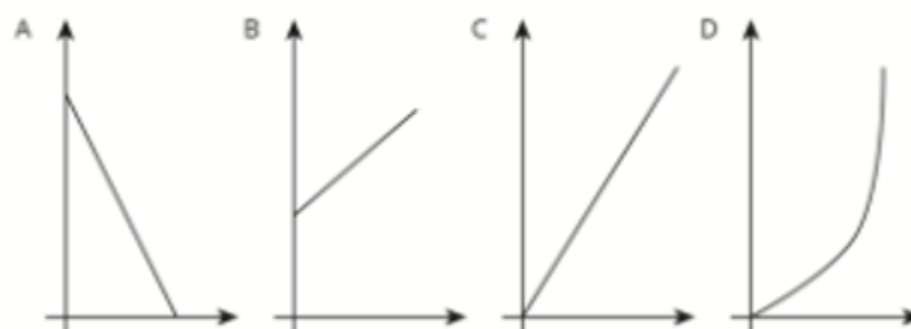
Concepts

Proportional relationships:

- Understanding that these are between two variables where their ratios are equivalent
- Knowing that when graphing, the graph of a proportional relationship is linear and the line must pass through the origin.
- Being able to represent a proportional relationship in a table, graph, equation and interpret it from a context

Representations

grape juice (cups)	peach juice (cups)
5	2
10	4
30	12
2.5	1



Gallons (x)	Miles Driven (y)	y/x "k"
8	224	$224/8 = 28$
10	280	$280/10 = 28$
4	112	$112/4 = 28$

$y = kx$

$y = 28x$

Strategies

Determining and calculating the constant in proportionality in any representation.

Determining if two ratios are equivalent by using prior knowledge of fractions.

Determining which representation of a proportional relationship would most easily give them the information they needed

Inspection: looking at structure of a graph and its features to determine if it's proportional

Effective Mathematics Teaching Practices

- Establish mathematics **goals** to focus learning.
- Implement **tasks** that promote reasoning and problem solving.
- Use and connect mathematical **representations**.
- Facilitate meaningful mathematical **discourse**.
- Pose purposeful **questions**.
- Build **procedural fluency** from conceptual understanding.
- Support **productive struggle**.
- **Elicit and use evidence** of student thinking.

What teachers do . . .



Standards for Mathematical Practice



What students do...

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

OHIO'S MATH PLAN SUPPORTS ALL STUDENTS BY:

- ✓ Providing all students the access to grade-level content through learning acceleration.
- ✓ Encouraging universal design, just-in-time supports, and I-MTSS practices.
- ✓ Empowering educators through targeted professional learning.
- ✓ Aligning with IDEA principles of inclusion, access, and progress in the general education curriculum.

HIGH LEVERAGE PRACTICES FOR STUDENTS WITH DISABILITIES (DOMAINS)

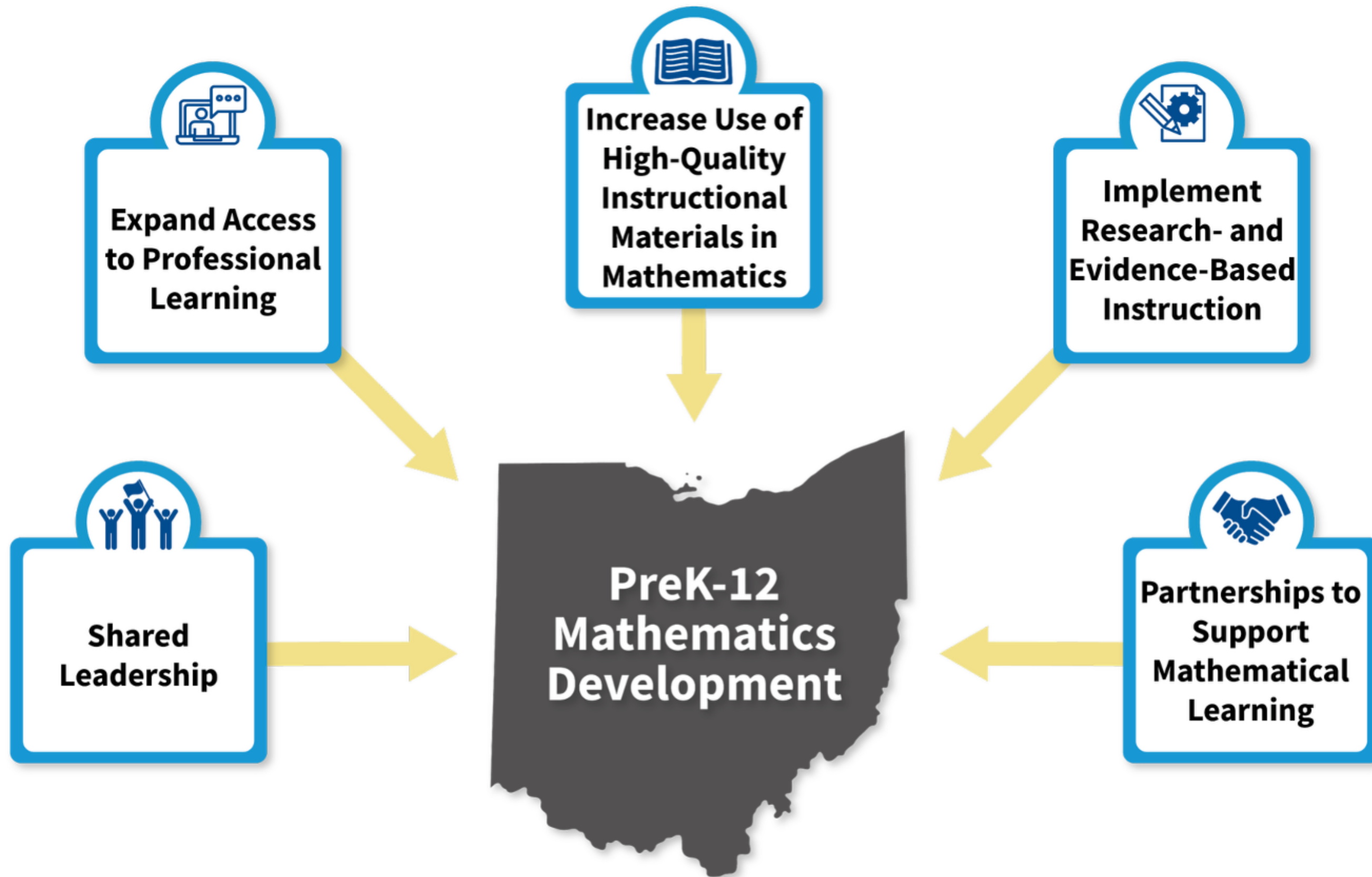
Collaboration

Data-Driven Planning

Instruction in Behavior and Academics

Intensify and Intervene as Needed

SECTION 3: OHIO'S THEORY OF ACTION



Theory of Action Component	Aligned High-Leverage Practices (HLPs)	Connection to Effective Math Instruction
 Shared Leadership	HLP 1–3 – Collaborate with professionals, families, and students	Builds shared responsibility between general and special education. Co-planning and co-serving create consistent instructional alignment.
 Expand Access to Professional learning	HLP 4, 6, 16 – Use multiple data sources; use assessment data to inform instruction; use explicit instruction	Strengthens educator capacity to deliver high-quality, data-informed math instruction across all tiers.
 Increase use of High-Quality Instructional Materials	HLP 7, 13, 19 – Organize environments; adapt curriculum; use assistive and instructional technology	Ensures all students access rigorous, standards-aligned math materials with appropriate adaptations and supports.
 Implement Research- and Evidence-Based Instruction	HLP 14–18 – Teach cognitive and metacognitive strategies; scaffold instruction; use flexible grouping; promote engagement	Embeds explicit, scaffolded math instruction and supports individualized SDI within general education contexts.
 Partnerships to Support Mathematical Learning	HLP 2, 8 – Partner with families; provide positive behavioral supports	Promotes collaboration with families and community to reinforce math learning and engagement.

UNDERSTANDING THE CONTINUUM OF SUPPORTS



Core Instruction (Tier 1)

- aligned to grade level expectations and standards
- implemented with integrity
- provided to all students

Strategic & Targeted Instruction (Tier 2)

- implemented with integrity
- provided to (a) at risk students and (b) students demonstrating proficiency
- prevent underachievement in academic areas

Intensive Instruction (Tier 3)

- Intensified instruction
- Provided to (a) at risk students and (b) students demonstrating proficiency
- address severe and persistent learning difficulties in academic areas
- prevent underachievement in academic areas

INTRODUCING MATHEMATICS IN THE HOME ANY AGE

SUPPORT YOUR STUDENT IN MATHEMATICS AT ANY AGE

OPPORTUNITIES TO INCORPORATE MATHEMATICS INTO EARLY LITERACY

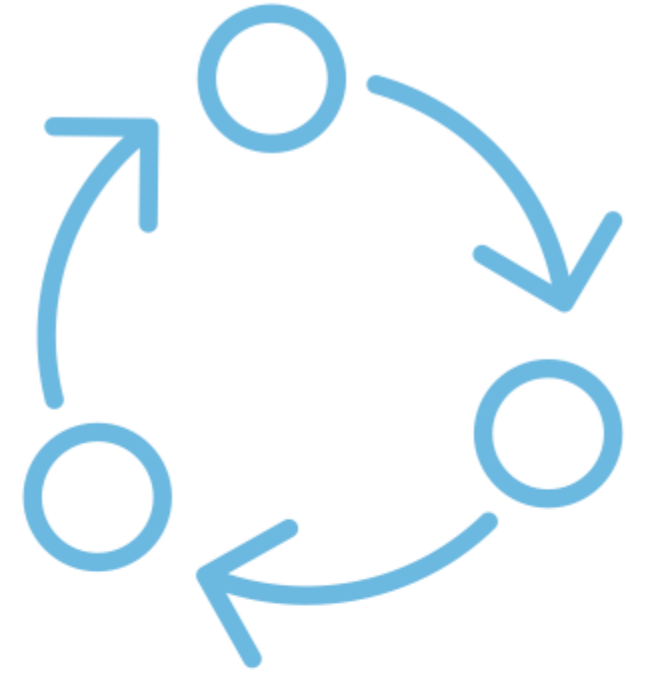
RESOURCES

- [Clothesline Math](#)
- [Fraction Talks](#) (Grades 3 and above)
- [Illustrative Mathematics Task](#)
- [Progression Videos](#)
- [Visual Patterns](#)
- [Which one does not belong?](#)
- [Zearn](#)

NEXT STEPS: WHAT ACTION(S) WILL YOU TAKE?

Based on today's session:

- What **learning** or **knowledge** can I use or share?
- What **process** or **system** can I use or replicate?
- What **product** or **resource** can I use or share?



From The Art of Coaching Teams by Elena Aguilar

QUESTIONS?

OHIO.ORG



THANK YOU!

Visit

education.ohio.gov/math

Email

Mathematics@education.ohio.gov



Thank you!

A copy of today's slides will be made
available on the Parent Mentor website

COMPLETE TODAY'S EVALUATION

go.osu.edu/ohiomath
or
SCAN THE QR CODE



Please do not hesitate to reach out for support.
We're here to help!

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