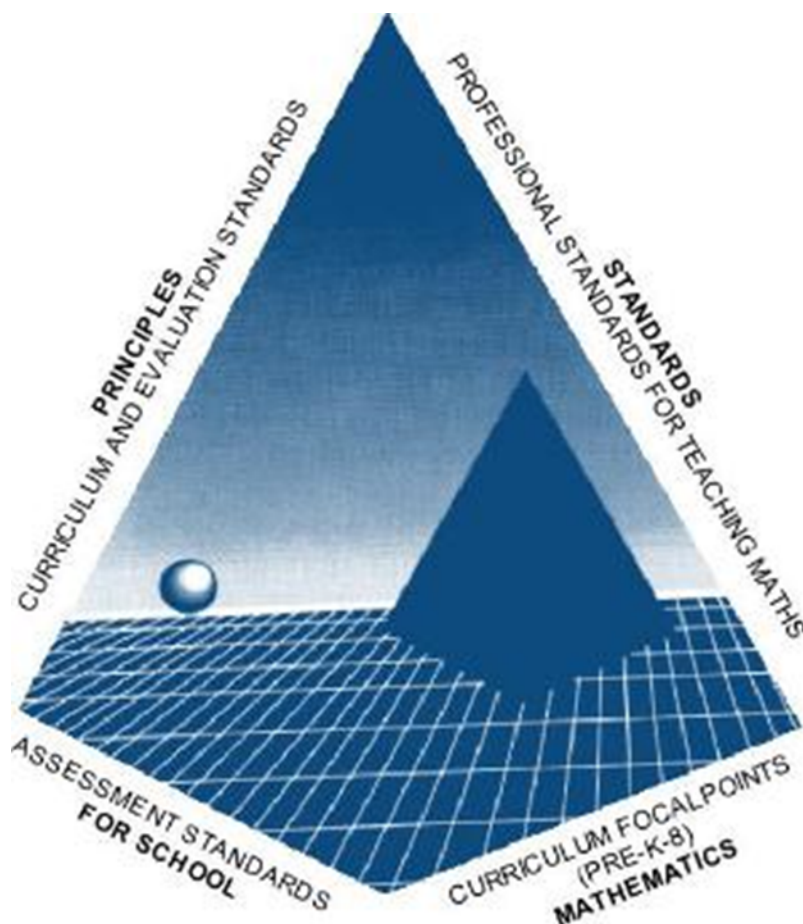


Southern Illinois University Carbondale

is Proud to Present

***The 38th Annual Illinois Council of Teachers of Mathematics Conference -
Southern Section***

Common Core State Standards for Mathematics Standards, Processes, and Topics



Thursday, February 15, 2024

JOHN A. LOGAN COLLEGE, HANCOCK CONFERENCE CENTER

Conference Chairperson

Cheng-Yao Lin, Southern Illinois University Carbondale

Program Chairperson

Kyle Harlow, Herrin High School

Kelly Koberstein, Carbondale Middle School

Assistant to Program

Kuan-Chun Chen, Kai-Ni Chu, & Yun-Chi Tsou, Southern Illinois University Carbondale

Conference Coordinator

Rebecca Dycus, Southern Illinois University Carbondale

CONFERENCE SCHEDULE

All conference activities will take place in the Hancock Conference Center located in F-wing of the main facility.

8 – 9am

Check-In and Continental Breakfast

Starting at 8am, staff will be available to check in participants who registered prior to the conference. On-site registration will be available for educators who were unable to register prior to the event.

Continental Breakfast

Coffee & Tea
Variety Mini Bagels & Cream Cheese
Brownies
Mixed Berry Yogurt
Whole Fruit: Bananas, Apples, Oranges

8:20 – 8:50am

Welcome Social

Get reacquainted with your colleagues and find out what has happened since last year's conference. Be sure to sign in and out of the session to earn .5 Professional Development units, a sign-in sheet will be available near the Check-in table. Participants who attend all sessions will earn a total of 5.0 Professional Development (PD) units.

9 – 10am

Session I

Multiple sessions available

10:10 – 11:10am

Session II

Multiple sessions available

11:20am – 12:20pm

Session III

Multiple sessions available

12:30 – 2pm

Luncheon & Guest Speaker Dr. Bob Mann

Banquet Room

SESSION I

(9:00 – 10:00am)

1. Fact Fluency Frenzy

Room *F104*

Grades K-5

Maura Brueggeman, Whiteside School District 115

Do your students struggle with fact fluency? Does it send you into a frenzy? In this session, we will learn some fun, easy-to-use strategies and games for improving fact fluency. As well as discuss some tools for assessing foundational and derived facts.

2. Early Algebraic Thinking: Foundation for Conceptual Understanding

Room *F105*

Grades K-5

Albert Vilalta, Innovamat

Why is Algebra such a struggle? Can we do anything to change this at earlier stages? In this session, we'll explore how we can build early algebraic and computational thinking. Through low-floor/high-ceiling hands-on activities, we'll explore how we can gradually introduce ideas like change, variable or function. Be ready to struggle productively and discuss the learnings! You'll leave with practical takeaways for your classroom.

3. Visualizing Math with Polypad Free Virtual Manipulatives

Room *F106*

Grades K-5

Adam Poetzel, University of Illinois

Seeing math helps learners make sense of math. Polypad is a free tool that provides teachers with colorful, interactive, and easy-to-use virtual manipulatives that bring PreK-8 math concepts to life. Bring a laptop to this session so you can explore and learn about the plethora of visualization options available to engage your students in rich conversation and sense-making.

4. What can I do with Edia?

Room *F103*

Grades K-8

Greg Gierhart, Murray State University

Edia is a free web resource teachers can use to help reinforce math concepts their students are learning. Teachers will learn how to set up classes, create assignments, create reports and techniques to use with the students to help with engagement.

5. Mirroring the Multiplier

Room *F109*

Grades 6-8

William W. McNeary, III, Ph.D., Southeast Missouri State University

Have you tried to model a fair share division resulting from a negative multiplier? Integer operations can "blow up" some multiplication and division models and require changes in the "rules" for many others. Using a double number line to model multiplication and division allows for a consistent transition from whole numbers to integers with no need to change the rules (although a slight shift in mindset is required when encountering a negative multiplicand). Drop in and take a look at how double number lines work.

6. The Interplay of Mathematics and Playing Card Magic

Room *F111*

Grades 6-12

Al Otto, Ph.D. & Allison M. Kroesch, EdD, Illinois State University

Often times, we associate learning "tricks" when solving mathematics problems. Fortunately, just like magic, there is always an explanation for what appears to be a trick. In our presentation, we will discuss the intersectionality of magic and mathematics through the use of playing cards.

7. Connecting Arithmetic, Algebra, and Geometry

Room *C113A-Terrace Dining Room*

Grades 6-12

Craig W. Roberts, Ph.D., Southeast Missouri State University

We will explore some concepts studied in the elementary grades, such as regrouping and the shapes of basic geometric figures, and then apply these concepts to essential skills and understandings students need in algebra and geometry to solve equations and to develop the quadratic formula.

8. STEM & Our Military: Real-life Connections & Classroom Activities for Teaching Core Math Concepts

Room *F118*

Grades 6-12

Kelly Wamsler Remijan, Illinois Council of Teachers of Mathematics (ICTM)

6-12th grade educators plus teacher educators will discover STEM connections across all branches of the military (Combat Vehicles - GPS - Drones - Aircraft - SONAR - Carriers +) that relate to math concepts (Area-RatiosSolving Equations, Graphing, Functions, Circles,+). Attendees will acquire classroom activities to engage students with real-life examples that enhance instruction, inspire learning, & promote opportunities for students. Attendees will receive a FREE electronic guide with lots of resources!

9. Maximizing The Power Of Assessments

Room *F119*

Grades 6-12

Keenan Clark & Jacob Towers, Carterville High School

For many, grading is mundane and time consuming. How can you make this task more valuable and less cumbersome? Keenan Clark and Jacob Towers (co-creators of The Skills Based Classroom) would like to share some ideas regarding assessments that will have an immediate impact on student learning and help teachers maximize their time.

10. Who's doing the math?

Room *F110*

Grades 6-12

Jo C Summers, Herrin Junior High School

Practical ways to increase student involvement in your classroom and their own learning. Students learn by doing, not by watching. In this presentation, I'll go over how I utilize questioning and technology to ensure it's the students doing the math. In current times, fewer and fewer students are doing work outside of the classroom. Therefore, we must maximize the learning and practice they do within our classroom. Attendees should bring a laptop, smartphone, or internet-connected device.

11. Here's Looking at You, Eclipse!

Room *F112*

Grades K-8

Josh Lemons, Herrin Junior High School

On April 8, 2024 a total solar eclipse will cross Southern Illinois. This presentation is meant to provide information to share and activities to be done in classrooms leading up to the big event.

SESSION II

(10:10 – 11:10am)

1. Incorporating Patty Paper Activities to Facilitate Discovery of Geometric Concepts

Room *F104*

Grades 6-12

David Forbes, Robinson High School

In this session, participants will be introduced to Patty Paper Geometry activities developed by Michael Serra. These activities are designed for students to visually discover mathematical relationships, including invariant geometric properties of midpoints, angle bisectors, transformations, and more. Participants will get hands-on experience with several of the activities.

2. Enhancing Mathematical Processes through Rich Math Tasks

Room *F105*

Grades K-5

Albert Vilalta, Innovamat

When we consider curriculum alignment, the focus is often solely on content. However, what about the mathematical processes and the practices which are also emphasized in the CCSS? What are rich tasks and how can we facilitate them to nurture such practices? In this hands-on workshop, we will explore geometry and early algebra activities and discuss how to manage them effectively. Embrace productive struggle and leave with practical insights for your classroom.

3. What's the deal with Dyscalculia?

Room *F103*

Grades K-12

Greg Gierhart, Murray State University

Dyscalculia is often confused with math anxiety. Dyscalculia is a learning challenge that causes trouble with math. Dyscalculia can make it hard for kids to understand math concepts or do tasks that involve math. This session will focus on how to help students who struggle with who receive poor grades and mathematics. Participants will walk away with strategies to use in their classroom to help students who struggle with mathematics

4. Making Sense of Fractions

Room *F106*

Grades 3-5

Craig Cullen, Illinois State University

In this session we will work on a hands-on task designed to help students make sense of fractions through units and conversions. We will examine student work on the task and make explicit connections to CCSSM Standards. Come ready to work!

5. The Golden Ratio: Explore the Beauty of Mathematics

Room *F109*

Grades 6-8

Ho-Feng Chueh, Ph.D. Candidate, Southern Illinois University Carbondale

One of the most common questions students ask is, "Where can we use this in the future?" Integrating the math content we teach with real-life experience would make students more curious and motivated to learn. This proposal will introduce teaching methods and activities designed to help elementary teachers incorporate the concepts and applications of the golden ratio into their daily teaching practices.

6. Students Can Understand Place Value

Room *C113A–Terrace Dining Room*

Grades K-5

Cheryl Ann Lubinski, Ph.D., Illinois State University

We will discuss why students might struggle with place value concepts and what might be done about improving them from pre-K to Grade 5.

7. From Confusion to Clarity: Algebraic Fraction Operations Explained

Room *F111*

Grades 6-8

Kuan-Chun Chen, Ph.D. Candidate, & Yun-Chi Tsou, Southern Illinois University Carbondale

This workshop focuses on algebraic fraction operations, primarily emphasizing simplification, addition, and subtraction, whether with common or different denominators. Presenters will address students' common misconceptions in these areas and analyze where these errors originate. Attendees will actively engage in group problem-solving sessions, working with ready-to-use problem sets related to these topics.

8. Building Math Skills & Making Math Connections Across the Curriculum

Room *F118*

Grades K-5

Kelly Wamser Remijan, Illinois Council of Teachers of Mathematics (ICTM)

Teachers will discover math connections and hands-on activities that can help students develop math skills as well as connect mathematical concepts to science, social studies, engineering, art, and everyday play involving: trees, catapults, candy, balls, flags, forts, helicopters, rockets, etc. Math concepts include: counting, addition/subtraction/multiplication/division, polygons, circles, 3D shapes, nets, geometric analysis, data collecting/making graphs, perimeter, area, volume, diameter, fractions, angles, measurement, etc. All attendees will receive a FREE electronic guide with resources.

9. Math Motivated: Crafting Productive Discussions

Room *F119*

Grades 6-12

Michelle Murphy, Mascoutah School District 19

Implementing problem-based instructional tasks can be daunting for a new or veteran educator. In this session, participants will gain knowledge in having a set of anticipated student responses, a place to record student thinking, a plan for who will share their thinking and a structure for sharing to occur. This includes the "talk moves" necessary to facilitate students making the mathematical connections that lead to true understanding and relevance of mathematics in real-world situations.

10. Mobile App Design Using MIT App Inventor

Room *F110*

Grades 9-12

Lingguo Bu, Ph.D., Southern Illinois University Carbondale

The MIT App Inventor (AI, <https://ai2.appinventor.mit.edu>) is an open-access visual app development environment, appealing to school students and teachers. The speaker discusses the coding tools in AI and the process of app development using math and art examples. App design also allows students to gain access to powerful ideas of computational thinking as well as mathematics.

SESSION III

(11:20am – 12:20pm)

1. Gamifying Math Practice in Your Elementary Classroom

Room *F112*

Grades K-5

Bobbi Webster, Zeigler-Royalton Elementary/Junior High School

What is gamification and how can you make it work in your classroom? This session will give you the information and resources you need to get started using hands-on math games right away. Let's help our students learn to love math!

2. 5+1 Practices In a Thinking Classroom

Room *F119*

Grades K-5

Brendan Scribner, M.Ed, Exemplars Mathematics

Join me as we model and explore using Exemplars performance tasks framed within a "Thinking Classroom." We'll practice launching a task, and understanding how to mobilize knowledge using random groups and vertical thinking spaces. As a learning facilitator, I'll practice using the 5+1 Practices for Orchestrating Productive Discussions.

3. Delta Math RTI Works!

Room *F103*

Grades K-12

Greg Gierhart, Murray State University

Delta Math RTI is a free resource that will help your students achieve mathematics. Diagnostic screeners, benchmarks, assignments, and technology support for any mathematics grades K-high school. Participants will leave with all the resources of Delta Math RTI to help their students succeed in mathematics.

4. Students Can Understand Fractions

Room *C113A–Terrace Dining Room*

Grades K-5

Cheryl Ann Lubinski, Ph.D., Illinois State University

We will discuss why students might struggle with fraction ideas and what might be done from pre-K to grade 5 to help them.

5. Tricking kids into knowing their Facts!

Room *F109*

Grades 6-12

Tanjanika Foster, Collinsville Unit District #10

How do you learn? Are you a visual learner? Do you require a lot of repetition? Well, so do our students! Join me in this session to find quick and easy ways to get your students more interactive with your lessons. This is a session that will focus heavily on math but can be modified for any subject. I will discuss games that I use in my classroom that really get my kids involved in our day to day lessons. So bring an electronic device and notebook to be a part of the fun.

6. Using Stories to Teach Statistics in Middle and High School

Room *F111*

Grades 6-12

Jie Shi Liew, Ph.D. Candidate, Southern Illinois University Carbondale

Statistics can be challenging to children due to its abstract nature and complex concepts. This presentation shares how storytelling can assist teachers in making statistics more relevant to children's daily activities. We will provide some engaging visual stories and a simple lesson plan.

7. Comparing Radians and Degrees

Room *F106*

Grades 9-12

Craig Cullen, Illinois State University

In this session we will work through a GeoGebra activity focused on comparing radians and degrees as units for measuring angles. We will connect the process to descriptions of angle measures as written in the CCSSM. Bring a device to follow along!

8. Maximizing Learning through Vertical Teams (Grades 6–14)

Room *F110*

Grades 6-12

Linda Blanco & Tracey Adams, Joliet Junior College, Southeastern University

This session will provide incentive for discussion leading to ongoing communication between secondary and post-secondary math educators. We will strive to improve students' use of mathematics in the next stages of education and life.

9. College of Business Math Expectations

Room *F118*

Grades 9-12

Gregory DeYong, Ph.D., Southern Illinois University Carbondale

Students without adequate preparation in mathematics are at a severe disadvantage when faced with expectations of business classes and business careers. Technological advances (computer programs, artificial intelligence, data mining, etc.) only exacerbate this problem. We will review current (and future) mathematics requirements for college business students.

Luncheon
12:30 – 2:00pm
Conference Center Banquet Room

Presiding.....**Cheng-Yao Lin**

Lunch Menu

Soup

(Tomato Basil, Chicken Noodle)

Sandwiches/Wraps

*Chicken /Hot Smoked Chicken /Hot Steak & White Cheddar on Croissant
Veggie Spinach /Chicken Ceasar Wrap*

Salads

(House Salad with Ranch & Italian Dressing)

Chips

Chocolate Chip Cookies

Ice Tea /Lemonade /Soda /Water

Greetings from ICTM**Craig Cullen**
ICTM President,
University of Illinois

Introduction of Speaker.....**Kyle Harlow**
Herrin High School

Luncheon Speaker**Dr. Bob Mann**
Past ICTM President, Western Illinois University

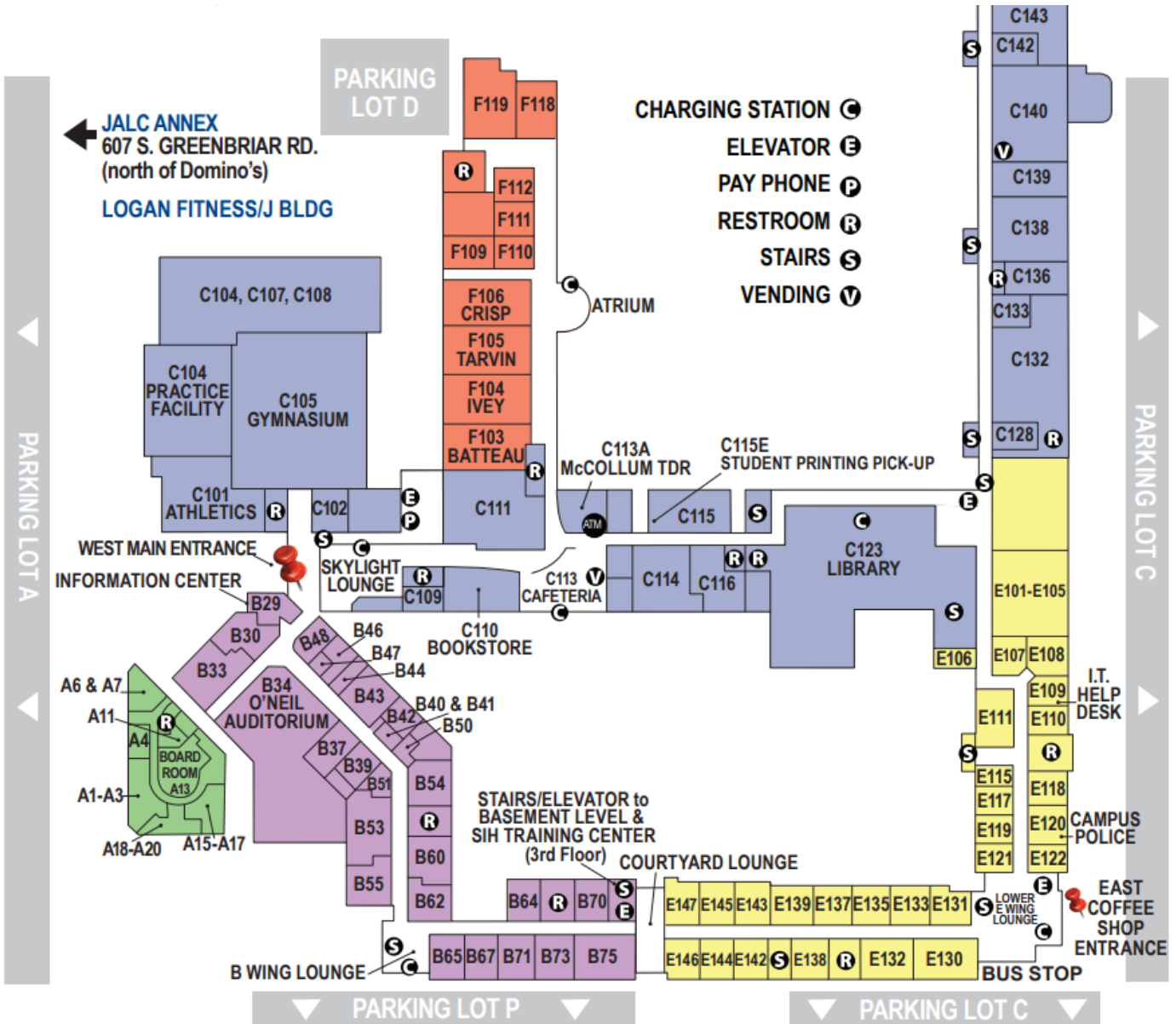
Tasks and Talk; and Tip

There is an abundance of amazing math resources online as well as a plethora of guidelines, frameworks, and standards for your math classrooms. These are all valuable but can also be overwhelming. This presentation will try to link and summarize those messages in one, easy to remember, all-encompassing goal: Tasks and Talk. Together we will explore a variety of engaging tasks as examples of this goal and discuss a few practical tips for you and your students. Experience math activities and discourse that are both enlightening and entertaining while focusing on Tasks and Talk; Work and Words; and Growth and Grins!

Thank you for attending today. We hope you enjoyed the sessions and learned new techniques you can implement in your classroom.

Continuing Professional Development Unit documentation is available at the check-in table.

JOHN A. LOGAN COLLEGE MAIN CAMPUS FIRST FLOOR



Save the Date

The 39th Annual ICTM Conference will be
Thursday, February 16, 2025.

