



# Middle Summer School: Sun and STEM



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## Introduction

Last summer I worked as an instructional assistant for Calvert County Public Schools in their Middle Summer School program. I worked in science and math classes for grade 6-8. I supported teachers with instructional tasks, worked one-on-one with struggling students, and monitored safety protocols.

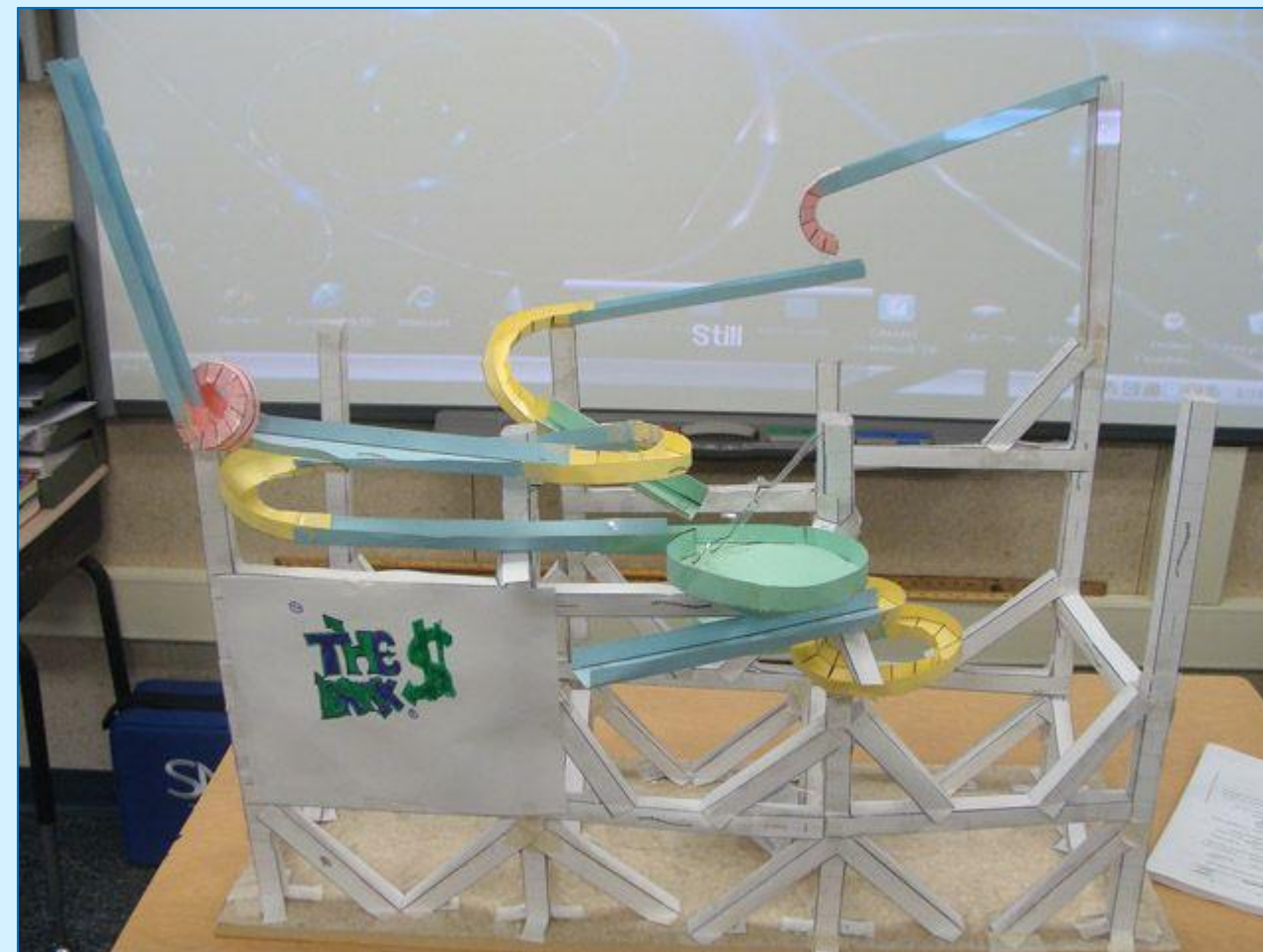


Image from <https://www.pinterest.com/mamadsen/library-ideas-roller-coasters/>

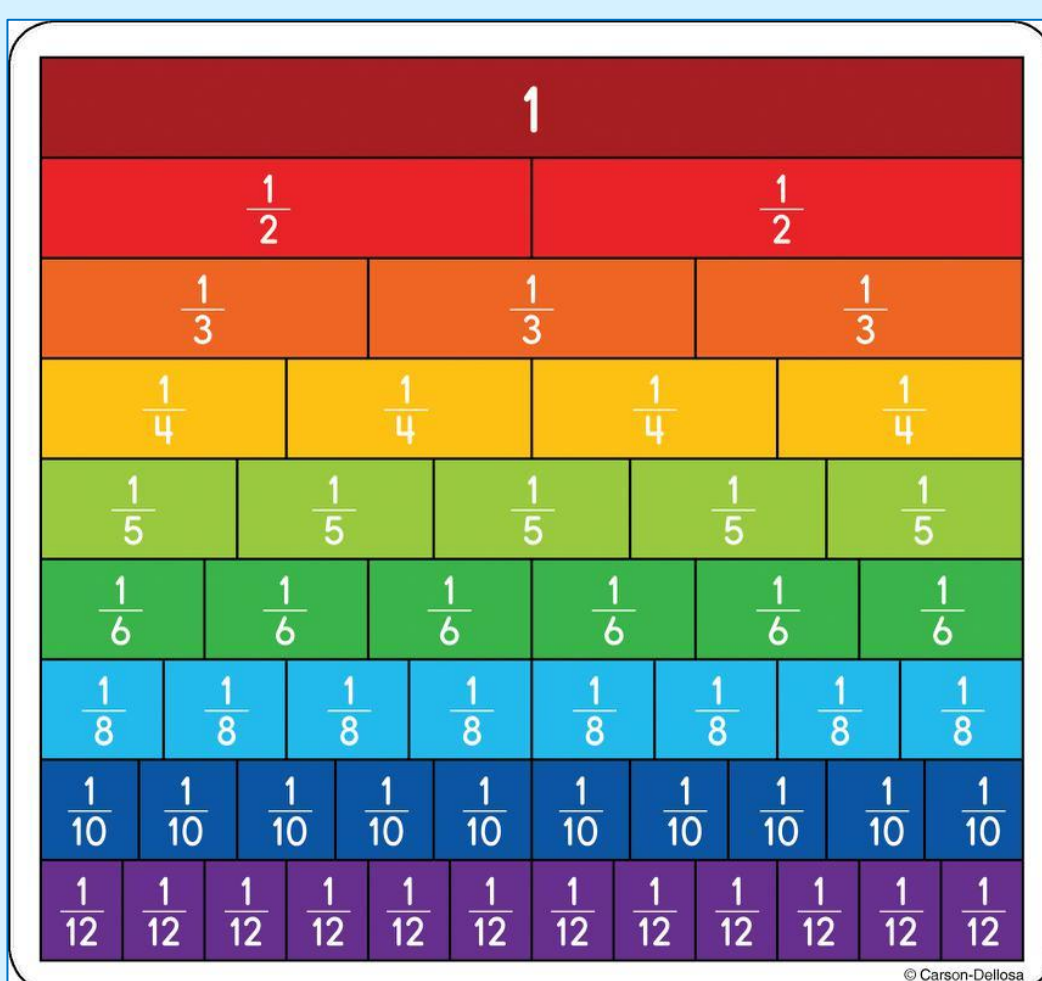


Image from [https://knilt.arcc.albany.edu/Unit\\_I:\\_Basics\\_of\\_Fractions](https://knilt.arcc.albany.edu/Unit_I:_Basics_of_Fractions)

## Issues Confronting Site:

- Students are not motivated to learn and complete assignments
- Students struggle with learning concepts
- Behavioral issues

## Site Information:

Site Name: Windy Hill Middle School  
Address: 9560 Boyds Turn Rd, Owings, MD, 20736

Supervisor: Alex Friedman

Mission: Provide educational support to students who did not pass a subject so that they can move onto the next grade

Goal: Ensure that all students leave with the proper educational foundation required for the next grade

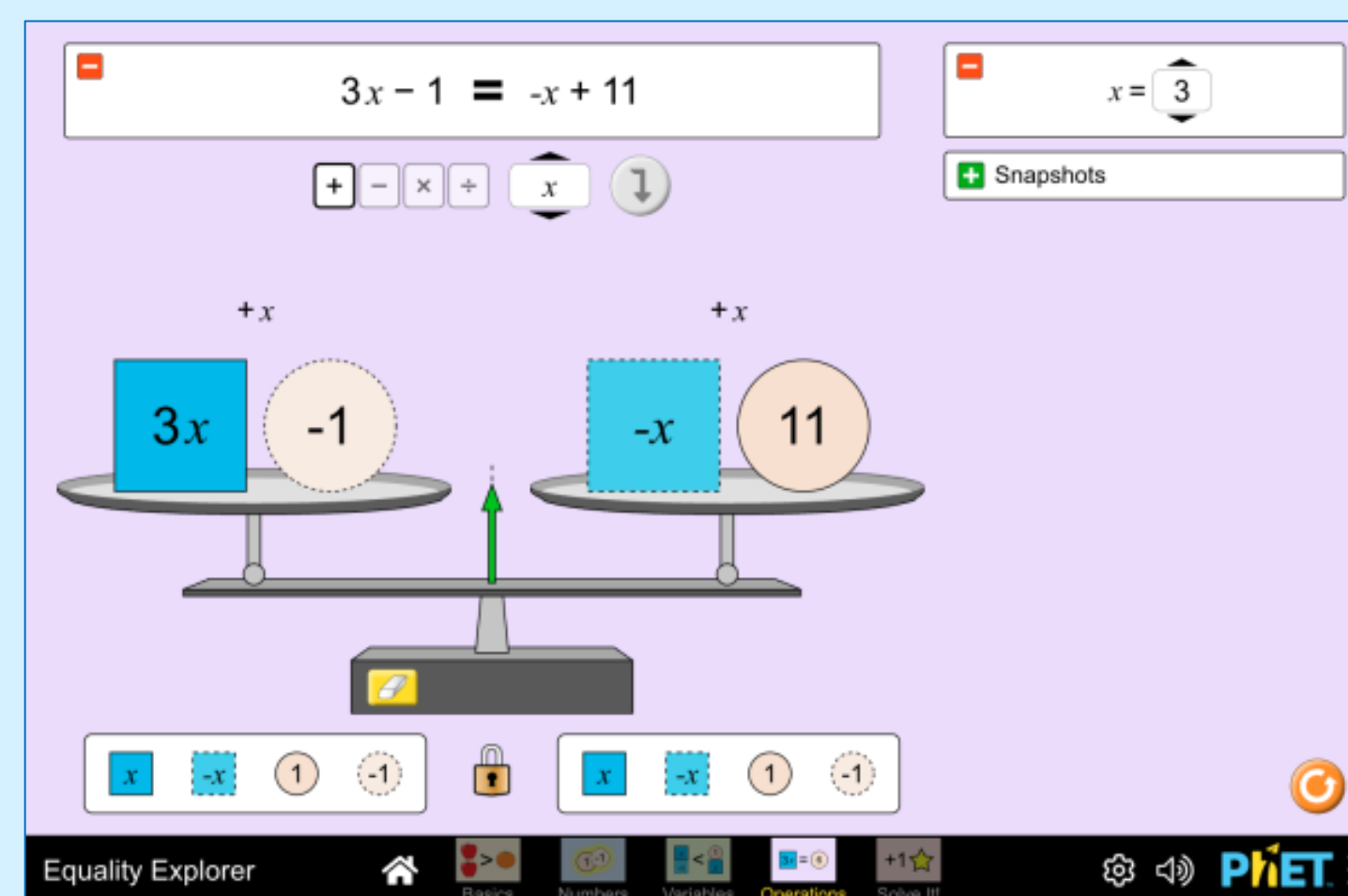


Image from <https://phet.colorado.edu/en/simulations/equality-explorer>

## Future Work:

- Determining if students learn best working in groups or independently
- Identifying if hands on activities or lecturing is more effective
- Examining the ratio of faulty to students

## Activities:

Some of the activities that I aided students with include:

- Using fraction blocks to demonstrate like fractions and addition, subtraction, multiplication, and division of fractions
- Creating percent and fraction number lines to visualize how they are related
- Building paper roller coasters to demonstrate the exchange of potential and kinetic energy
- Isolating x in an algebraic equation using a PHET simulation
- Expanding algebraic equations using Agile Mind
- Plotting given coordinates to create an image

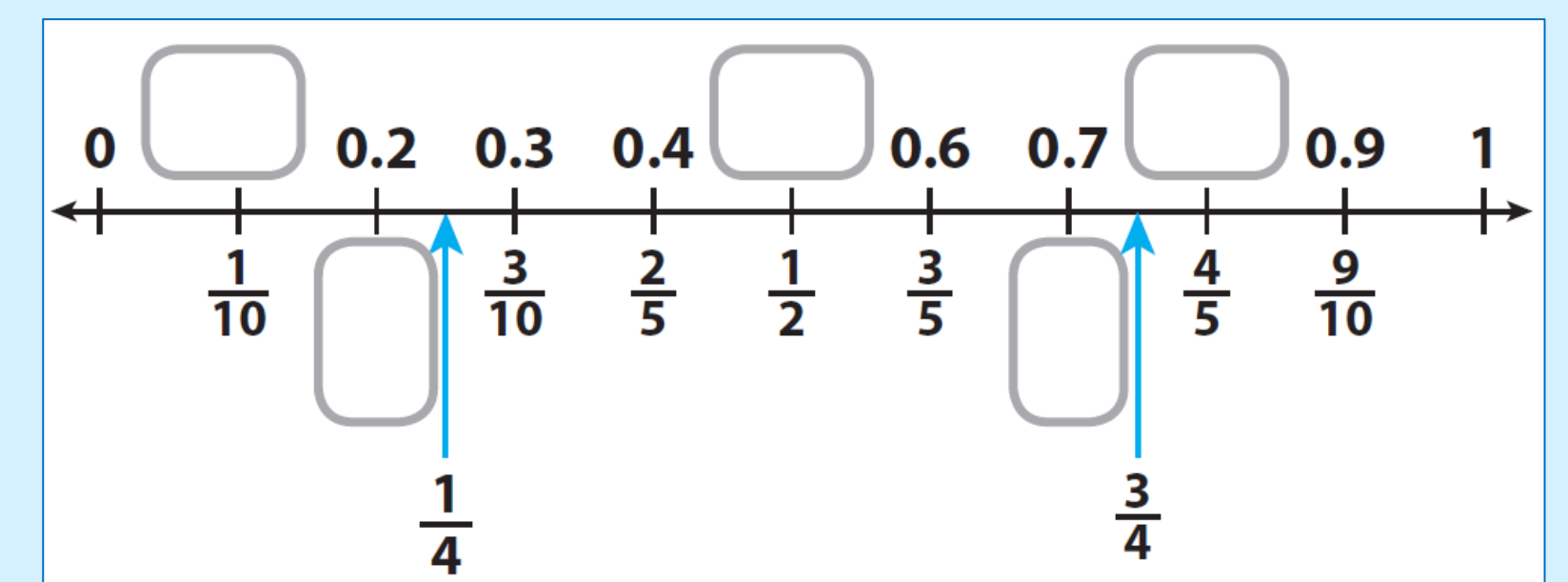


Image from <https://www.onlinemath4all.com/fractions-decimals-and-percentages-worksheet.html>

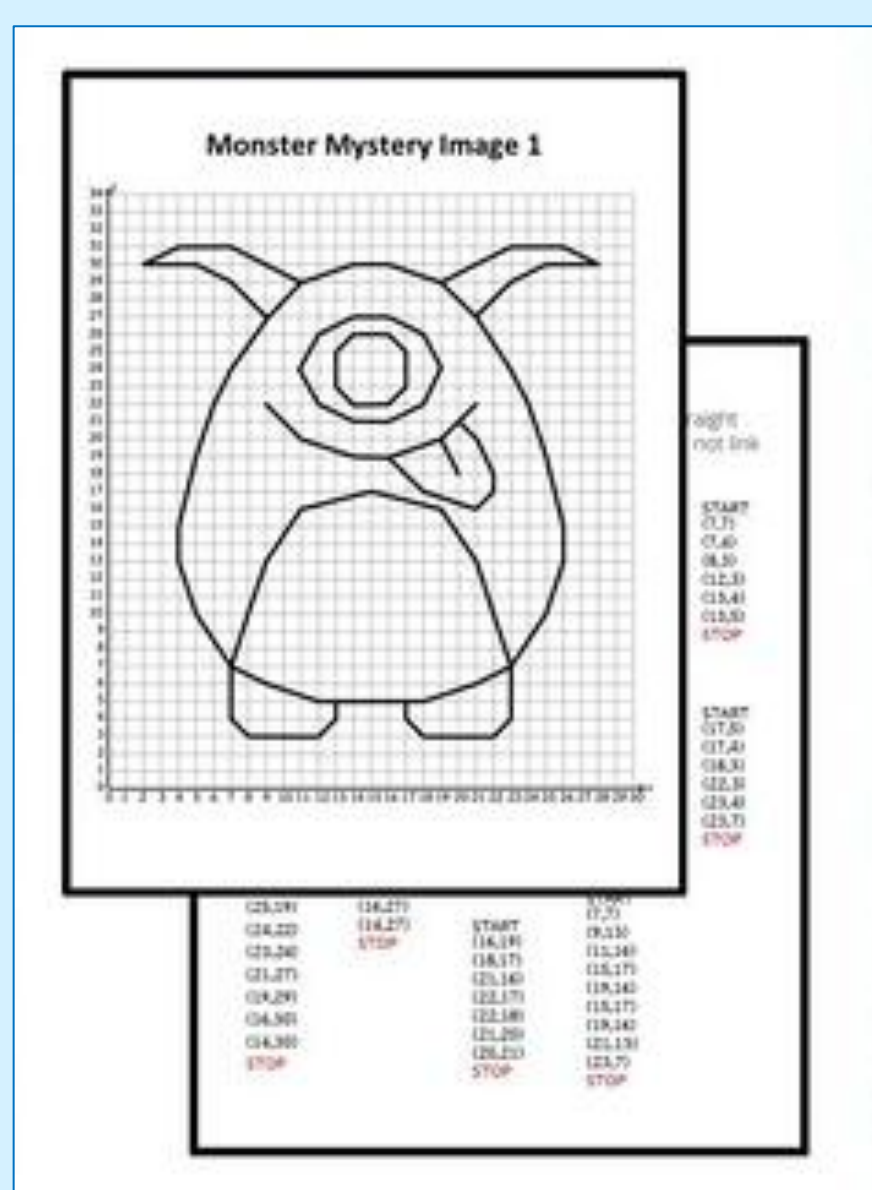
## Impact:

- Made learning more enjoyable
- Students were able to visual concepts which made it easier to learn
- Created a supportive environment were students felt it was okay to fail and keep trying

## Acknowledgments:

- Dr. Eric Turnbaugh
- Mark Whidden
- Alex Friedman
- Ella Platt
- Toni Liston
- Robert Mower
- Dr. Thomas Holtz
- Dr. John Merck

Image from <https://www.teacherspayteachers.com/Product/FREE-Monsters-Math-Coordinate-Graphing-Mystery-Pictures-Plotting-Ordered-Pairs-9774110>



$$(5x + 4y)(3x - 4y)$$

Image from <https://mammothmemory.net/maths/algebra/multiplying-brackets/multiplying-brackets.html>

