

Program Name: All Hands on Math

Artist: Laughing Matters

## Special Requirements:

Large open floor where students can work in groups of three

## Special Points of Interest:

Jay and Leslie were introduced to sport stacking by Bob Fox, a fellow performer and former P.E. teacher who now owns Speed Stacks, the leader in sport stacking equipment.

## Other Programs by this Ensemble:

- [How Freedom Works](#)
- [Professor I Drop, The Juggling Scientist](#)
- [One, Two, Learning with You](#)
- [Juggling the Earth's Resources](#)
- [Aesop's Fables](#)
- [Read It Right Now](#)
- [Sum of Our Favorite Numbers](#)
- [Letters, Numbers, Shapes and Colors](#)

## Workshop Description

Sometimes you need to hold a concept in your hands before you understand it. Math becomes tangible in this hands-on workshop by Leslie and Jay Cady of Laughing Matters.

Jay and Leslie start with a juggling demonstration and a discussion of ambidexterity. Juggling engages both hands equally. Ambidexterity stimulates both sides of the brain, which aids in developing both reading as well as math skills. Students will play a mime game where they act out ambidextrous activities.

Students are then divided into groups of three to work on another ambidextrous action—cup stacking.

They learn the basics of sport stacking, then use the cups to make number sequences of triangular and square numbers. They are challenged to find a number that is both square and triangular.

The workshop promotes group cooperation and use of various learning styles.



## Educational Objectives & Standards

Students will:

- Learn about ambidexterity and its benefits.
- Learn sport stacking with stacking cups.
- Work in groups to explore number sequences.

Standards addressed:

- Understands numbers, ways of representing numbers, relationships among numbers, and number systems.
- Uses mathematical models to represent and understand quantitative relationships.

## Artist Bio: Laughing Matters

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Leslie and Jay Cady have been full-time performing artists since 1980. They have performed their engaging blend of juggling, mime, magic, and wacky dialogue in 32 states and seven foreign countries.

Jay and Leslie enjoy using their big bag of tricks to illustrate and reinforce curriculum concepts. Their infectious sense of fun is a hit with students, teachers, and administrators.

In 1984 they studied with legendary mime Marcel Marceau. They

were two of 60 students chosen to study with Marceau in the first two-week workshop he taught in the United States.

Jay and Leslie have twice been nominated for the “Best of Kansas City Theater Awards”. They have performed for ESPN, the National Theater of Guatemala, and the U.S. Department of Defense Overseas Tours.

## List of Resources:

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### Books:

The Book of Numbers, J. H. Conway, R. K. Guy, Springer, 1996

Picturing Math by Carol Otis Hurst and Rebecca Otis. SRA/McGraw-Hill, 1996

### Online Resources:

[www.speedstacks.com](http://www.speedstacks.com)

The leader in sport stacking.

<http://mathforum.org/dr.math/>

Have fun with Ask Dr. Math!

[www.cut-the-knot.org](http://www.cut-the-knot.org)

Puzzles, games, and lots of links.



Contact KCYA for more information about this and other programs

816.531.4022  
KCYA.org

## Vocabulary

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**Ambidexterity:** The ability to use both hands equally.

**Sport stacking:** A sport using cups that are stacked and downstacked as quickly as possible. Many P.E. classes use sport stacking, and some states have added it to the P.E. curriculum.

**Number sequence:** A list of numbers governed by a rule so you can always find the next number on the list.

**Square number:** If you have a number of objects that can be placed in a perfectly square array, that number is a square number.

**Triangular number:** If you have a number of objects that can be placed in an array with one in the first row, two in the second row, etc., that number is a triangular number.

## Post-Workshop Activities

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1. Use pennies or other small objects to make square and triangular arrays.
2. Make a sequence of square numbers (1x1, 2x2, 3x3, etc.).
3. Make a sequence of triangular numbers (1+2, 1+2+3, 1+2+3+4, etc.).
4. Find the smallest number that is both square and triangular (36).
5. Try adding together any two consecutive triangular numbers. The sum is always a square number. Can you see why?
6. Check the websites listed in the resources above to find other number sequences.
7. Have the students discuss activities that use both hands. Do both hands do the same thing, or do they do different things? Which activities are hardest to learn?