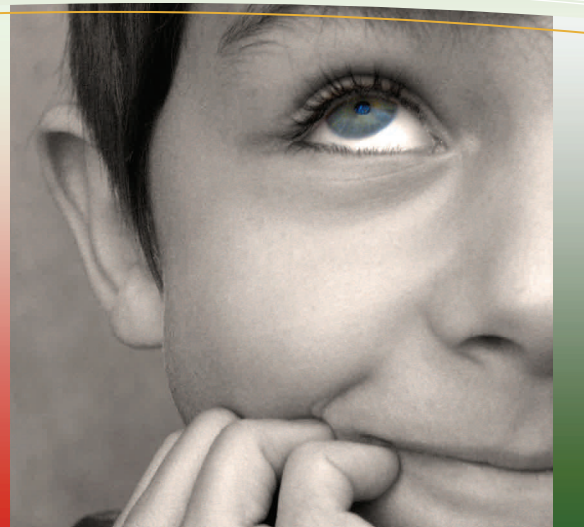




KENTUCKY CENTER FOR MATHEMATICS



2010 KCM Conference

**February 4-5, 2010
Frankfort, KY**

Implementing the New Math Standards





Welcome to the 2010 KCM Conference

The Kentucky Center for Mathematics' staff takes great pleasure in welcoming you to the 2010 KCM Conference. It is our hope that the conference provides you the opportunity to share your expertise with others, and to learn from your peers. The Kentucky Center for Mathematics remains committed to supporting mathematics instruction throughout the Commonwealth by offering a variety of professional development opportunities that truly focus on effective ways to support and develop educators. Facilitating teacher growth and learning is of paramount importance to us.

Enjoy the Conference!

*Alice Gabbard
Jonathan Thomas
Kirsty Fleming*

*The KCM Staff
Jim Justice
Laura Bristol
Julia Sullivan*

*Cindy Maggard
Gary Palmer
Bill Nostheide*

About KCM

Drawing on the expertise and research of mathematics educators and mathematicians, the Kentucky Center for Mathematics supports diverse teacher and student populations across the Commonwealth by facilitating the development of mathematical proficiency, power for future success, and enjoyment of teaching and learning mathematics.

Diagnostic Intervention



The goal of the state mathematics diagnostic intervention program is to expand the capacity of teachers to assess a child's current status and adjust instruction accordingly.

Mathematics Coaching



The goal of the state mathematics coaching program is to train coaches to assist their peers in taking instructional ideas and translating them into actions that improve student learning.

Adult Education



The goal of the adult education program is to improve the knowledge, skills, and practices of adult educators so they may more effectively teach a diverse student population.

Conference Schedule

<i>Wednesday, February 3rd</i>	
6:30 p.m. – 7:30 p.m.	Early Conference Check-in

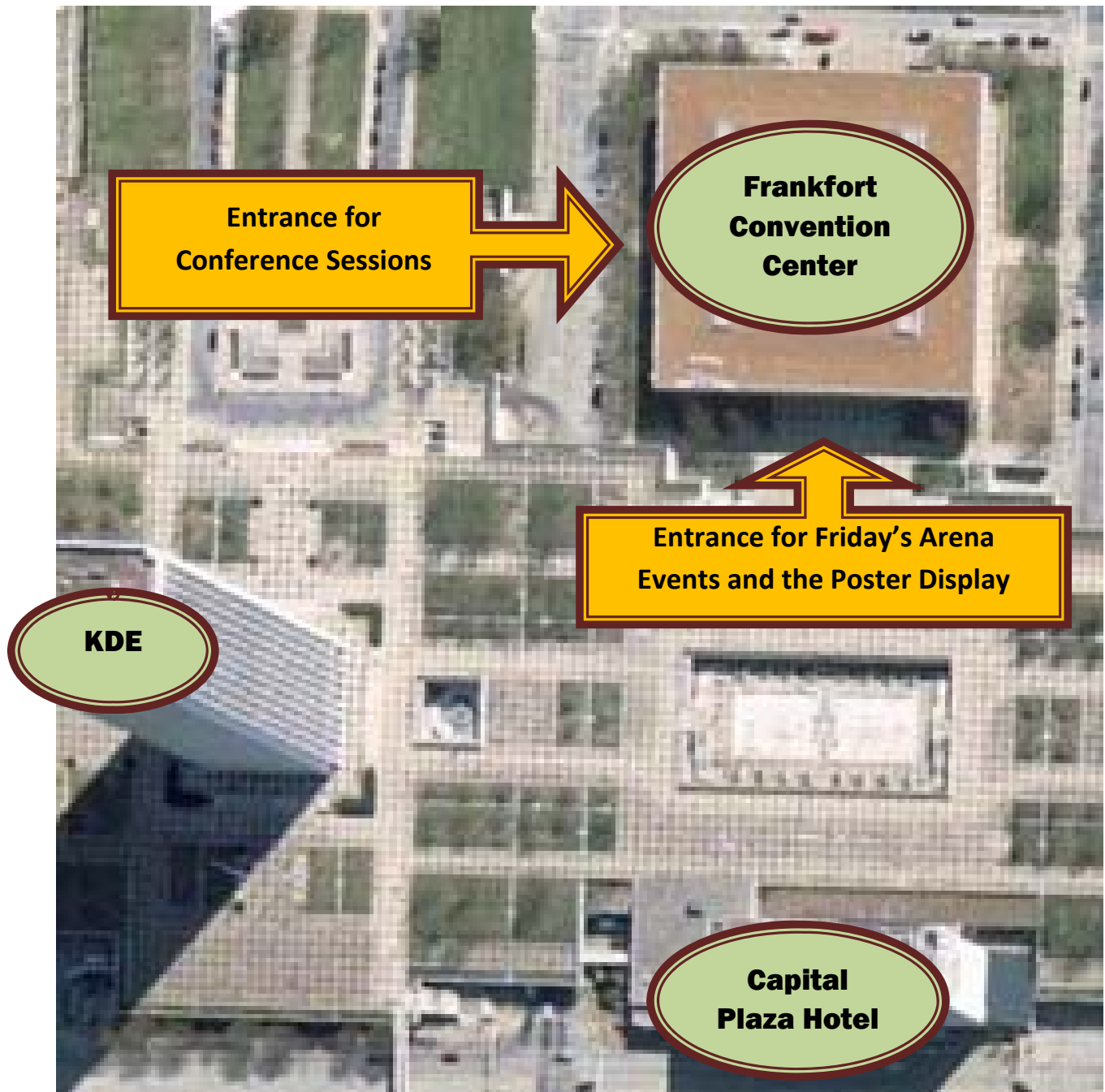
<i>Thursday, February 4th</i>	
7:00 a.m. - 8:30 a.m.	Conference Check-in
8:30 a.m. – 9:45 a.m.	Session 1
9:45 a.m. – 10:00 a.m.	Break / Travel
10:00 a.m. – 11:15 a.m.	Session 2
11:15 a.m. – 12:45 p.m.	<i>Lunch</i>
12:45 p.m. – 2:00 p.m.	Session 3
2:00 p.m. – 2:15 p.m.	Break / Travel
2:15 p.m. – 3:30 p.m.	Session 4

<i>Friday, February 5th</i>	
7:30 a.m.- 8:30 a.m.	Conference Check-in
8:30 a.m. – 9:45 a.m.	Session 5
9:45 a.m. – 10:00 a.m.	Break / Travel
10:00 a.m. – 11:15 a.m.	Session 6
11:30 a.m. – 1:30 p.m.	<i>Banquet/Luncheon</i>
1:45 p.m. – 3:00 p.m.	Session 7

My Conference Planner

Day	Session	Room	Title
THURSDAY	1		
	2		
	3		
	4		
FRIDAY	5		
	6		
	7		

Conference Map



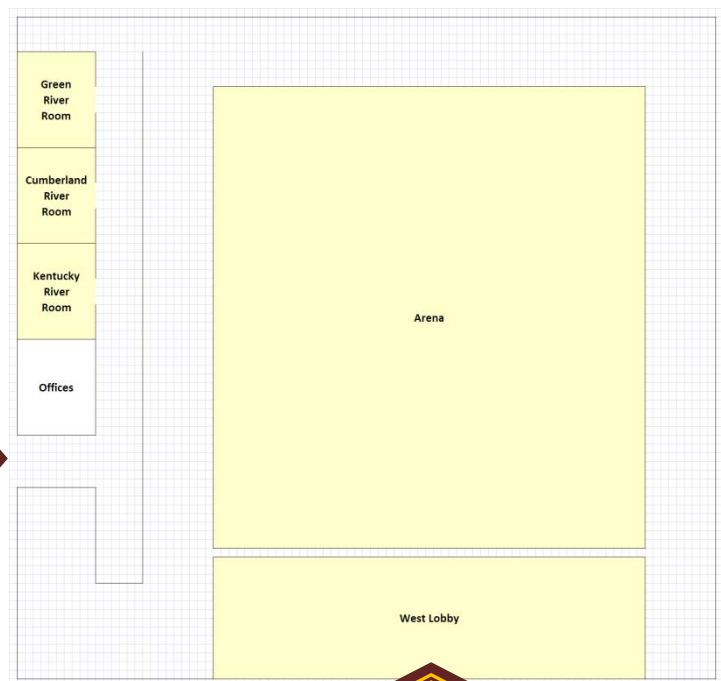
& Floor Plans

FRANKFORT CONVENTION CENTER

ROOM	CAPACITY
Green River Room	35 seats
Cumberland River Room	35 seats
Kentucky River Room	35 seats

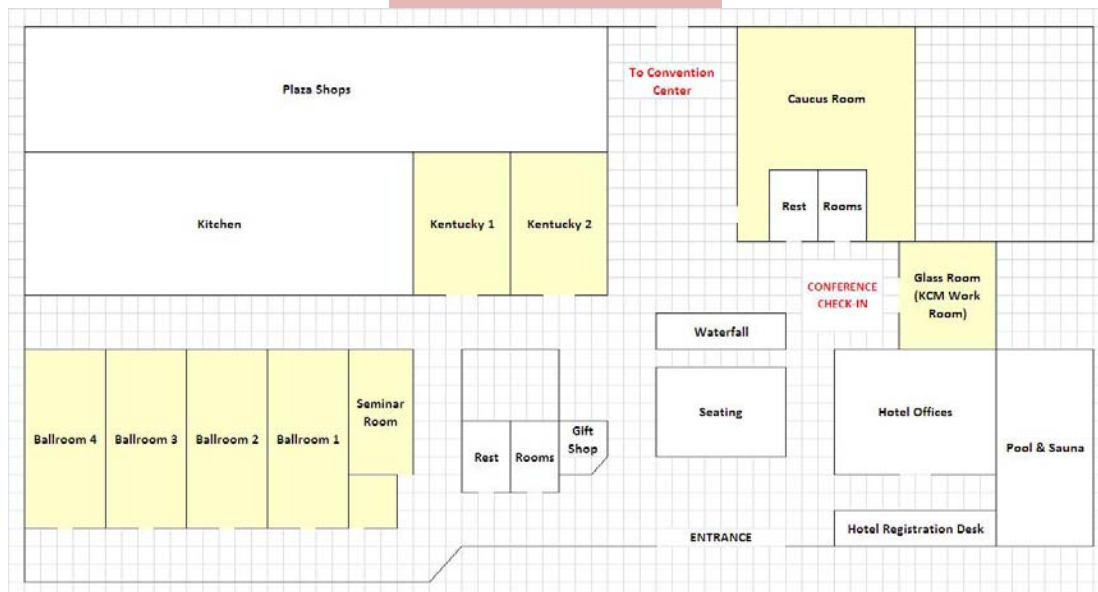
**Entrance for
Conference Sessions**

ROOM	CAPACITY
Ballrooms 1 & 2	125 seats each
Ballrooms 3 & 4	80 seats each
Caucus Room	125 seats
Seminar Room	50 seats
Kentucky 1, 2	70 seats total



**Entrance for Friday's Arena
Events and the Poster Display**

CAPITAL PLAZA HOTEL



Our Featured Speakers

(Listed Alphabetically)



William Bush

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- Session Description - page 16



Fong ho Kheong

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- Session Description - page 10



Peter Gould

- Biographical Information - page 18
- Session Description - page 22



Constance Kamii

- Biographical Information - page 8
- Session Descriptions- page 12 & 14



Toni Prickett

- Biographical Information - page 18
- Session Description - page 20



Tricia McKale Skyles

- Biographical Information - page 19
- Session Description - page 22



Les Steffe

- Biographical Information - page 19
- Session Description - page 24

Information for Participants

Over the course of the two days, there are seven 75 minute blocks of time reserved for presentations. These 75 minute blocks will be designated by a session number only.

The presentations during the conference are of two lengths: 75 minutes and 30 minutes. Longer sessions will obviously provide a more in-depth look at a topic while the shorter sessions will offer quick new ideas.

The 75 minute blocks have been subdivided to accommodate two 30 minute presentations. These sessions are designated by the session number and either an A or B.

Some speakers may not use the full time allotted. We encourage you to take advantage of this time to share and network with other educators attending the conference.

For your convenience, this program contains a blank schedule on page 3 that may be used to plan your conference experience. In addition, pages 29-32 provide space to record your own notes.

To ensure everyone's comfort and safety, sessions will be closed when the seating capacity of the rooms have been reached. *For room capacities, see page 5.*

The KCM staff will be videotaping many of the conference presentations. After the conference, you will be provided online access to the entire collection of presentation videos.

The KCM staff will also be taking photographs throughout the conference. These pictures may be posted on the KCM website or KCM Facebook page.

Thursday's box lunch will be served in the hotel lobby beginning at 11:15 am.

Friday's Banquet will begin at 11:30 in the Convention Center Arena.

On Friday, there will be a Poster Display in the West Lobby of the Convention Center. These posters showcase many exciting things happening in mathematics education throughout the Commonwealth.

If you have any questions or concerns, the KCM staff (who may be identified by their black conference ribbons) will be happy to help you.

After the conference, be sure to visit the KCM webpage at www.kymath.org where you will find many tools and resources for teachers, parents, and students available.

ENJOY THE CONFERENCE!

The KCM Staff

Featured Speakers

Day 1 - February 4th

FONG HO KHEONG ...

is an Associate Professor and the Head of the Math and Science Department of the Bahrain Teachers College, University of Bahrain, in the Kingdom of Bahrain. He is also a former Associate Professor of the National Institute of Education, Nanyang Technological University, Singapore. He was involved in training Mathematics teachers in the National Institute of Education, Singapore, for 25 years. He also worked in the Education Testing Centre, University of New South Wales, Australia, dealing with assessment in primary Mathematics. He is the Founding President of the Association of the Mathematics Educators, Singapore.

Dr. Fong obtained his Ph.D. degree from the University of London. He specializes in teaching high ability children and children who have problems in Mathematics. His research work includes diagnosing children with mathematical difficulties, teaching thinking to solve mathematical problems and applying psychological theories for the teaching and learning of Mathematics. His experience in curriculum development has led him to innovate the use of the model drawing approach to tackle challenging problems. He has published more than 100 journal articles, research reports, as well as primary and secondary Mathematics books. He is the consultant and principal author of Marshall Cavendish's My Pals are Here! Maths series, which is currently being used by 80% of the primary schools in Singapore, and Math in Focus, the U.S. Edition.



Session 1 – The Singapore Math for Helping Children Solve Challenging Mathematical Problems



CONSTANCE KAMII ...

was born in Geneva, Switzerland, and attended elementary school there and in Japan. She finished high school in Los Angeles, attended Pomona College, and received her Ph.D. in education and psychology from the University of Michigan.

She is now professor of early childhood education at the University of Alabama at Birmingham. A major concern of hers, since her work on the Perry Preschool Project in the 1960s, has been the conceptualization of goals and objectives for early childhood education on the basis of a scientific theory explaining children's sociomoral and intellectual development. Convinced that the only theory in existence that explains this development from the first day of life to adolescence was that of Jean Piaget, she studied under him on and off for 15 years.

When she was not studying under Piaget in Geneva, she worked closely with teachers in the United States to develop practical ways of using his theory in classrooms. The outcome of this classroom research can be seen in Physical Knowledge in Preschool Education and Group Games in Early Education, which she wrote with Rheta DeVries. Since 1980, she has been extending this curriculum research to the primary grades and wrote Young Children Reinvent Arithmetic (about first grade), Young Children Continue to Reinvent Arithmetic, 2nd Grade, and Young Children Continue to Reinvent Arithmetic, 3rd Grade. In all these books, she emphasized the long-range, over-all aim of education envisioned by Piaget, which is children's development of sociomoral and intellectual autonomy.

Session 2 - Encouraging Children to Do Their Own Thinking

Session 3 - The Measurement of Length: How to Teach It Better and Why



WILLIAM BUSH ...

is currently professor of Mathematics Education and Director of the Center for Research in Mathematics and Science Teacher Development in the College of Education and Human Development at the University of Louisville. He received a bachelor's degree in Mathematics, a teaching certificate in Secondary Mathematics, and a Master's Degree in Education from the University of Kentucky. He taught high school at Henry Clay High School in Lexington. He received a doctorate in Mathematics Education from the University of Georgia. He came to the University of Louisville in 2001 to serve in his present position.

Dr. Bush is currently Project Director and Principal Investigator of an NSF grant entitled "Geometry Assessments for Secondary Teachers." He also is Project Director and/or Principal Investigator for three state grants. In the past, he has directed or co-directed large-scale grants such as the Kentucky Middle Grades Mathematics Teacher Network (KMGTN), the Kentucky K-4 Mathematics Specialist Program (KK-4MSP), Diagnostic Teacher Assessments in Mathematics and Science (DTAMS) and, the Appalachian Collaborative Center for Learning, Assessment and Instruction in Mathematics (ACCLAIM).

Dr. Bush has led the development of end-of-course assessments in Algebra I and Geometry and is currently leading a project to develop formative assessments for these state assessments. Dr. Bush has published numerous articles, has chaired the editorial board for NCTM's Mathematics Teacher, and has made many presentations in mathematics education at the national, state, and local level.

Session 4 – Mathematics Standards and Assessments for Kentucky's High School Students: How Are They Changing?

Thursday, February 4th
Session 1: 8:30 – 9:45
75 Minute Sessions

Room	Session Title and Abstract	Presenter(s)
Ballroom 1, 2	The Singapore Math for Helping Children Solve Challenging Mathematical Problems <i>The TIMSS results show that Singapore students are consistently doing very well at the Grade 4 math. How do they solve complicated and algebraic problems before learning algebra? The speaker will show Singapore Math methods in greater depth linking theory, practice, and connection. The bar model method and other math strategies will be examined.</i> Grade Level: K-5	Featured Speaker Dr. Fong ho Kheong
Ballroom 3	Movin' On Up! <i>So, you've done the Add+Vantage assessment on your math intervention students. Now what? This session will give you some ideas for taking the next steps. You'll receive tools to track student progress daily with quick assessment checks. Learn how to differentiate instruction in Forward Number Word Sequence, Backward Number Word Sequence, Numeral Identification, Structuring Numbers, and Addition and Subtraction Strategies using color coded learning centers based on your Add+Vantage Math Recovery 1 assessment data to keep students moving along on their journey to numeracy.</i> Grade Level: K-5	Belle Rush, Jan Estes, Cher Rosser, Dee Willis
Ballroom 4	A new TWIST on some OLD games! <i>If you have a lot of store bought games in your closet that don't get played with anymore, then it is time to wipe off that dust! We want to show you how to take those games and use them in your classroom to help enhance critical thinking and to provide practice of basic skills in a non-threatening environment. Along the way, you may be introduced to some new games and strategies. Come to this session prepared to play some old games with a new Twist!</i> Grade Level: K-2	Cindy Gross, Pam Hays, Elizabeth Wright
Caucus Room	Games and Teaching Strategy-Building Skills <i>Can games be used to help students build skills that will enable them to be successful in Algebra and Geometry? This year I have been using various types of games to see if my students can become better at solving problems in Algebra. Every two weeks we have a day of playing games. We use many types of board games and math games that require problem solving skills. The board games include Monopoly, Blokus, and Sorry! Some of the math games came from "Getting It Together," in which each group of students get a set of clues to work out some problem. I am interested to see the many approaches students take: trial and error, methodical use of clues, just guessing. In this session, I will review some of the games I incorporate into my Algebra curriculum as part of an action research project. I will discuss the ways students approach their problems and the strategies they use to win their games. I will also offer some resources for use in the middle and high school math classroom that promote strategy building and tie them into mathematics teaching.</i> Grade Level: 6-12	Kelly Lindsey

Session 1A: 8:30 – 9:00
Session 1B: 9:15 – 9:45
30 Minute Sessions

Session 1A: 8:30 – 9:00
Session 1B: 9:15 – 9:45
30 Minute Sessions

Session 1A: 8:30 – 9:00
Session 1B: 9:15 – 9:45
30 Minute Sessions

Room	Session Title and Abstract	Presenter(s)
Convention Center Kentucky River Room	Arrow Cards <i>Participants will explore a variety of mathematics topics including numeral identification, comparing numbers, and expanded form using arrow cards. During this hands-on session, participants will use arrow cards to construct, name, compare, and deconstruct numbers. Participants will leave the session with blackline masters and a collection of arrow card activities and games.</i> Grade Level: K-5 Presented during 1A and 1B	Bethany Neel, Tammy May
Convention Center Cumberland River Room	There's No Place Like Home <i>Come to this session and learn how all successful mathematical roads begin with a strong numeracy foundation! Focus will be on the 3 Aspects of Number and activities to help your students continue on the Yellow Brick Road of Numeracy. Soon you'll find them reaching the Emerald City where Numeral Identification (NID), Structuring, and Mental Computational happiness await.</i> Grade Level: K-2 Presented during 1A and 1B	Beth Miracle Meiman
Convention Center Green River Room	Pre-Service Teachers' Conceptual Understanding of Level of Confidence <i>The presenters of this session will share the preliminary results of a pilot study in which they explored the level of understanding and common misconceptions possessed by pre-service secondary mathematics teachers with respect to the statistical concept of level of confidence. In the pilot study, Northern Kentucky University pre-service teachers completed an assessment inventory comprised of questions focusing on the concept of level of confidence. The focus of this presentation is to highlight common misunderstandings that were evident in the collected responses and to brainstorm teaching strategies to address these misunderstandings.</i> Grade Level: 13-16 Presented during 1B only	Brooke Buckley, Bethany Noblitt

Session 2: 10:00 – 11:15

75 Minute Sessions

Room	Session Title and Abstract	Presenter(s)
Ballroom 1, 2	Encouraging Children to Do Their Own Thinking <i>Two examples will be given to illustrate how constructivist teachers encourage children to do their own thinking. In the first example, teachers gave “physical-knowledge activities” to 26 low-SES first graders who came to school without any number concepts. In the second example, teachers refrained from teaching “carrying” and “borrowing” and encouraged second graders to invent their own procedures.</i> Grade Level: K-2	Featured Speaker Constance Kamii
Ballroom 3	Orchestrating Mathematical Discussions <i>In the paper “Orchestrating Productive Mathematical Discussions: Five Practices for Helping Teachers Move Beyond Show and Tell”, the authors outline five practices mathematics teachers can use within the Launch-Explore-Discuss framework to hold meaningful classroom discussions at any grade level. The presenters used this article as a framework for discussing mathematics teaching in a Secondary Mathematics Methods Course. In this session, the presenters will describe the five practices and engage participants in the process using an example drawn from the Methods Class.</i> Grade Level: 9-16	Bethany Noblitt, Laura Bristol
Ballroom 4	Implications of Early Numeracy for Measurement and Data Strands <i>This session will explore the link between early numeracy learning and the mathematics strands of measurement and data. A power point will be shared for use with other educators.</i> Grade Level: K-5	Linda Jewell
Caucus Room	Middle Grades Mathematics Intervention <i>During this session, participants will learn strategies for assessment and instruction that can help students gain a firmer foundation in number.</i> Grade Level: 5-8	Alice Gabbard

Session 2A: 10:00 – 10:30
Session 2B: 10:45 – 11:15
30 Minute Sessions

Room	Session Title and Abstract	Presenter(s)
Convention Center Kentucky River Room	MATH MATTERS!!! Developing High School Intervention Classes and Math Labs <i>This session will include an overview of the program MATH MATTERS, Math Academy to Teach Teachers Excellent Results for Students, and sharing ongoing lessons learned. This is a year-long Professional Development Academy to provide support for high school math teachers with a focus on interventions and results for students in math intervention classes. Monthly PD sessions include modeling interventions strategies, resources, technology and assessments and then follow up support.</i> Grade Level: 9-12 Presented during 2A and 2B	Ann Bartosh, Ruth Casey
Convention Center Cumberland River Room	Construction Geometry: An Interdisciplinary Video Course <i>The Kentucky Department of Education has contracted with Kentucky Educational Television to develop approximately 90 video recorded geometry lessons to be utilized within the Construction Geometry course. These lessons were developed by a team of math and construction teachers based on the 23 required content standards for geometry. A certified math teacher meeting the "highly qualified teacher" criteria delivers the instruction via 10-15 minute video segments. The lessons are utilized by construction technology or carpentry teachers, within a two-credit course, in which students can earn one credit in Geometry and one credit in Construction Technology. This method of contextual learning provides an opportunity for many students to improve their math learning experience while developing an understanding of how geometry is used in construction projects. The interdisciplinary course will allow students to apply the geometry content to real problems and calculations used in the construction industry.</i> Grade Level: 9-12 Presented during 2A and 2B	Carole Frakes
Convention Center Green River Room	Elementary Math Software: What's Fluff and What's Substance? <i>This presentation is intended for those interested in elementary mathematics education who may be unfamiliar with issues related to instructional software. We will take a critical look at some software examples and discuss the following questions: When is computer assisted instruction more appropriate than concrete materials or paper and pencil activities? What are virtual manipulatives? What are some attributes of good elementary mathematics software? Do the graphics and sound truly embody or model the concepts or are they meaningless or distracting embellishments? Is student engagement and entertainment sufficient evidence the software is appropriate for accomplishing your objectives?</i> Grade Level: K-5 Presented during 2A and 2B	Dr. Mark Schack, Dr. Edna Schack

Thursday, February 4th
Session 3: 12:45 – 2:00
75 Minute Sessions

Room	Session Title and Abstract	Presenter(s)
Ballroom 3	The Measurement of Length: How to Teach It Better and Why <i>According to Piaget's research, measurement requires two logical abilities: (a) ability to reason transitively and (b) unit iteration, which grows out of transitive reasoning. These logico-mathematical abilities will be explained, and educational implications will be discussed.</i> Grade Level: K-2	Featured Speaker Constance Kamii
Ballroom 1, 2	Mathematics Common Core Standards <i>Kentucky Department of Education mathematics consultants will share information related to the common core standards along with background information, KY's review process, and the state's proposed adoption timeline. This session will be limited to the information that has been made public.</i> Grade Level: P-12 <i>Repeated during Session 6</i>	Robin Hill, Tracye Carey, Chyleigh Rose
Ballroom 4	Solving Problems Using the 8 Step Model Drawing Method <i>Are you looking for word problem solving strategies that actually work? If so, this session is for you! The 8 Step Model Drawing Method, adapted from Singapore Math, is an effective and practical approach to solving word problems. During this session, the Covington Math Intervention Teachers will share their knowledge and experiences with Model Drawing. Participants will have the opportunity to practice solving problems using the Model Drawing Method. These 8 simple steps are easy to learn, quick to implement, and sure to help your students succeed. Join us in our fun, interactive session as we discuss and explore the endless possibilities of Model Drawing!</i> Grade Level: K-5	Jenna Smiddy, Patricia Surber, Casey Janicki, Norma Benton
Caucus Room	Problem-Based Learning: How to Enhance Mathematical Learning Using The PBL Approach <i>I will begin my discussion with a brief introduction to Problem-Based Learning. Problem - Based learning (PBL) is a student-centered instructional strategy in which students collaboratively solve problems and reflect on their experiences. It was pioneered and used extensively at McMaster University, Hamilton, Ontario, Canada. Characteristics of PBL are: Learning is driven by challenging, open-ended problems; Students work in small collaborative groups; Teachers take on the role as "facilitators" of learning. Accordingly, students are encouraged to take responsibility for their group and organize and direct the learning process with support from the teacher. Advocates of PBL claim it can be used to enhance content knowledge and foster the development of communication, problem-solving, and self-directed learning skill. The workshop will benefit the teachers in numerous ways. It will support the NCTM Principles and Standards which supports inquiry, or discovery based learning, which is an important component of project-based learning. In addition, projects address the NCTM Principles and Standards process standards better than many other teaching strategies. Their students will gain valuable skills in problem solving, reasoning, and communicating mathematics, while learning how to conduct research, manage resources, and collaborate with others - important skills for the workplace of today.</i> Grade Level: 9-12	Fatima Zvizdic

Session 3: 12:45 – 2:00

75 Minute Sessions - Continued

Room	Session Title and Abstract	Presenter(s)
<i>Convention Center</i> Cumberland River Room	Structuring to 10 and Beyond: Incorporating Technology <i>We will discuss and demonstrate how to structure numbers to 10 and beyond. We will use different materials to demonstrate this topic. We will also use technology to illustrate how teachers within the regular classroom can incorporate some different math strategies to students not receiving intervention.</i> Grade Level: K-2	Wendy Helton, Bobbie Haney, Jolisa Way, Jessica Critz, Cathy Rose

Session 3A: 12:45 – 1:15

Session 3B: 1:30 – 2:00

30 Minute Sessions

Room	Session Title and Abstract	Presenter(s)
<i>Convention Center</i> Kentucky River Room	Discrete vs. Interval <i>This session will address the differences between discrete counting and interval counting. We will watch and discuss video of discrete and interval counting. Teaching strategies and models will be discussed and shared.</i> Grade Level: K-5 Presented during 3A and 3B	Scotty Bratcher, Michael Swihart
<i>Convention Center</i> Green River Room	G.A.M.E.S-Getting Awesome (at) Math (4) Everyone (in) School! <i>Playing G.A.M.E.S. is the way to collaborate and create a math enriched environment for all the students and teachers in your school. Several activities, assessments, and resources that can be used to collaborate in the regular classroom will be shared. Teachers will leave with some new twists on some well-known resources as well as some make-it-take-it games!</i> Grade Level: K-2 Presented during 3A only	Selisa Adams, JoLin Owens
<i>Convention Center</i> Green River Room	Teaching for Depth of Understanding <i>This presentation will focus on the various strategies used in Math Recovery. We will discuss questioning strategies to determine the appropriate skill level of each child. We will present games used for skill reinforcement. We will share web sites that teachers may consider as valuable math resources.</i> Grade Level: K-2 Presented during 3B only	Sherry Allen, Frieda Baker, Robin Brown

Thursday, February 4th
Session 4: 2:15 – 3:30
75 Minute Sessions

Room	Session Title and Abstract	Presenter(s)
Ballroom 1, 2	Mathematics Standards and Assessments for Kentucky's High School Students: How Are They Changing? <i>This session describes some of the pending changes in the mathematics standards and assessments for Kentucky high school students. In addition, issues regarding classroom assessments, curricula, instructional strategies, and professional development will be addressed.</i> Grade Level: 9-12	Featured Speaker William Bush
Ballroom 3	Kentucky System of Interventions and RTI <i>Kentucky Department of Education mathematics consultants will share information and resources related to the Kentucky System of Interventions (KSI) and how RTI fits in the system. This session will provide an overview of KSI along with resources that are available for schools and districts. Participants will be encouraged to share how KSI has been implemented in their school.</i> Grade Level: P-12 <i>Repeated during Session 7</i>	Robin Hill, Tracye Carey, Chyleigh Rose
Ballroom 4	Assessment Updates for MR Specialists <i>This session is intended for Math Recovery Specialist trained before 2009. The US Math Recovery Council is in the process of rolling out the revised Math Recovery Specialist training which includes revised versions of assessments 1.2, 2.1, and 2.2. During this session, we will make available the new assessment schedules, discuss the changes, and share video of the new assessments. If time permits, other revisions to the MRIS course will be discussed as well.</i> Grade Level: K-2	Cindy Aossey, Gwen Morgan
Caucus Room	Implementing Math Recovery Strategies Whole Group <i>Do your students have trouble counting on or counting back (on and off the decade)? Do your students have trouble seeing there are numbers "nested" within a number (6 has 5 & 1, 4 & 2, 3 & 3, 1 & 5 etc.)? Then this is the session for you. These and other Math Recovery settings (activities) will be shared with you to take back and implement whole group in your classrooms. These settings will not take away from your instruction - it will only enhance it. They have been researched and proven to promote higher levels of thinking.</i> Grade Level: K-2	Elizabeth Jean Bingham, Amy Simpson, Tonda Thompson
Seminar Room	Pictures and Portions: Leveraging Contexts and Representations to Buttress Understandings of Fractions <i>This presentation details a lesson study enacted by a diverse group of teachers and teacher-educators involving division of fractional quantities. Participants will engage in discovering and examining powerful settings and contexts to promote conceptual understanding in this historically challenging area of mathematics as well as lessons learned in the design of meaningful instruction.</i> Grade Level: 3-5, 13-16	Shelly Harkness, Catherine Lane, Jonathan Thomas

Session 4A: 2:15 – 2:45

Session 4B: 3:00 – 3:30

30 Minute Sessions

Room	Session Title and Abstract	Presenter(s)
Convention Center Kentucky River Room	We're On a Roll! <i>Children love to play with dice; so, why not take something they love and use it to help them with Math skills! One of the inherent values of dice activities is that children enjoy revisiting them and thus have an opportunity to practice number facts without tedious paper and pencil drills. This session will present teachers with dice games that reinforce number patterns, construct efficient counting strategies, develop fluency with math facts, and manipulate numbers mentally. These engaging, challenging, and fun activities build number sense and generate a conceptual base for number facts.</i> Grade Level: K-2 Presented during 4A only	Dee Hilton, Robin Swords, Lisa Riggs
Convention Center Cumberland River Room	Middle Grades Math Anxiety <i>I taught High School Math for 5 years and realized that High School was nearly too late to overcome math anxiety. My talk is on teaching methods of reducing anxiety and engaging students who see themselves as "math failures." When Algebra I begins, reaching these students and teaching the curriculum is extremely hard - it is much easier to reach them as middle schoolers. My talk offers some cheap and some not so cheap methods of getting these students to the point of taking math tests without sweat dripping in their eyes.</i> Grade Level: 6-8 Presented during 4A and 4B	Janet Cropper
Convention Center Green River Room	We Knead Data <i>Data analysis is now an integral part of our middle and high school curricula. Technology is an exciting and effective tool for analyzing gobs of information. In this session, TinkerPlots (Middle School) and Fathom (High School) software will be used to dynamically explore data. We will walk through a few typical statistics problems while exposing the features of each software package in tandem. Participants will not only see how statistical software allows for deep understanding, but they can also compare the software while solutions are developed.</i> Grade Level: 6-12 Presented during 4A and 4B	Gary Palmer, Linda West

Featured Speakers

Day 2 - February 5th



TONI PRICKETT ...

is the owner and founder of Region Insights, an educational entity whose primary focus is helping educators build internal capacity. She facilitates individuals and groups who desire a deeper understanding of constructivist learning, group development, group facilitation, and coaching. As a National Training Associate for the Center for Cognitive CoachingSM and the Center for Adaptive Schools, she has the privilege of helping state departments of education, superintendents, principals, staff developers, and teachers enhance their own capacity to be self-reflective and self-governing. In addition to educators, she enjoys opportunities to facilitate the planning and decision-making processes of businesses and civic organizations. Toni is also certified as an Immunities to Change trainer based on Robert Kegan's constructive-developmental work. She has had the privilege of presenting at

both state and national conferences and presents for the international schools. Toni has both an undergraduate and graduate degree in mathematics and has teaching experience at the elementary, middle and high school levels. She cites her students, both past and present, as her greatest teacher.

Session 5 – Using Coaching to Maintain Cognitive Demand in High School Mathematics Classrooms

PETER GOULD ...

is the Chief Education Officer in Mathematics with the New South Wales Department of Education and Training. His primary responsibilities are in the design and delivery of effective mathematics curriculum support from Kindergarten to Year 12. He has a strong interest in research-based knowledge being used to improve, and be improved by, teaching practice. He taught mathematics classes for 13 years in disadvantaged secondary schools as well as Technical and Further Education and University courses. Peter has worked as a K-12 Regional Mathematics consultant and acknowledges that his students and colleagues have taught him many useful things over the years. He has written a range of curriculum documents including "Problem of the Week", "Co-operative Problem Solving in Mathematics Years 5–8", and "Fractions: Pikelets and Lamingtons." Peter has been the chair of several syllabus committees in New South Wales, helped in supporting the writing of the primary mathematics curriculum in Papua New Guinea and the *Count Us In* children's television series for the ABC. His current research is into how children develop a sense of fractions, as well as what can be learned from Lesson Study.



TRICIA McKALE SKYLES ...

is an educational consultant with Safe and Civil Schools out of Eugene, Oregon. She is a co-author of Coaching Classroom Management. She leads sessions on coaching classroom management and other Safe and Civil Schools curricula. Tricia worked as an Instructional Coach with the Pathways to Success Project in Topeka, Kansas, and has worked extensively with the Strategic Instruction Model from the University of Kansas Center for Research on Learning. Tricia continues to work as a consultant for Dr. Jim Knight's Instructional Coaching Group, providing training for instructional coaches across the United States. A middle school teacher at heart, she now resides in Rolla, MO, with her family, when she isn't flying around the country in an aluminum tube.



Session 6 – Classroom Management: A Quick and Dirty Guide to Maximizing Math Time



LES STEFFE ...

is Distinguished Research Professor of Mathematics Education at the University of Georgia. Working with Ernst von Glasersfeld in 1975, he established the project Interdisciplinary Research On Number (IRON). The goals of this project were to build models of the construction of numerical knowledge by children within an emerging model of knowing that now goes by the name "radical constructivism". He has been extensively involved in mathematics teacher education and holds both a Bachelor of Science and a Master of Science in mathematics. He earned a Ph.D. in mathematics education from the University of Wisconsin where he worked with Henry Van Engen. In 2006 he was the first recipient of the SIGRME (American Educational Research Association Special Interest Group: Research in Mathematics Education) Senior Scholar Award.

Session 7 – So, Children Can Count-On. Now What? An Excursion into Children's Mathematics

Friday, February 5th
Session 5: 8:30 – 9:45
75 Minute Sessions

Room	Session Title and Abstract	Presenter(s)
Ballroom 1	Using Coaching to Maintain Cognitive Demand in High School Mathematics Classrooms <i>What is cognitive demand? What is its role in helping students move beyond procedural knowledge? Join us as we look at the most recent research and then consider how coaching develops mathematicians that can communicate their thinking and make connections across the curriculum.</i> Grade Level: 9-12	Featured Speaker Toni Prickett
Ballroom 2	Capturing the Mathematical Moment: Using Pre-service Teacher Created Videos as a Tool for Developing Understanding of Numeracy <i>We will share findings from an investigation involving pre-service teacher video of diagnostic numeracy assessments during their final practicum semester. Session participants will explore these videos and subsequent discussions as a lens for understanding the mathematical development of pre-service teachers.</i> Grade Level: 13-16	Sara Eisenhardt, Jonathan Thomas
Ballroom 3, 4	Investigating Figurate Numbers to Develop Number Sense, Geometric and Algebraic Reasoning <i>This session will begin with some familiar Figurate Numbers activities and then lead into some extensions such as the Isosceles Trapezoid Numbers. For example, we will consider an activity that begins with the geoboard representation and subsequent generalization for the Triangular Numbers, $n(n+1)/2$, and then investigate the Border Triangular Numbers. These are the numbers generated by counting the geoboard dots along the perimeter of the triangle. We will do the same for the Interior Triangular Numbers; that is, those geoboard dots in the interior of the triangle. Examining the numeric sequences generated and their geometric representations leads to their linear or quadratic rules. These activities provide a forum for students to see relationships between algebraic rules and their numeric sequences, and between algebraic rules and geometric properties of perimeter and area.</i> Grade Level: 6-8	Gina Foletta
Caucus Room	Clothesline to Problem Strings <i>Developing number sense is a complex process for children. Helping children develop a deeper understanding of some critical mathematical concepts for numbers, how they fit together, how they are used, and what it all means will be demonstrated using a clothesline and problem strings.</i> Grade Level: K-5	Wilma Rogers, Linda Montgomery

Session 5: 8:30 – 9:45

75 Minute Sessions - Continued

Room	Session Title and Abstract	Presenter(s)
Seminar Room	Supplementing Your Math Instruction with Singapore Math Strategies <i>What is Singapore Math? What are the guiding principles behind Singapore Math? What are the strengths of using Singapore Math Strategies? How can I use Singapore Math Strategies in my classroom? Specific strategies and/or skills that will be discussed and modeled include counting, number bonds, mental math strategies, computation strategies, branching, and model drawing. Resources such as books, games, activities, and websites relating to Singapore Math Strategies will also be shared.</i> Grade Level: K-2	Christie Gantt
Kentucky 1, 2	Modeling Percents with a Ten Frame <i>In this session, we will explore how to use a ten-frame to solve a variety of percent problems, such as: What is 30% of 50? What % of 60 is 18? 70% of what number is 21?</i> Grade Level: 6-8	Vonda Stamm Ann Booth

Session 5A: 8:30 – 9:00

Session 5B: 9:15 – 9:45

30 Minute Sessions

Room	Session Title and Abstract	Presenter(s)
Convention Center Kentucky-Cumberland River Room	Twisted Math <i>Twisted Math uses the game Twister to help teach numeral identification, combinations to five and combinations to ten. This creative twist on a popular game will offer students with different learning styles the chance to move while they are learning thus promoting active engagement and increased student achievement.</i> Grade Level: K-2	Amanda Pasley, Melissa Dicken
Convention Center Green River Room	Welcome to our TEAM (Teachers Excited About Math) <i>Are you tired of teaching the algorithms? Better yet - are your students tired of it?? Be an active part of this session by playing games and learning strategies that will help get your students thinking about problem solving! Each participant will receive ideas to take from this conference straight to your classroom.</i> Grade Level: K-5	JoLin Owens, Selisa Adams

**Be sure to visit the
Poster Display
in the
West Lobby of the
Convention Center.**

Friday, February 5th
Session 6: 10:00 – 11:15
75 Minute Sessions

Room	Session Title and Abstract	Presenter(s)
Ballroom 1	Classroom Management: A Quick and Dirty Guide to Maximizing Math Time <i>As demands in student math achievement continue to rise, the need for a well-run classroom has never been greater. Student behavior problems and unskilled teacher responses to these misbehaviors continue to contribute to low academic achievement. In this session, we'll discuss how middle and high school teachers can proactively manipulate five distinct variables to increase the chances for student cooperation. We'll also focus on two of these variables, structuring the classroom and clarifying expectations, to optimize students' instructional time.</i> Grade Level: 6-12	Featured Speaker Tricia McKale Skyles
Ballroom 3, 4	Fractions: Time for a Break? <i>Although there have been increasing calls to strengthen the teaching of fractions in the middle years, exactly what should be done differently is not always clear. What is meant when researchers talk about fractions representing a multiplicative structure? Are fractions and decimal fractions closely related? What are the 'big rocks' that need to be addressed in the teaching of fractions? Can we represent fractions as area if students do not understand area? One thing appears certain: In the teaching of fractions it is time for a break!</i> Grade Level: 5-8	Featured Speaker Peter Gould
Ballroom 2	Kentucky System of Interventions and RTI <i>Kentucky Department of Education mathematics consultants will share information and resources related to the Kentucky System of Interventions (KSI) and how RTI fits in the system. This session will provide an overview of KSI along with resources that are available for schools and districts. Participants will be encouraged to share how KSI has been implemented in their school.</i> Grade Level: P-12	Robin Hill, Tracye Carey, Chyleigh Rose
Caucus Room	Folding Polygons from a Circle <i>This hands-on session will teach participants how to fold a paper circle to make several polygons and some 3-D shapes. Teachers will be able to use this activity to teach and demonstrate properties of these geometric figures and 75 geometry vocabulary words.</i> Grade Level: 6-12	Mary Helen Hodges
Convention Center Kentucky-Cumberland River Room	Making Mathematics Meaningful with Differentiation <i>Games are a way of providing reinforcement of mathematics concepts and a way of bringing Mathematics alive through differentiation. Mathematics Domino games and other games from around the world that reinforce content strands and processes will be explored. Participants will have the opportunity to create some simple games. Finally, choice boards that allow for differentiation will be interactively investigated. Participants will also receive a handout to use within their classroom.</i> Grade Level: P-5	Greg Gierhart, Dr. Joyce Shatzer

Session 6: 10:00 – 11:15

75 Minute Sessions - Continued

Room	Session Title and Abstract	Presenter(s)
Kentucky 1, 2	M-A-T-H + G-A-M-E-S = Having Fun While Learning <i>Are you looking for some new ideas to use with your students? Maybe you would like to revisit ideas that are unclear or have possibly been forgotten. Well, this is the session for you! During this session, participants will make and learn about activities that can be taken back and easily incorporated into your classroom or intervention setting.</i> Grade Level: K-5	Libby Horn, Kelly Livers, Paula Jarvis, Heather Rader, Lucy Anderson

Session 6A: 10:00 – 10:30

Session 6B: 10:45 – 11:15

30 Minute Sessions

Room	Session Title and Abstract	Presenter(s)
Seminar Room	Adapting Games to Meet Your Needs and Other Resources <i>Using the Number Worlds program along with other math games, we will show how we have adapted these games to meet the needs of the children. An example: we have taken the Dragon Quest game and used it to for skill review. Other useful resources will be shared as well.</i> Grade Level: K-2 Presented during 6A only	Charlotte Baker, Rick Reinle, Stan Wood
Seminar Room	Two Tens, Four Fives, Twenty Ones... What's it matter? <i>Many of us have activities and games to help children structure 5 and 10; but, what about 20? We know that children's beginning knowledge about adding and subtracting numbers develop from being able to combine and partition numbers in the range of 1-10 without counting by ones. After children are fluent at combining and partitioning numbers in the range of 1-10, they're ready to extend their knowledge by combining and partitioning numbers up to 20. During this session we will share games and activities designed to help students make connections and manipulate quantities beyond 5 and 10.</i> Grade Level: K-5 Presented during 6B only	Ashley Childs, Michelle Booth, Vicki Shelton



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Friday, February 5th
Session 7: 1:45 – 3:00
75 Minute Sessions

Room	Session Title and Abstract	Presenter(s)
Convention Center Arena	So, Children Can Count-On. Now What? An Excursion into Children's Mathematics <i>Counting-on is an index of children's construction of number. Counting-on, however, is only the beginning stage in children's mathematics. Counting-up-to is an index of the stage that follows the counting-on stage. In this presentation, I will focus on the constructive possibilities and constraints of children in the second stage. In particular, I will focus on how children modify counting in their construction of multiplying, dividing, and numeration. Time permitting, I will also focus on children's construction of the first genuine fraction scheme.</i> Grade Level: K-3	Featured Speaker Les Steffe
Ballroom 1	Thinking Algebraically: Deepening Children's Understanding of Number and Operations <i>Algebraic thinking pervades all of mathematics and is essential for making mathematics useful in daily life. Developing students' algebraic thinking should begin in the very early years of school. Often elementary curriculum materials are insufficient to develop children's thinking with mathematical power. In this session, we will explore strategies that will help teachers transform their classroom practice so that algebraic thinking becomes a part of children's daily experiences.</i> Grade Level: 3-8	Sara Eisenhardt
Ballroom 3, 4	Mathematics Common Core Standards <i>Kentucky Department of Education mathematics consultants will share information related to the common core standards along with background information, KY's review process, and the state's proposed adoption timeline. This session will be limited to the information that has been made public.</i> Grade Level: P-12 <i>Repeat from Session 3</i>	Robin Hill Tracye Carey, Chyleigh Rose
Caucus Room	Possibilities with Probability <i>Participants will explore whole-class problem-solving situations involving probability while incorporating data analysis. Formative and summative assessment measures will be included. Experience engaging tasks that you can take back and use immediately in your classroom!</i> Grade Level: K-8	Dr. Lynn Patterson
Kentucky 1, 2	Modeling Multiplication Facts <i>Critical multiplication facts for students to know are the 0's, 1's, 2's, 5's, and 10's. In this session, we will discuss the rationale for this claim and demonstrate how these facts can be used to build all of the other multiplication facts.</i> Grade Level: 6-8	Vonda Stamm Ann Booth

Session 7A: 1:45 – 2:15

30 Minute Sessions

Room	Session Title and Abstract	Presenter(s)
Ballroom 2	Concrete Steps Toward Understanding <i>When mathematics is reduced to a sequence of steps, it is soon forgotten. When classroom instruction focuses on understanding, however: Procedures are executed 'intelligently' and with fewer errors (Rittle-Johnson & Koedinger, 2002; Star & Siefert, 2002); Knowledge that is understood lasts longer and can be applied in a variety of situations (Carpenter & Lehrer, 1999; VanLehn, 1986); New knowledge is easier to learn and understand (Hiebert & Carpenter, 1992), and; Knowledge can be easily recreated, should it be forgotten (Carpenter & Lehrer, 1999). On the basis of this research, standards documents often advocate the teaching of mathematics "with understanding." How one teaches skills such as the addition of fractions or solving polynomial equations with understanding, however, is an open question. In this session, we present six concrete steps that teachers can take to promote a deeper understanding of all mathematical skills. Through the use of an innovative observation tool, which we will share with participants, we are finding that the most successful teachers intuitively season their lessons with these strategies - improving understanding and performance in the process!</i> Grade Level: 6-16 Presented during 7A only	Ted Hodgson, Annie Schappacher
Seminar Room	Putting the Power Back in PowerPoint: Helping Students Become Effective Presenters of Learning <i>Too often, PowerPoint slides are nothing more than documents that presenters read to the audience. To become a more effective presenter who uses PowerPoint, one must be able to communicate both verbally and visually. Caution must be taken to ensure the PowerPoint is visually supporting (but not mirroring) what the presenter is saying. During this session we will briefly explore some resources that discuss principles of slide construction that will enhance the effectiveness of presentations. In addition, we will discuss how students might benefit from this knowledge as they are developing their presentation skills.</i> Grade Level: 6-12 Presented during 7A only	Jim Justice



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