

Make Your Math Super Powered: Use Games, Challenges, and Puzzles

Where's the fun? Learn a Math Workshop model by participating in one and explore fun no-cost/low-cost games and puzzles that you can easily bring into your classroom. Learn how the games and activities support the CCSS.

Engaged, happy learners + Standards for Math practice = Super Powered Math

Agenda

- Warm Up
- Goals
 - To learn about the CC Math Practices and how they are imbued in games and enrichment activities
 - To experience a Math Workshop Model
- Mini Lesson
- Center Work
- Reflection
- Closure

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We believe that with the self-confidence and skills gained by experiencing math in unique ways, a person's possibilities are infinite. Our games re-frame math as fun and relevant so that all kids, adults, and families can build math confidence and lifetime skills!

Common Core Standards for Mathematical Practice

1. *Make sense of problems and persevere in solving them.* ***
2. *Reason abstractly and quantitatively.* ***
3. *Construct viable arguments and critique the reasoning of others.* ***
4. Model with mathematics.
5. Use appropriate tools strategically.
6. *Attend to precision.* ***
7. *Look for and make use of structure.*
8. Look for and express regularity in repeated reasoning.

*** The Math Practices covered in this workshop

Make Your Math Super Powered

Color Square Game: (STRAND: Logical Reasoning)

Introduce this game with a 3x3 grid using three colors and three of each color. (Subsequent games can use grids of a larger size. A 4x4 grid uses four each of four colors and so on.) Ahead of time, prepare a "key" grid with each of the nine squares colored (or use letters to represent colors). All the squares of one color are linked together along one full edge (i.e.: they can't be separated nor can they be linked only diagonally). Label the rows/columns 1-2-3. A student asks for information for any row or column. For example, a student asks for row one.

1	G	G	B	1 blue, 2 green
<u>2</u>	G	R	B	
3	R	R	B	

The teacher then writes the number of times each color appears in row one (see above). Students continue to ask for information and deduce the color of each square. Challenge your students with a 4x4 (4 colors, 4 of each), 5x5, even a 6x6 grid.

Game 1

Clues

Names:

COLOR SQUARE RECORD SHEET

Game 1

Clues

Game 1

Clues

Get to 100 (STRAND: Number Sense-Addition):

This game requires a deck of cards (face cards removed) for each group of players. Groups can be two or more. Each student is dealt 5 cards. Students are allowed to use the numbers on those cards to create any numbers they can to add up to as close to 100 as possible. Each student plays 5 times (or however many times they decide) and tries to have his or her total score equal 0. See below for examples:

1st hand: 2, 3, 5, 5, 7

$$75 + 25 + 3 = 103 \quad \text{Score } +3$$

2nd hand: 1, 9, 6, 2, 3

$$91 + 6 + 2 + 3 = 102 \quad \text{Score } +3 + 2 = +5$$

At this point a student would try to get a total score on the next hand to be less than 100, preferably a 95 so that the score for the hand would be -5 and the total score would be 0.

VARIATION: Use only four cards to make 50.

GET TO 100

PLAYER 1: _____	CARDS	EQUATION	SUM	ROUND SCORE
PLAYER 2: _____				
ROUND 1				
ROUND 2				
ROUND 3				
ROUND 4				
ROUND 5				
TOTAL				

Imagine If...

A 7 year-old girl had been encouraged to find ways to identify patterns in more than just math class. Would she enjoy music more? Have a deeper understanding of biology? Believe in her own ability to learn?



Imagine If...

The father of a 10 year-old was able to re-learn fractions—**something he'd never quite understood in school**. Would his new knowledge impact his son? Could they learn together? Would it deepen their own relationship?

Zeno, a non-profit organization, believes that with the self-confidence and skills gained by **experiencing math in unique and unexpected ways, a person's possibilities are infinite**. Our games and programs re-frame math as fun and relevant so that all kids, teachers and families can build math confidence and lifetime skills. See us at <https://zenomath.org/>.

School Partnerships

Math Clubs: A before or after school hotspot, students revel in a variety of interactive, hands-on math activities and games.

Monthly Math Challenge: Kids vie to catapult their classroom to math stardom by answering this always rigorous, yet-ever-practical, math question.

Family Math Nights: School cafeterias can barely contain the enthusiasm of students, parents and teachers as they play math games together.

Mathematician-in-Residence (MIR): Zeno MIR's team up with classroom teachers to model new and exciting ways of teaching math.

Community Connections

Summer Math Camps: More fun than camping, canoeing and crafts combined, these camps are designed to eliminate summer learning loss and increase math competency in exciting ways.

Community MathWays: Parents and para-educators get a taste of the fun kids can have "playing math" and build their own confidence and enthusiasm for engaging kids in math.

Math + Science Night Out: In partnership with the Pacific Science Center, experience the fun stuff MATH can make possible!

MathFest: This event sees kids and families playing math games together in a carnival-like atmosphere! While playing, kids build their confidence and enthusiasm for math, and see that the community supports their involvement.

To schedule a tour of Zeno programs or learn more about how your school can partner with Zeno, please contact Caitlin Nunberg at caitlinnu@zenomath.org.