

We are pleased to be able to offer a range of professional learning for teachers from pre-K through high school this academic year!



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Contact Dee Crescitelli (cresciteld1@nku.edu)
with questions about course options.

GENERAL INTEREST

Family Math-VIRTUAL

Description: During our virtual sessions, we will explore research on family engagement and how to educate parents concerning math fluency and the current standards. Participants will explore family math resources and how to conduct a family math night event.

Participants will be given materials to conduct 2 family math nights-one per semester. We will meet together after hosting their math night to share our successes and takeaways.

Cost: **FREE– This course is for Kentucky mathematics educators only**

Duration: 8 virtual 90 minute sessions, via Zoom, 2 Family Math Night implementations

Schedule (click for registration info):

August 26, 2022 9:30-11:00am Eastern Time

Sept. 9, 2022; 9:30-11:00am Eastern Time

Sept. 23, 2022; 9:30-11:00am Eastern Time

Implementation of Math Night to occur before the end of the year.

Jan. 6, 2023; 9:30-11:00am Eastern Time (Reflection session to celebrate and share.)

Jan. 20, 2023; 9:30-11:00am Eastern Time

Feb. 3, 2023 ; 9:30-11:00am Eastern Time

March 3, 2023; 9:30-11:00am Eastern Time

Implementation of Math Night to occur before the end of April.

April 28th, 2023; 9:30-11:00am Eastern Time (Celebration Event to share successes.)

Math Fact Fluency-Hybrid

Description: Fluency in the basic facts for addition, subtraction, multiplication, and division is an essential goal for all students. Providing rich experiences founded in research is necessary to provide access and equity for all students. This course provides participants with routines, games, and assessments to lower student anxiety and increase agency. Participants will receive *Math Fact Fluency*, by experts Jennifer Bay-Williams and Gina Kling, laminated *Math Fact Fluency* games and materials needed to play them, along with strategies they can implement right away.

Cost: \$100 per participant

Duration: 4 sessions (2 in-person days & 2 half-day virtual sessions)

Locations:

Lexington (click for registration info):

Session 1: July 29, 2022 1:00-4:00pm Eastern Time (half-day virtual)

Session 2: Aug 25, 2022; 9:00am-4:00pm Eastern Time (full-day in-person)

Session 3: Sept. 21, 2022; 9:00-4:00pm Eastern Time (full-day in-person)

Session 4: Sept. 28, 2022; 1:00-4:00pm Eastern Time (half-day virtual)

Hopkinsville (click for registration info):

Session 1: Sept. 8, 2022 noon-3:00pm Central Time (half-day virtual)

Session 2: Sept. 28, 2022; 9:00am-4:00pm Central Time (full-day in-person)

Session 3: Nov. 2, 2022; 9:00am-4:00pm Central Time (full-day in-person)

Session 4: Dec. 8, 2022 noon-3:00pm Central Time (half-day virtual)

PRIMARY GRADES (K-2)

Foundations for Early Childhood (Pre-K)

Description: Foundations for Early Childhood Mathematics professional development course is for Preschool and Kindergarten teachers who teach in the state of Kentucky only. It features content developed by the Erikson Institute, leaders in early childhood education. This professional learning highlights the "Big Ideas" in early mathematics which include sets, number sense, counting, number operations, pattern, measurement and shape. Participants will learn how to spark children's mathematical learning through developmentally appropriate exploration, discussion and activity using high-impact, evidence-based strategies and children's literature which support the teaching and learning of early mathematics.

Cost: **FREE**

Duration: 8 half-day in-person sessions

[Louisville Cohort \(click for registration info\):](#)

Session 1: Sept. 9, 2022; 8:30am-11:30am Eastern Time

Session 2: Sept 30, 2022; 8:30am-11:30am Eastern Time

Session 3: Nov. 4, 2022; 8:30am-11:30am Eastern Time

Session 4: Dec. 2, 2022; 8:30am-11:30am Eastern Time

Session 5: Jan. 6, 2023; 8:30am-11:30am Eastern Time

Session 6: Feb. 3, 2023; 8:30am-11:30am Eastern Time

Session 7: March 3, 2023; 8:30am-11:30am Eastern Time

Session 8: March 31, 2023; 8:30am-11:30am Eastern Time

[Lexington Cohort click for registration info\):](#)

Session 1: Sept. 16, 2022; 8:30am-11:30am Eastern Time

Session 2: Oct. 28, 2022; 8:30am-11:30am Eastern Time

Session 3: Nov. 18, 2022; 8:30am-11:30am Eastern Time

Session 4: Dec. 16, 2022; 8:30am-11:30am Eastern Time

Session 5: Jan. 20, 2023; 8:30am-11:30am Eastern Time

Session 6: Feb. 17, 2023; 8:30am-11:30am Eastern Time

Session 7: March 17, 2023; 8:30am-11:30am Eastern Time

Session 8: April 21, 2023; 8:30am-11:30am Eastern Time



PRIMARY GRADES (K-2)

Explorations in the SEAL (Stages of Early Arithmetic Learning)

Intro Session– VIRTUAL

Description: The Stages of Early Arithmetical Learning (SEAL) describes a progression through which young children make sense of quantity, addition, and subtraction.

In this introductory session, participants will be introduced to the SEAL through the use of video exemplars and discussion.

Participants can extend the learning by attending one or both of the application sessions below.

Cost: FREE

Duration: 1 half-day session

[Intro Session \(click for registration info\):](#)

June 7, 2022; 9:00am - noon Eastern Time/8:00am—11:00am Central

Explorations in the SEAL (Stages of Early Arithmetic Learning) Application

Sessions – VIRTUAL

Description: The Stages of Early Arithmetical Learning (SEAL) describes a progression through which young children make sense of quantity, addition and subtraction.

In this follow-up session, participants will connect the SEAL to the Kentucky Academic Standards-Mathematics for EITHER Kindergarten or First Grade and explore instructional experiences that will support students in meeting those standards.

NOTE: Participants need to have completed the SEAL Intro Session in order to participate in the application sessions.

Cost: FREE

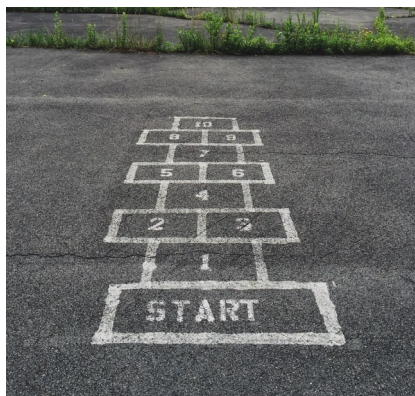
Duration: 1 half-day session

[Kindergarten Application Session \(click for registration info\):](#)

June 8, 2022; 9:00am - noon Eastern Time/8:00am—11:00am Central

[First Grade Application Session: \(click for registration info\):](#)

June 9, 2022; 9:00am - noon Eastern Time/8:00am—11:00am Central



PRIMARY GRADES (K-2)



AVMR PLUS

Description: Designed for elementary grades teachers and interventionists, participants will learn and practice assessments and teaching strategies for advancing students' foundational number knowledge, including identifying numerals, counting, addition, subtraction, multiplication, and division. Formally called KNPI (Kentucky Numeracy Project Intensive) course; participants will complete Add+Vantage Math Recovery (AMVR™) Courses 1 & 2, supplemented by additional resources and support.

AVMR™ PLUS Part 1 consists of AVMR™ Course 1 (completed by attending 8 virtual two-hour sessions) and a bonus KCM-designed in-person day where participants will receive additional materials and instructional resources. Topics covered include identifying numerals, counting, addition, and subtraction.

AVMR™ PLUS Part 2 consists of AVMR™ Course 2 (completed by attending 8 virtual two-hour sessions) and a bonus KCM-designed in-person day where participants will receive additional materials and instructional resources. Topics covered include place value, multi-digit addition & subtraction, and multiplication & division.

Cost: \$1000/participant for full course; \$500 for each part separately

Duration: Part 1: 8 virtual sessions & one in-person day (Lexington)

Part 2: 8 virtual sessions & one in-person day (Lexington)

NOTE: Participants are required to have completed AVMR™ Part one or AVMR™ Plus Part 1 in order to attend Part 2.

[Part 1 \(click for registration info\):](#)

Sessions 1&2: July 15, 2022; 9:00am-3:30pm Eastern Time (2 two-hour sessions w/lunch break)

Sessions 3&4: July 22, 2022; 9:00am-3:30pm Eastern Time (2 two-hour sessions w/lunch break)

Sessions 5&6: July 29, 2022; 9:00am-3:30 Eastern Time (2 two-hour sessions w/lunch break)

Session 7: September 9, 2022; noon-2:00pm Eastern Time (single two-hour session)

Session 8: September 16, 2022; noon-2:00pm Eastern Time (single two-hour session)

KCM Bonus Day: October 21, 2022; 9:00am– 4:00pm w/lunch break in-person

[Part 2 \(click for registration info\):](#)

All virtual sessions run 12:00-2:00pm Eastern Time

Sessions 1&2: November 2 & 4, 2022

Sessions 3&4: December 7 & 9, 2022

Sessions 5&6: January 18 & 20, 2023

Sessions 7&8: February 8 & 10, 2023

KCM Bonus Day: March 24, 2023; 9:00am– 4:00pm w/lunch break in-person

PRIMARY GRADES (K-2)

Comprehensive Course for Primary Grades –Hybrid

Description: This learning opportunity is designed for classroom, special education and mathematics intervention teachers of students in Grades K-2. Participants will engage in varied instructional strategies, and will acquire tools to assess, support, and advance students' mathematical reasoning and knowledge. Aligned to research-based teaching practices and Kentucky Academic Standards for Mathematics, topics will include counting and cardinality, numbers and operations in base ten, operations and algebraic thinking, conceptual place value, measurement and data, and math/literature connections. Participants will receive books, activities, and instructional materials, along with assessment strategies to identify and target student needs and misconceptions in early numeracy.

The course is divided into two parts; participants may choose to take just Part 1 or take both sections.

Part 1 Big Ideas: Mathematical Fluency & Number Sense and Computational Fluency to 100

Part 2 Big Ideas: Measurement, Time & Money, Algebraic Reasoning & Problem Solving
(must have completed Part 1 to participate in Part 2)

Cost: Part 1: \$400/participant; Part 2: \$400/participant;

Duration: Each part is 6 sessions (combination of virtual and in-person)

Locations:

Lexington Cohort:

Part 1 (click for registration info):

Sessions 1 & 2: Sept. 13-14, 2022; noon-3 ET (2 half-day sessions)
Session 3 & 4: Sept. 27-28, 2022; noon-3 ET (2 half-day sessions)
Session 5: Oct. 19, 2022; 9:00-4:00 ET (in-person)
Session 6: Nov. 16, 2022 9:00-4:00 ET (in-person)

Hopkinsville Cohort:

Part 1 (click for registration info):

Sessions 1 & 2: Sept. 20-21, 2022; noon-3 CT (2 half-day virtual sessions)
Sessions 3 & 4: Oct. 25-26, 2022; noon-3 CT (2 half-day sessions)
Session 5: Nov. 15, 2022, 2022; 9:00-4:00 CT (in-person)
Session 6: Dec. 6, 2022, 9:00-4:00 CT (in-person)

Lexington Cohort:

Part 2 (click for registration info):

Session 1: Jan. 11, 2023; 9:00-4:00 (in-person)
Sessions 2 & 3: Feb. 7-8, 2023; noon-3 (2 half-day sessions)
Sessions 4 & 5: Feb. 28- March 1, 2023; noon-3 (2 half-day sessions)
Session 6: March 28, 2023; 9:00-4:00 (in-person)

Hopkinsville Cohort:

Part 2 (click for registration info):

Session 1: Jan. 10, 2023; 9:00-4:00 (in-person)
Sessions 2 & 3: Jan. 31-Feb. 1, 2023; noon-3 CT (2 half-day sessions)
Sessions 4 & 5: Feb. 21-22, 2023; noon-3 CT (2 half-day sessions)
Session 6: March 21, 2023; 9:00-4:00 CT in-person)



PRIMARY GRADES (K-2)

Explorations in Geometry (K-5)-VIRTUAL

Description: Geometry is a critical area spanning all elementary grade levels with connections to measurement, operations and algebraic thinking, and fractions.

Participants will:

- attend 2 half-day synchronous virtual sessions.
- receive the book "Teaching Student-Centered Mathematics" for grades K-2 or 3-5 (choose a grade band during registration) and hands-on materials.
- deepen their understanding of the Van Hiele Model of geometric reasoning and the Kentucky Academic Standards for Mathematics Geometry standards.
- explore both virtual and hands-on instructional tasks for developing geometric reasoning.

Cost: \$50/participant

Duration: 1 virtual day

[Schedule \(click for registration info\):](#)

March 21, 2023; 9:00am-noon, 1:00-4:00pm Eastern time (2 half-day sessions on one day)

Statistics as a Progression– VIRTUAL

Description: Statistics is gaining recognition as an important component of mathematics education, from the primary grades to middle and high school continuing to post-secondary. During this course, participants will deepen their understanding of statistics and see the standards and skills of their grade level as part of a progression starting in primary and continuing into middle and high school. Essential statistics standards in the Kentucky Academic Standards for Mathematics begin in first grade and continue through all grade levels with the goal of developing student ability to comprehend and deal with variability and statistical information in the world around them and participate effectively in an information-laden society. The KCAS- Mathematics also position students as doers of statistics as they take part in the production, interpretation, and communication of data. Participants will explore instructional strategies for developing statistical understanding and receive virtual resources for use with students.

The intended audience for this course is 2nd through 6th Grade teachers.

Cost: **FREE**

Duration: two half-day sessions

[Schedule \(click for registration info\):](#)

Session 1: Feb. 15, 2023; noon - 3:00pm Eastern Time

Session 2: March 15, 2023; noon - 3:00pm Eastern Time

PRIMARY GRADES (K-2)

AVMR 1-VIRTUAL

Description: This course is built around Add+Vantage Math Recovery™ and is designed for elementary grades teachers to learn and practice assessments and teaching strategies for advancing students' foundational knowledge of whole number topics such as number words and numerals, structuring numbers, addition and subtraction, and topics that affect the development of future mathematical understanding. The topics and domains covered often appear later on as holes in understanding for older struggling students.

This course is for Elementary Teachers/Coaches who teach in the state of Kentucky only.

Cost: \$500/participant

Duration: 8 two-hour sessions

[Session Dates \(click for registration info\):](#)

August 4, 2022; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session)
August 11, 2022; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session)
August 18, 2022; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session))
August 25, 2022; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session)
Sept. 1, 2022; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session)
Sept. 8, 2022; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session)
Sept. 15, 2022; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session)
Sept. 22, 2022; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session)

AVMR 2-VIRTUAL

Description: This course is built around Add+Vantage Math Recovery™ to prepare teachers to expand and deepen their knowledge and understanding of the mathematical development for all students by implementing diagnostic assessments for multiplication and division and place value understanding.

This course is for Elementary Teachers/Coaches who teach in the state of Kentucky only.

Participants must have completed AVMR 1 training in order to participate.

Cost: \$500/participant

Duration: 8 two-hour sessions

[Session Dates \(click for registration info\):](#)

Jan. 5, 2023; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session)
Jan. 12, 2023; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session)
Jan. 19, 2023; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session))
Jan. 26, 2023; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session)
Feb. 2, 2023; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session)
Feb. 9, 2023; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session)
Feb. 16, 2023; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session)
Feb 23, 2023; 4:30-6:30pm Eastern Time/ 3:30-5:30pm Central Time (two-hour session)

Mastering Manipulatives (K-2) Hybrid

Description: Manipulatives can be a powerful learning tool to help students discover and represent mathematical concepts. This course explores ways to increase conceptual understanding through the use of concrete and virtual manipulatives. We will support this learning with discussions on connecting representations and integrating research based instructional strategies. Participants will walk away with manipulatives for their classroom and ideas on how to use them effectively.

Cost: \$100/participant

Duration: 3 Sessions (1 in-person day & 2 half-day virtual sessions)

[Hopkinsville cohort \(click for registration info\):](#)

Aug. 24, 2022; noon-3:00 Central Time (half-day virtual session)

Aug. 31, 2022; 9:00am-4:00pm Central Time (in-person)

Sept. 7, 2022; noon-3:00 Central Time (half-day virtual session)



INTERMEDIATE GRADES (3-5)

Explorations in Number Talks & Routines Grades 2 & 3- Hybrid

Description: This course provides an opportunity for classroom teachers of students in Grades 2 and 3 to learn strategies and acquire tools to advance students' mathematical reasoning. Aligned to research-based teaching practices and the Kentucky Academic Standards for Mathematics, topics will include addition, subtraction and place value from the NBT and OA standards; the use of instructional routines including number talks; and the use of manipulatives, visual models and number lines. Participants will receive books, activities and instructional materials including a classroom number line. Participants will be expected to attend all 3 days of the course.

Cost: \$200/participant

Duration: 4 Sessions (2 in-person days and 2 half-day virtual sessions)

Locations:

Berea (click for registration info):

Sessions 1 & 2: July 25-26, 2022; 9:00am-4:00pm Eastern Time (2 in-person days)

Sessions 3 & 4: September 22, 2022; 9:00am-noon & 1:00-4:00pm Eastern Time (two half-day sessions on one day)

Hopkinsville (click for registration info):

Session 1: Sept. 13, 2022; 9:00am-4:00pm Central (1 in-person day)

Session 2: Oct. 18, 2022; 9:00am-4:00pm Central Time (1 in-person day)

Session 3: Nov. 9, 2022; noon– 3:00pm Central Time (half-day virtual session)

Session 4: Nov. 10, 2022; noon-3:00pm Central Time (half-day virtual session)

Explorations in 3rd Grade Fractions

Description: Grade 3 is a critical year in which students should develop strong conceptual foundations for understanding fractions. During this session, teachers will explore hands-on activities and tasks aligned to the Kentucky Academic Standards for Mathematics designed to support students in developing conceptual understandings of fractions as numbers. Teachers will deepen their understanding of the third grade fractions standards, seeing them as part of a progression starting in first grade and continuing into middle school. Participants will receive prepared materials and manipulatives, including fraction squares, Cuisenaire rods and KNP-IG activities.

Cost: \$100/participant

Duration: 1 in-person day

Locations:

Lexington (click for registration info):

Jan. 25, 2023; 9:00am-4:00pm Eastern Time (1 in-person day)

Hopkinsville (click for registration info):

Feb. 28, 2023; 9:00am-4:00pm Central Time (1 in-person day)

INTERMEDIATE GRADES (3-5)

Explorations in Number Talks & Routines Grades 4 & 5 Hybrid

Description: This course provides an opportunity for classroom teachers of students in Grades 4 & 5 to learn strategies and acquire tools to advance students' mathematical reasoning. Aligned to research-based teaching practices and the Kentucky Academic Standards for Mathematics, topics will include addition, subtraction, multiplication, division and place value (NBT and OA standards); the use of instructional routines including number talks; and the use of manipulatives, visual models and number lines. Participants will receive books, activities and instructional materials including a classroom number line. Participants will be expected to attend all 3 days of the course.

Cost: \$300/participant

Duration: 6 Sessions (2 in-person days & 4 half-day sessions)

Locations:

[Berea \(click for registration info\):](#)

Sessions 1 & 2: July 7-8, 2022; 9:00am-4:00pm (2 in-person days)

Sessions 3 & 4: Sept. 14, 2022; 9:00-noon & 1:00-4:00pm Eastern Time (2 half-day sessions on one day)

Sessions 5 & 6: Sept. 28, 2022; 9:00-noon & 1:00-4:00pm Eastern Time (2 half-day sessions on one day)

[Louisville \(click for registration info\):](#)

Sessions 1 & 2: July 26 & 27, 2022; 9:00am-4:00pm Eastern Time (2 in-person days)

Session 3 & 4: Sept. 6-7, 2022; 1:00-4:00pm Eastern Time (2 half-day sessions)

Sessions 5 & 6: Sept. 13-14, 2022; 1:00-4:00pm Eastern Time (2 half-day sessions)

Explorations in 4th and 5th Grade Fractions

Description: Intermediate grades are a critical time in which students are expected to develop an understanding of fractions as numbers and make sense of fraction operations. During this three-day session, teachers will explore instructional strategies such as the use of manipulatives, fraction models (including number lines) and rich tasks. Teachers will deepen their understanding of the Kentucky Academic Standards for Mathematics, particularly the grades 4 and 5 fractions standards for number and operation, seeing them as part of a progression starting in first grade and continuing into middle school. Participants will be provided with a variety of books and manipulatives.

Cost: \$200/participant

Duration: 3 days (2 in-person days & 2 half-day sessions)

Locations:

[Berea \(click for registration info\):](#)

Sessions 1 & 2: Nov. 16-17, 2022; 9:00am-4:00pm (2 in-person days)

Sessions 3 & 4: Jan. 26, 2023; 9:00-noon & 1:00-4:00pm Eastern Time (2 half-day sessions on one day)

[Louisville \(click for registration info\):](#)

Session 1: Oct. 5, 2022; 9:00am-4:00pm (in-person day)

Session 2: Oct. 6, 2022; 9:00am-4:00pm Eastern Time (in-person day)

Session 3: Dec. 7, 2022; 1:00-4:00pm Eastern Time (half-day virtual session)

Session 4: Dec. 8, 2022; 1:00-4:00pm Eastern Time (half-day virtual session)

INTERMEDIATE GRADES (3-5)

Explorations in Geometry (K-5)-VIRTUAL

Description: Geometry is a critical area spanning all elementary grade levels with connections to measurement, operations and algebraic thinking, and fractions.

Participants will:

- attend 2 half-day synchronous virtual sessions.
- receive the book "Teaching Student-Centered Mathematics" for grades K-2 or 3-5 (choose a grade band during registration) and hands-on materials.
- deepen their understanding of the Van Hiele Model of geometric reasoning and the Kentucky Academic Standards for Mathematics Geometry standards.
- explore both virtual and hands-on instructional tasks for developing geometric reasoning.

Cost: \$50/participant

Duration: 2 half-day sessions

Schedule (click for registration info):

March 21, 2023; 9:00am-noon, 1:00-4:00pm Eastern time(2 half-day sessions on one day)

Statistics as a Progression– VIRTUAL

Description: Statistics is gaining recognition as an important component of mathematics education, from the primary grades to middle and high school continuing to post-secondary. During this course, participants will deepen their understanding of statistics and see the standards and skills of their grade level as part of a progression starting in primary and continuing into middle and high school. Essential statistics standards in the Kentucky Academic Standards for Mathematics begin in first grade and continue through all grade levels with the goal of developing student ability to comprehend and deal with variability and statistical information in the world around them and participate effectively in an information-laden society. The KCAS- Mathematics also position students as doers of statistics as they take part in the production, interpretation, and communication of data. Participants will explore instructional strategies for developing statistical understanding and receive virtual resources for use with students.

The intended audience for this course is 2nd through 6th Grade teachers.

Cost: FREE

Duration: two half-day sessions

Schedule (click for registration info):

Session 1: Feb. 15, 2023; noon - 3:00pm Eastern Time

Session 2: March 15, 2023; noon - 3:00pm Eastern Time

MIDDLE GRADES (6-8)

Routines for Reasoning– Middle Grades (5-8) Hybrid

Description: This course provides an opportunity for classroom teachers of students in Grades 5 through 8 to learn strategies and acquire tools to advance students' mathematical reasoning. Aligned to research-based teaching practices and the Kentucky Academic Standards, this course will use instructional routines to give participants specific and repeatable designs for learning that support both the teacher and students in the classroom. Reasoning routines for the middle grades are designed to improve student problem-solving, build crucial mathematical thinking habits, and improve classroom discourse.

Cost: FREE

Duration: 5 Sessions (1 in-person day & four 90-minute virtual sessions)

[Louisville Cohort \(click for registration info\):](#)

July 18, 2022; 9:00am-4:00pm Eastern Time (in-person)

Follow-up sessions (participants may select after school or during school option):

Sept. 13, 2022; 4:00-5:30pm Eastern(90 minutes virtual)

Sept. 27, 2022; 4:00-5:30pm Eastern(90 minutes virtual)

Oct. 18, 2022; 4:00-5:30pm Eastern (90 minutes virtual)

Nov. 1, 2022; 4:00-5:30pm Eastern (90 minutes virtual)

Sept. 27, 2022; noon-3:00pm Eastern (half-day virtual)

Nov. 1, 2022 noon-3:00pm Eastern (half-day virtual)

(each of these combines two of the after school sessions)

Building Numeracy with Middle Grades Students (5-8) Hybrid

Description: We know that students develop their mathematical reasoning skills over time and at different rates- and that the past year has created instructional gaps due to the time available for math instruction in different pandemic teaching situations. This year-long, in-depth course provides teachers with information and materials to enable them to strengthen mathematics instruction by building from students' current funds of knowledge. Participants will learn teaching strategies for helping students develop the more sophisticated reasoning needed for middle grades mathematics with the goal of improving student access to grade-level content.

Cost: FREE

Duration: 10 Sessions (2 in-person days and 8 half-day virtual sessions)

[Louisville Cohort \(click for registration info\):](#)

June 21-22, 2022; 9:00am -4:00 pm Eastern Time (2 in-person days)

Aug. 23, 2022; noon-3:00pm Eastern Time (half-day virtual)

Sept. 20, 2022; noon-3:00pm Eastern Time (half-day virtual)

Oct. 25, 2022; noon-3:00pm Eastern Time (half-day virtual)

Nov. 15, 2022; noon-3:00pm Eastern Time (half-day virtual)

Dec. 13, 2022; noon-3:00pm Eastern Time (half-day virtual)

Jan. 24, 2023; noon-3:00pm Eastern Time (half-day virtual)

Feb. 21, 2023; noon-3:00pm Eastern Time (half-day virtual)

March 14, 2023; noon-3:00pm Eastern Time (half-day virtual)

Modeling WITH Mathematics (6-8)

Description: Modeling with mathematics is one of the most misunderstood Standards for Mathematical Practice, yet it is essential for ALL students to master. Participants will

- experience an instructional routine that builds students' capacity to make sense of models and to develop questions to ask themselves when modeling.
- learn about designs for interaction that build opportunities for students to develop mathematical language and process the ideas and concepts of modeling.

Participants will receive a book of routines for fostering mathematical reasoning and other materials to support them in engaging students in mathematical modeling.

Cost: FREE

Duration: 4 half-day virtual sessions

[Schedule click for registration info:](#)

Jan. 19, 2023; 3:45-6:30pm (half-day virtual)

Feb. 9, 2023; 3:45-6:30pm (half-day virtual)

March 2, 2023; 3:45-6:30pm (half-day virtual)

March 23, 2023; 3:45-6:30pm (half-day virtual)

Statistics as a Progression– VIRTUAL

Description: Statistics is gaining recognition as an important component of mathematics education, from the primary grades to middle and high school continuing to post-secondary. During this course, participants will deepen their understanding of statistics and see the standards and skills of their grade level as part of a progression starting in primary and continuing into middle and high school. Essential statistics standards in the Kentucky Academic Standards for Mathematics begin in first grade and continue through all grade levels with the goal of developing student ability to comprehend and deal with variability and statistical information in the world around them and participate effectively in an information-laden society. The KCAS- Mathematics also position students as doers of statistics as they take part in the production, interpretation, and communication of data. Participants will explore instructional strategies for developing statistical understanding and receive virtual resources for use with students.

The intended audience for this course is 2nd through 6th Grade teachers.

Cost: FREE

Duration: two half-day sessions

[Schedule \(click for registration info\):](#)

Session 1: Feb. 15, 2023; noon - 3:00pm Eastern Time

Session 2: March 15, 2023; noon - 3:00pm Eastern Time

HIGH SCHOOL

Culturally Responsive Teaching and High School Mathematics— VIRTUAL

Description: This course provides an opportunity for classroom teachers of students in Grades 9-12 to learn strategies and acquire Culturally Responsive Teaching tools to embed in their classrooms. Aligned to research-based teaching practices from Zaretta Hammond's Culturally Responsive Teaching and the Brain, NCTM's Catalyzing Change for High School, and KAS, participants will explore lesson tasks that include calculus, algebra, and geometry topics as well as, understand and create mathematics lessons for social justice. Participants will receive books, instructional materials, and will be expected to attend all six sessions of the course. Sessions will be fully virtual, after school, and start in October.

Cost: FREE

Duration: 6 half-day sessions- 2 hour synchronous w/ 1 hour asynchronous work

[Schedule \(click for registration info\):](#)

Oct. 12, 2022; 4:15-6:15pm Eastern Time (half-day virtual)

Oct. 13, 2022; 4:15-6:15pm Eastern Time (half-day virtual)

Oct. 19, 2022; 4:15-6:15pm Eastern Time (half-day virtual)

Oct. 20, 2022; 4:15-6:15pm Eastern Time (half-day virtual)

Nov. 2, 2022; 4:15-6:15pm Eastern Time (half-day virtual)

Nov. 3, 2022; 4:15-6:15pm Eastern Time (half-day virtual)

High School Modeling— VIRTUAL

Description: This course provides an opportunity for classroom teachers of students in Grades 9-12 to learn, understand, apply the modeling process as well as the standards for mathematical practice for students. Participants will explore lesson tasks that include algebra and statistics topics as well as create high yield tasks that incorporate student mathematical practice for modeling. Participants will receive digital materials and will be expected to attend all six sessions of the course.

Cost: FREE

Duration: 6 half-day sessions- 2 hour synchronous w/ 1 hour asynchronous work

[Schedule \(click for registration\):](#)

Dec.14, 2022; 4:15-6:15pm Eastern Time (half-day virtual)

Dec. 15, 2022; 4:15-6:15pm Eastern Time (half-day virtual)

Jan. 11, 2023; 4:15-6:15pm Eastern Time (half-day virtual)

Jan. 12, 2023; 4:15-6:15pm Eastern Time (half-day virtual)

Feb.1, 2023; 4:15-6:15pm Eastern Time (half-day virtual)

Feb. 2, 2023; 4:15-6:15pm Eastern Time (half-day virtual)