**2nd Annual**

**Duke Energy Power of Math Summit**

**Tuesday, November 20, 2018**

**University Hall**

**Indiana State University**

**7:45—8:15 a.m. Registration**

**8:15—8:45 a.m. Welcome**

**8:45—9:45 a.m**

**Keynote**

**Teaching on the Edge of Understanding and at the Speed of Learning**

There are many things to consider when we engage students in mathematics. Why do we choose one task over another, how do we know which ones work, and what drives our decision-making? The purposeful use and sequence of the right tasks can unlock what students know and inform our next move in the progression of learning.

**Graham Fletcher**

**Breakout #1**

**10:00—10:55 a.m.**

**Number Sense Routines for Fluency Success**

Procedural fluency refers to knowledge of procedures, knowledge of when and how to use them appropriately, and skill in performing them flexibly, accurately, and efficiently. In this session, participants reflect on what flexibly and efficiently mean as they engage in number sense routines that require mental math and estimation. Using their own experiences, participants consider how to use developmentally appropriate problems to support students’ development of flexibility and efficiency.

**Sandra Coulson**

**K-­3 Game Changer: The Power of Student Interviews**

A student’s mathematical reasoning should possess a strong balance of strategy and knowledge. Many elementary teachers misdiagnose the gaps in student number sense, which results in poor algebraic reasoning in middle school and beyond. This session will introduce participants to math inventories and how a team of teachers and math leaders effectively implemented them at the local and district level. We’ll share data that helped inform and support our decisions along the way.

**Graham Fletcher**

**Fraction Sense is Tied to Common Sense**

When working with fractions, students often believe they must memorize a new set of rules and procedures to be successful.  However, the most successful students have a deeper understanding:  fraction sense.  Let’s examine research-based strategies that will allow students to calculate with accuracy, efficiency and understanding.

**La’Veda Gray**

**21st Century Math Skills - Building A Successful Future From The Start**

The world has changed rapidly over the last couple of decades.  The classic “3 R’s” of education are no longer sufficient to prepare our students for their future. In this session, we will explore 21st Century Learning in primary grade math - why it has to look different than our own schooling did and how to make it happen.

**Rachel Porter**

**Breakout #2**

**11:05 a.m.—12:00 p.m.**

**Math Games – Get fluency rolling!**

Helping students construct meaning, develop strategies, incorporate reasoning and discourse as they make sense of mathematics can be challenging. Games have proven to be effective way to teach concepts while engaging students and differentiating instruction.

**Sandra Coulson**

**Understanding Number Sense Progression to Build Automaticity**

Finding a balance between conceptual understanding and automaticity can be difficult, especially in the primary grades. In this session, we’ll build our understanding of the number sense trajectory and explore how it can be used to build automaticity and fluency in our students.

**Graham Fletcher**

**Engaging Students in Mathematical Discourse**

To deepen mathematical understanding, the Mathematical Practices require students to construct viable arguments and critique the reasoning of others, reason abstractly and quantitatively, and attend to precision. Communication is at the heart of the practices. Mathematics leaders and coaches will learn how to support teachers with engaging students in mathematical discourse.

**La’Veda Gray**

**A Few Of My Favorite S.T.E.A.M. Things**

Thanks to resources like *Pinterest* and *Teachers Pay Teachers*, there’s been an explosion of creative ideas, programs, and activities in education - including STEM/STEAM projects kids love.  Who can sort through it all and choose what is worth their time, money and energy? In this session, we will explore a few of my favorite S.T.E.A.M. activities for K-2 students. Leave with something amazing you can do tomorrow in your classroom!

**Rachel Porter**

**12:00—1:00 p.m.**

**Lunch**

**Breakout #3**

**1:00—1:55 p.m.**

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**Breakout #4**

**2:05—3:00 p.m.**

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**The Presenters**

 **Sandra Coulson** joined the Math Solutions Professional Development team after serving thirty-three years in public education. Having worked as both a middle school and elementary school math teacher, Sandra understands the importance of delivering quality math instruction and believes that occurs best through customized professional learning designed to meet the needs of students and staff. As Director of Professional Learning with Math Solutions, she supports districts across the country as they plan for and implement effective professional learning for leaders and teachers. Her work also includes aiding districts with the implementation of programs such as MATH180 and Do The Math.

 **Le'Vada Gray,** an educator for more than 15 years, is currently a Director of Professional Learning for Math Solutions. She designs and provides K-8 professional development for school-based math leadership teams and teachers across the country. She has served as a teacher, coach, and administrator. She taught fourth and fifth grades, worked as a K-12 culturally responsive coach in literacy and mathematics, and was responsible for organizing and delivering professional development for a K-8 charter school.

 **Graham Fletcher** has worked in education for over ten years as a classroom teacher, math coach, and currently as a district math specialist. He graduated from the University of Georgia where he earned his specialist degree in Math Education. Graham’s passion for conceptual understanding through problem-based lessons has led him to present internationally and throughout the United States.​ He is the author of many elementary 3-act tasks, which can be found at [gfletchy.com](https://gfletchy.com/). It’s in this space and beyond that Graham continues to be an advocate for best practice and a change agent for ​K-5 mathematics.

**Rachel Porter** is the Digital Curriculum Integration Specialist for Southwest Parke Schools, leading professional development on edtech integration and 21st-century skills since 2012. Her experience comes from fifteen years teaching middle school science with project-based learning and curated content outside of textbooks. She is passionate about growing life-long learners through differentiation, authentic experiences, and innovative approaches. She has given presentations on these topics at a number of events throughout the state of Indiana, and is the coordinator of the annual [SPARC Conference](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fsparcconference.com%2F&data=02%7C01%7CJudy.Sheese%40indstate.edu%7C2770984caad844e6fc6108d61f1f9182%7C3eeabe396b1c4f95ae682fab18085f8d%7C1%7C0%7C636730617785713175&sdata=kEFNkmRFmxKG%2Ffao9s4A5A0ZIRYlu%2FCKuISfInDF5r4%3D&reserved=0).