

Webinar Descriptions

Transitioning to the New Math Standards Webinars:

Transitioning to the New Math Standards: Grades K-2, Grades 3-5, Grades 6-8 or High School

In this webinar, we will examine the changes in grade level standards and how those changes will influence planning, instruction, and assessment.

Outcomes include:

- *How to effectively utilize Arizona Mathematics Standards Summary of Revisions Document.*
- *How to plan for changes in the Content Emphasis.*
- *How to address the balance of rigor in the math classroom.*
- *How to incorporate Arizona's new definition of fluency in your year-long plan.*

Table 1 - Addition & Subtraction Problem Types in K-2

This Webinar will examine addition and subtraction problem types from Table 1 from the Arizona Mathematics Standards. We will look at the development of solution strategies along with connections that students make in problem solving opportunities in the K-2 classroom.

Learning goals include:

- *Introduction to Table 1*
- *Learning about the different addition and subtraction problem types*
- *Understand student strategy development*
- *Share student work samples*

Table 2 – Multiplication and Division Problem Types in 3-5

This Webinar will examine multiplication and division problem types from Table 2 from the Arizona Mathematics Standards. We will look at the development of solution strategies along with connections that students make in problem solving opportunities in the 3-5 classrooms.

Learning goals include:

- *Introduction to Table 2*
- *Differentiating between discrete items and measurement problem types*
- *Understanding the relevance of equal group, arrays/area, and comparison problems*
- *Understand how problem types can influence student work*
- *How to guide students to share their work*

Time and Money in Grades 1-3

This webinar will explore the challenge of teaching clock reading and telling time in the early grades. Ideas and suggestions for working with money will also be shared. Learning goals for this training include:

- *Reading a clock*
- *Writing time*
- *Reading from analog and digital clocks*
- *Identifying coins*
- *Solving story problems with money*

Mathematical practices and Arizona Mathematics Standards will be embedded throughout the presentation.

Understanding Depth of Knowledge (DOK) in the Math Classroom K-12

Participants will:

- Differentiate among DOK levels 1-4
- Examine various tasks associated with different levels of thinking
- Compare difficulty with complexity in tasks.
- Determine how the complexity expectations in the standards align with AzMERIT blueprint complexity expectations.

Content Emphasis: Where to Focus Math Instruction K-8

Where should I focus my instruction? This webinar will examine the content emphasis for grades 3-8 and how it correlates to the Blueprints for our state assessment.

Participants will:

- Understand the importance of DOK when planning instruction
- Understand that not all content is created equally
- Examine content in clusters and how it relates to the AzMERIT Blueprints
- Examine classroom instructional time and the correlation to the AzMERIT Blueprints

Principles to Action: Mathematical Teaching Practices

Webinar: A Closer Look at Math Teaching Practices 1, 2, & 3: Goals, Implementing Tasks, Representations

In this webinar, we will take a closer look at Mathematics Teaching Practices 1, 2, and 3 from *Principles to Actions: Ensuring Mathematical Success for All*.

These teaching practices are:

Establish mathematics goals to focus learning: We will examine goals within learning progressions, and how the goals can guide instructional decisions.

Implement tasks that promote reasoning and problem solving: We will look at how engagement in solving and discussing tasks promote reasoning and problem solving. We will also determine how to choose a high quality task

Use and connect mathematical representations: To go along with the problem solving in practice #2, we will discuss how to engage students in making connections among math representations.

Webinar: A Closer Look at Math Teaching Practices 4, 5, & 6: Discourse, Purposeful Questions, Fluency.

In this webinar, we will take a closer look at Mathematics Teaching Practices 4, 5, & 6 from *Principles to Actions: Ensuring Mathematical Success for All*.

These teaching practices are:

Facilitate meaningful mathematical discourse: We will examine how to build effective math discourse in your math classroom.

Pose Purposeful Questions: We will look at how to use purposeful questions to assess and advance students' reasoning and sense making about mathematics.

Build Procedural Fluency from Conceptual Understanding: We will discover how to support students in becoming mathematically fluent.

Webinar: A Closer Look at Math Teaching Practices 7 & 8: Support productive struggle and evidence of student thinking

In this webinar, we will take a closer look at Mathematics Teaching Practices 7 and 8 from *Principles to Actions: Ensuring Mathematical Success for All*.

These teaching practices are:

Support Productive Struggle in Learning Mathematics: We will examine ways to provide students with opportunities to engage in productive struggle as they grapple with mathematical ideas and concepts.

Elicit and use Evidence of Student Thinking: We will look at ways to use evidence of student thinking to assess progress toward mathematical understanding and to continually adjust instruction to support learning by all students.

Best Practices for Instruction of Math Content:

Teaching Subtraction in K-2

This webinar will examine how students develop proficiency in subtraction from kindergarten through 2nd grade with an emphasis on developing student's understanding of the operation. Story problem types and expectations from the Arizona Mathematics Standards will be explored as well as strategies students use to solve subtraction story problems and computation problems.

Exploring Geometry in K-2

This webinar will examine developing proficiency in geometry with K through 2nd grade students. Shapes, both 2-D and 3-D, and partitioning will be addressed within each grade level expectation as indicated in the Arizona Mathematics Standards. There will be an emphasis on developing understanding beyond shape recognition.

Measurement in K-2

This webinar will examine developing proficiency in the measurement domain with kindergarten through 2nd grade students. Time, length, and money will be addressed within each grade level expectation. There will be an emphasis on developing understanding and application through solving story problems.

Teaching Place Value through Story Problems

This webinar will examine story problems through the lens of developing and extending place value understanding in 1st-3rd grade students. Solution strategies and problem types for solving addition, subtraction, and multiplication story problems will be used to show how place value can be supported and emphasized along with computation and fluency skills.

Development of Number Sense in K-2

This webinar is designed to assist educators in developing a deeper understanding of how young children learn mathematics. This will focus on the Learning Trajectory stages that support and develop conceptual understanding. Mathematical practices and the Arizona Mathematics Standards will be embedded throughout the presentation.

Development of fraction sense 3-5

Helping our students to reason and make sense of fractions is critical to mathematics in high school and beyond. In this webinar, we will:

- *Examine the progression of fraction understanding in our Arizona Math Standards*
- *Determine how to build meaning for fractions*
- *Experience the progression of student strategies for equal sharing*
- *Look at student strategies associated with math tasks*

Operations of fractions grades 3-5

This webinar will look at the expectations and progressions in the Arizona Math Standards. In this webinar, we will:

- *Examine the progression of fraction operations in our Arizona Math Standards*
- *Experience how to use estimation as a “thinking tool” to build meaning for adding and subtracting fractions*
- *Look at how to use whole number operations to help in understanding fraction operations*
- *Understand how appropriate partitioning influences understanding of multiplication of fractions*
- *Relate an area model for whole number multiplication to an area model for fraction multiplication*

Fraction equivalence and comparing fractions 3-5

Fraction equivalence and comparisons go hand in hand! This webinar will:

- *Examine the progression of fractions in 3-6 grades*
- *Solve problems that rely on understanding of fractions*
- *Examine underlying assumptions that happen in the math classroom that can confuse students*
- *Look at tasks that help create understanding of equivalent fractions*
- *Experience 3 strategies that students use in comparing fractions*

Statistics in Middle School

This webinar will focus on the importance of statistical thinking among our middle school students. We will examine the progression of the Statistics and Probability standards in 6-8 grades.

Participants will:

- *Differentiate between statistical thinking and mathematical thinking*
- *Examine the progression of learning based on standards in middle school statistics*
- *Solve grade-level appropriate statistical problems for 6-8 grades*

Ratio and Proportion

Participants will:

- *Define ratio*
- *Distinguish Equivalent Fractions from Equivalent Ratios.*
- *Examine ratio structures in tables, graphs, and equations.*
- *Understand how to assist students in transitioning from additive to multiplicative thinking.*
- *Examine proportional reasoning across grade levels.*

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