



CONTACT:

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FLEXIBLE thinking

PROVIDING PRACTICAL TOOLS AND IDEAS TO HELP
K - 8 MATH EDUCATORS MEET THE DEMANDS OF
EDUCATION IN THE 21ST CENTURY

Needs Assessments

Vertical Planning Tasks: A simple, yet powerful process for gathering data around what teachers and students are doing when asked to use mathematics to model a real-life situation presented in the form of a word problem. When engaging in a Vertical Planning Task, one task is given to several grade levels vertically. For example, grades 3 to 5 might do the same task. The work samples are analyzed looking at things such as use of precise mathematical language, math models, reasoning and progression of mathematical concepts. This data is used to outline implications for instruction, which then direct teacher work and professional development.

Math Vision Survey: Staff members are guided through the process of articulating their vision for what students, teachers, and administrators are expected to do to help students achieve. Their vision is crafted into a survey that measures just how well teachers believe that are doing what is expected based upon their articulated math vision. Based upon the results of the survey, teachers and administrators, can target specific areas for professional development. The same survey can be given again to measure growth over time.

"The Vertical Planning Task data is really telling. The teachers in my district thought they were doing one thing, but the data clearly indicated that there is a discrepancy in terms of what they are actually doing and what they think they are doing."

- Linda Coulter, Math Director Richland One South Carolina

Teacher Content Knowledge

In Many Ways: By integrating powerful, yet simple digital tools teachers are guided through the process of making short video think-a-loud tutorials, print books or ebooks that model how to use various math tools, math models and math strategies to solve standards aligned problems.

Problem Progression: Teachers are taught how to track the conceptual and developmental progression of a problem so that they can better assist students to progress in the use of more efficient, flexible and durable strategies.

Effective Instruction

Collaborative Coaching Cycles: We offer one-on-one coaching cycles and peer coaching cycles where teachers are supported in an environment of trust and respect, while being held to the highest standards. Our coaching cycles allow teachers the opportunity to clarify, gain a deeper understanding of, and be more reflective about the connections between planning, implementation, and student understanding.

Adapted Lesson Studies: We support teach teams working together to plan, implement, reflect and revise lessons as means of becoming more critical about our instructional practices. This process helps build a school-wide culture of inter-visitations and the development of productive critical friends focused on the improvement of lesson implementation.

Standards Unpacking, Curriculum & Assessment

Curriculum Planning: Helping teachers determine how they should pace out and organize their curriculum programs to better support the standards that they teach based upon their data and their reflections on the implementation of prior units of study.

Unit of Study Unpacking: Helping teachers determine the big ideas that are embodied in a unit of study and providing resources that help teachers better understand how to determine what is important to focus on.

Fluency: Working with schools and districts to help teachers better understand the standards that they teach by determining Stage 3 and Stage 4 fluencies. Most teachers think that "fluency" means fast, but in reality being "fast" without conceptual understanding does not support student growth or understanding in the long term. By being able to articulate grade-level fluencies teachers are better able to develop activities to support them and also better assess student growth.

Data Analysis: We process, Math analyze data from unit assessments to state testing data and provide comprehensive reports that allow teachers to see areas of strength, areas to monitor and areas of challenge. Additionally, we can recommend programs or design digital tracking sheets that allow schools to sort and track data on a class, grade-level and school-wide basis.

Developing Understanding

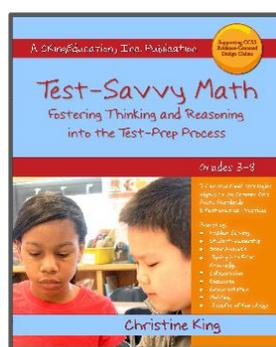
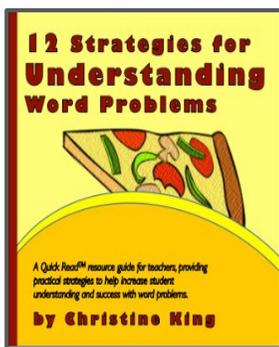
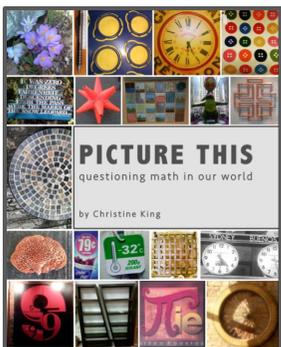
Problem Solving: Helping teachers and students better understand word problems. CKingEducation uses research-based literacy strategies to help students understand word problems using visualization techniques and simple strategies to help students comprehend the text. Additionally, we work with teachers to develop a grade-level appropriate year-long progression of understanding related to word problems.

Collaboration, Discourse and Engagement: Modeling for teachers research-based strategies that show that students can be actively and consistently engaged, while using precise mathematical language as they work collaboratively. We show how pedagogical structures and games can be used across mathematical domains and all year long.

Test-Savvy Math: Reminding teachers that test-prep can and should look like instruction and can and should be engaging. Through workshops and/or in class demonstration lessons shows teacher how to employ the Mathematical Practices consistently, while preparing for the rigors of testing.

Books and Resources

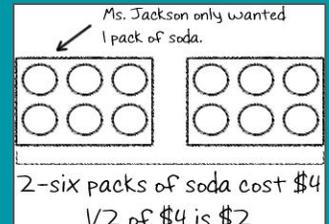
Providing teachers with practical, user-friendly resources that help teachers make math more engaging and focused on the use of research-based tools.



1-2 DAY WORKSHOPS

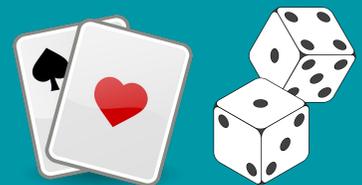
Test-Savvy Math:

Provides participants with practical tools and year-long, interactive activities that will enable teachers to use research-based instructional strategies that foster thinking and reasoning into the test-prep process.

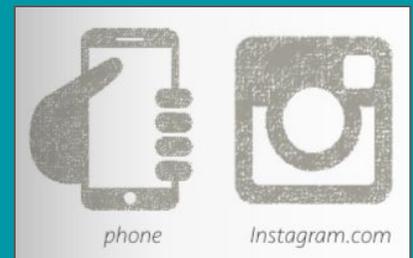


Power of Mathematical Play:

Focuses how to consistently use game structures and play as a means of making the learning of math more engaging, while using precise math language and deepening content knowledge.



Tools of Creation - Simple Ways to Make Books & eBooks





TARGETED *PD sessions*

FULLY ADAPTABLE WORKSHOP SESSIONS
TO BETTER MEET THE NEEDS OF
INDIVIDUAL SCHOOLS

Problem Solving & Reasoning

- Beyond the Procedures to Conceptual Understanding
- Solving Problems in Many Ways
- Math Tools, Models and Strategies
- Math Circles
- Knowing & Clarifying Your Fuzzy
- Understanding Place Value
- Understanding Around Fractions
- Beyond Algorithms

Teacher Content Knowledge

- Strategies to Promote Comprehension
- Visualizing & Making Math Sketches
- What Does it Mean to Model with Mathematics
- The Importance of Attending to Precision
- Year-Long Plan for Problem Solving
- Understanding the CCSS Problem Types
- Living the Mathematical Practices
- Test-Savvy Math: Fostering Thinking & Reasoning into the Test-Prep Process

Student Engagement & Discourse

- Research-based Pedagogical Strategies for Engagement
- Make Every Worksheet into a Purposeful Game
- Games that Promote Fluency
- Adapting & Using Games to Promote Engagement, Collaboration & Discourse
- Strategies to Build Academic Vocabulary
- The Nuts and Bolts of Productive Discourse
- Let Them Do! Pathways Towards Student Ownership

**"I heard that it was
CKingEducation doing a
workshop. I did not even look at
what the session was about. I just
signed up. I knew it would be
excellent!"**

- NYC Middle School Math Teacher

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Planning & Implementation

- Coaching: Lesson Planning
- Coaching: Lesson Implementation
- Adapted Lesson Studies
- Instructional Rounds
- Planning and Scaffolding for Math Misconceptions
- Developing a Culture of Feedback Driven Pedagogy
- Developing, Organizing & Implementing Math Centers & Small-Group Instruction
- Curriculum Mapping & Planning
- Unpacking Units of Study

Tools of the 21st Century

- Creating a Blog
- Creating a Podcast
- Publish Your Own Book
- Make Your Own Deck of Cards
- Make & Publish Video Tutorials
- Creating Infographics
- Contribute to Wikipedia
- Evaluating Website & Apps for Learning
- Organize a Civic Hack

Assessment, Planning & Data Driven Instruction

- Evaluating Teacher PD Needs (Math Vision Survey)
- Vertical Planning Task
- Analysis of Student Work
- Gathering & Using Formative Assessment Data
- Analyzing Summative Assessment Data
- Anticipating Student Misconceptions
- Assessing Stages of Fluency

SESSION OPTIONS

Full Day Workshop

(6 hours of instruction, with 1 hour for lunch)

Welcome and Overview

Morning Session

- Topic A
- Topic B

Lunch

Afternoon Session

- Topic C
- Topic D

Reflection

Mini-Sessions Workshop

(90 min. - 2 hours per session on the same topic for each session)

Mini Session A

Mini Session B

Lunch

Mini Session C

Mini-Sessions w/ Demo

(2.5 hours - 3 hours per session on the same topic for each session. Demonstrations are in classes with students)

Mini Session A

Demonstration Activity

Lunch

Mini Session B

Demonstration Activity



for All PARTNER

The Power of Sketching in Math

"Drawing in math. I am not in Kindergarten!" Learn how to use sketching, rather than drawing to help students visualize situations. This session focuses on teaching how to make and use quick mathematical sketches and non-linguistic representations to help students better understand, evaluate and solve word problems.

Tools, Models and Strategies

"Students can't use manipulatives on the test, so what is the point?" This hands-on session focuses on identifying, distinguishing and using grade-level appropriate math tools, models and strategies in order to support students in better understanding, evaluating and solving math problems.

In Many Ways

"OMG! Is that what I would have said in front of my students?" In this session teachers make 1 - 2 minute video tutorials (no faces shown, only hands) that emphasize the use of math tools, models and strategies that build conceptual understanding and the use of precise mathematical language. Teachers leave with a collection of video tutorials solving a computational problem in many ways. These videos can be used with fellow teachers, students and families.

Planning for Success with Problem Solving

"The problem is that they don't understand the word problems! They can do the math." This workshop focuses on using reading comprehension strategies to help increase student understanding, evaluation and solving of word problems. Participants develop an understanding of the complex nature of problem solving and what it takes to fully understand them. Participants will leave with a plan for addressing problem solving in their classroom.

Applying and Understanding the Properties of Operations

When asked how they solved 24×6 , students will say, "No, I did not use any Properties of Operations." This workshop focuses on supporting teachers in understanding how the Properties of Operation are applied when using mental math strategies and how they are related to/applied to variable equations and expressions.

"I attended two of your presentations at the Algebra for ALL training. I thought you were fabulous!"

- K. Barton, Math Coach, NYC, Summer 2016