

Organizing a Family Math Event

Before the Event

- Choose a date (or 2), time (1.5–2 hours), and venue (cafeteria, gym, library).
- Find volunteers, 2 per station for 40+ participants (High School Honor Society Members, Future Teachers Club Members, Parents, Grandparents, local university or college Math Club members).
- Choose games and activities, 1 for every 12 participants expected,
 - 6 stations for up to 80 participants,
 - 12 – 20 stations for larger groups.
- Reserve math kits with RMSC (www.gvsu.edu/rmsc/) or gather materials into math kits to be used for the event and thereafter. Create a materials sheet to help in organization after the event.
- Provide each volunteer a copy of 1 activity to facilitate.

On the Day of the Event

- Arrange tables in venue, 6 participants to 1 volunteer or up to 12 participants to 2 volunteers.
- Provide a snack and beverage to be available after 1.5 hours. Food, beverages, and math materials do not mix well!
- For small groups, ring a bell after each 15-minute interval to encourage students to experience all 6 stations.
- If participation points or prizes are awarded, give students a slip to get initialed at each station.

After the Event

- Collect materials and put them back in kits. Check the materials sheet in each kit to make sure you've included everything.
- Return kits to RMSC or storage.
- Write thank you notes to volunteers.
- Include brief summary, with pictures if possible, in school newsletter to encourage future participation.

Functions in the *Adventures with Mathematics* Books

<https://mictm.org/index.php/mctm-publications/adventures-with-math>

Starred items are available online as free samples.

Linear Functions:

- The Strength of Spaghetti*, Grade 6 to Grade 7
- * *Beautiful Bracelets*, Grade 7 to Grade 8
- Epidemic of Good Deeds*, Grade 7 to Grade 8
- How Fast Can You Splash?*, Grade 7 to Grade 8
- Function Rummy*, Grade 7 to Grade 8
- Kite Konundrum*, Grade 7 to Grade 8
- Linear Supremacy*, Grade 7 to Grade 8
- * *The Great Graham Cracker Experiment*, Grade 8 to Algebra 1
- Rubik's Cubiks*, Grade 8 to Algebra 1
- There's a Hole in the Bottom of the... Bottle*, Grade 8 to Algebra 1
- Linear Sovereignty*, Grade 8 to Algebra 1
- Guess My Line*, Grade 8 to Algebra 1
- Linear Battleship*, Algebra 1 to Geometry
- Music to My Ears*, Algebra 1 to Geometry

Quadratic Functions:

- A Garden Made of Blocks*, Grade 6 to Grade 7
- Kite Konundrum*, Grade 7 to Grade 8
- Roll Away!*, Grade 8 to Algebra 1
- The Perfect Shot*, Grade 8 to Algebra 1
- Rubik's Cubiks*, Grade 8 to Algebra 1
- Reka's Reward*, Algebra 1 to Geometry
- Quadratic Battleship*, Algebra 1 to Geometry
- Patterns and Functions in String Art*, Algebra 1 to Geometry
- Bozo's Buckets*, Algebra 2
- Carnival Con-Sequences*, Algebra 2

Cubic:

- Kite Konundrum*, Grade 7 to Grade 8
- Rubik's Cubiks*, Grade 8 to Algebra 1

Exponential:

- Epidemic of Good Deeds*, Grade 7 to Grade 8
- Forklifts and Freight*, Algebra 1 to Geometry
- Reka's Reward*, Algebra 1 to Geometry
- Carnival Con-Sequences*, Algebra 2

Rational Reciprocal Functions:

- Function Rummy*, Grade 7 to Grade 8
- Count My Beans*, Algebra 2

All Functions:

- Function Family Feats*, Algebra 2
- Win with Math*, Algebra 2

Other Algebra Topics:

Systems of Equations:

Pretzels & Cheerios, Algebra 1 to Geometry

Systematrix, Algebra 1 to Geometry

* *Funny Money*, Grade 8 to Algebra 1

Games:

Linear Sovereignty, linear functions, Grade 8 to Algebra 2

Polynomial Pursuit, operations on polynomials, Algebra 2

Win with M-A-T-H, transformations of functions, Algebra 2

Games to promote dialogue about mathematics:

Say It Loud, Say It Clear, Grade 6 to Grade 7

* *Go, Go, Van Gogh!*, Grade 7 to Grade 8

Guess My Line, linear functions, Grade 8 to Algebra 1

Funny Money, systems of equations, Grade 8 to Algebra 1

Draw It, Act It, Say It, Geometry to Algebra 2

You Don't Say!, Geometry to Algebra 2

Note: Several of these games use vocabulary from geometry. It is possible to adapt them to use vocabulary from algebra.

Forklifts and Freight Data Gathering:

Number of Containers, n	1	2	3	4	5	6	n
Number of Moves, M							

Find a formula for the smallest number of moves, M , in terms of the number, n , of containers provided only one container can be lifted at a time.