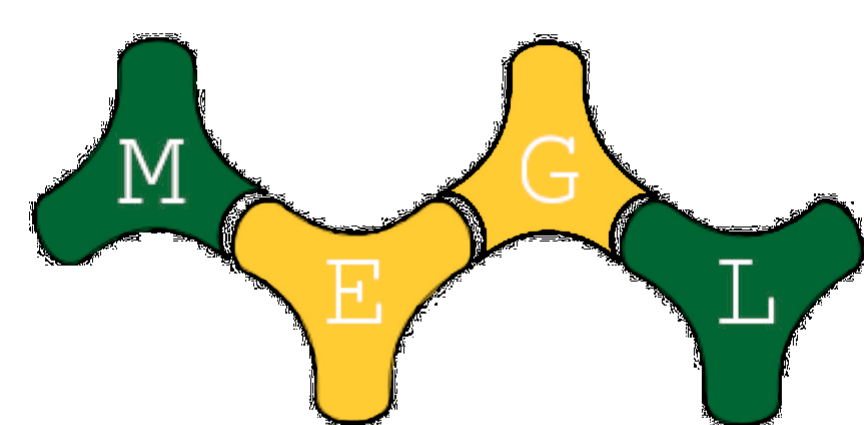


# Spring 2020 Outreach Team

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Mason Experimental Geometry Lab



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## Introduction

Since MEGL was founded, there has been an outreach component. However, Spring 2020 is the first semester an outreach team exists. Our major work involves reaching out to the community to introduce mathematical concepts in a unique way that would get students excited and curious about mathematics. We also work on developing new activities and follow up activities in different formats.

## Activities

- You Can Count on Monsters
- Really BIG Numbers
- Your Teachers are Lying to You
- Playground of the Infinite
- Snowflake Symmetry
- Hyperbolic Crochet



## Accomplishments

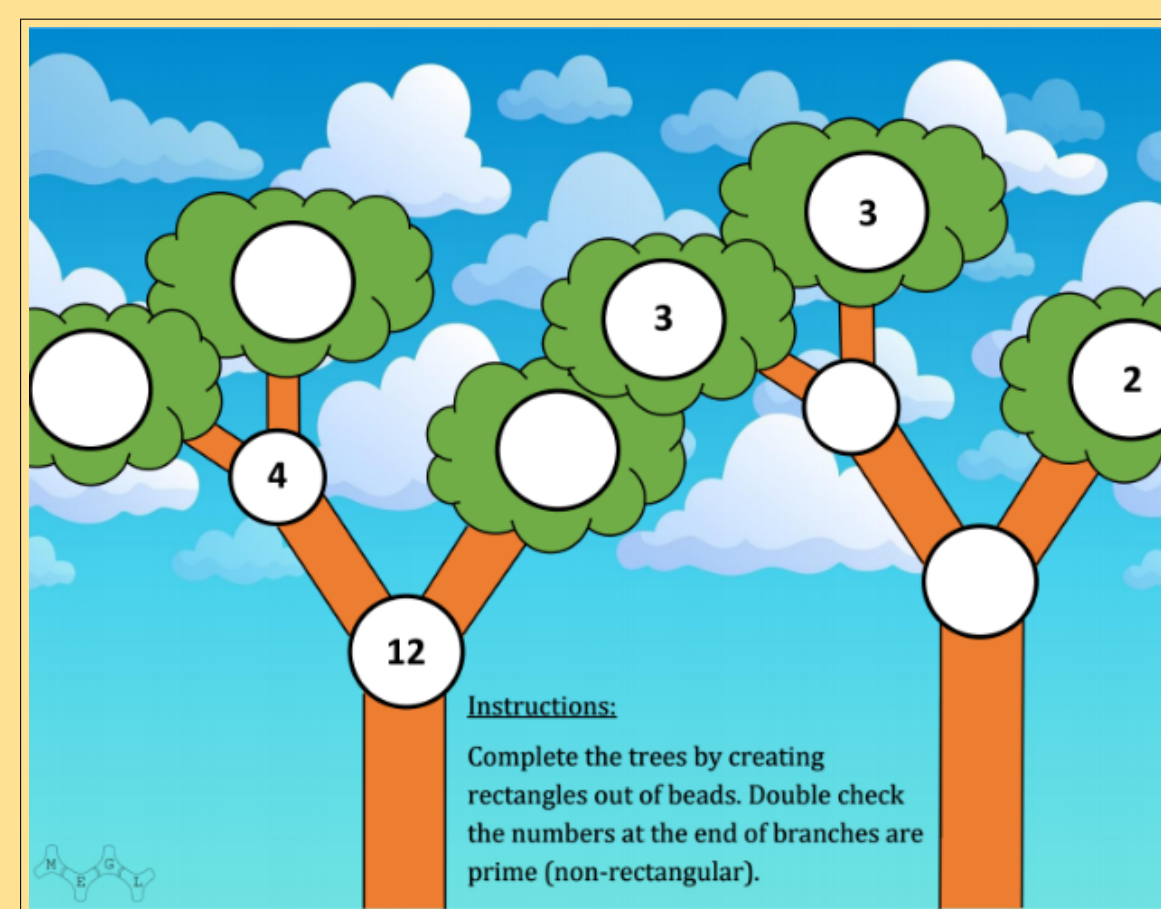
### Expanded Our Community

- New locations reached:
  - Bren Mar Park ES
  - Woodlawn ES
  - Dransville ES
  - Oak Hill ES
  - Brookfield ES
  - Metropolitan Washington Mensa Youth SIG, Tyson's-Pimmit Regional Library
  - Fairfax County Juvenile Detention Center
- Number of students reached:
  - Elementary Schools:
    - 496 students compared to 961 students from Fall 2019 due to COVID-19.
    - 65 students of 496 were reached virtually.
  - Secondary Schools:
    - 32 students compared to 43 students from Fall 2019.

528 students total in Spring 2020!

### Follow-up Lesson

- You Can Count on Monsters lesson packet:
- Based off of Virginia Standards of learning
  - Visualize prime factorization using trees.
  - Students work backwards given prime factors of a number
  - Further practice from worksheets with incomplete trees

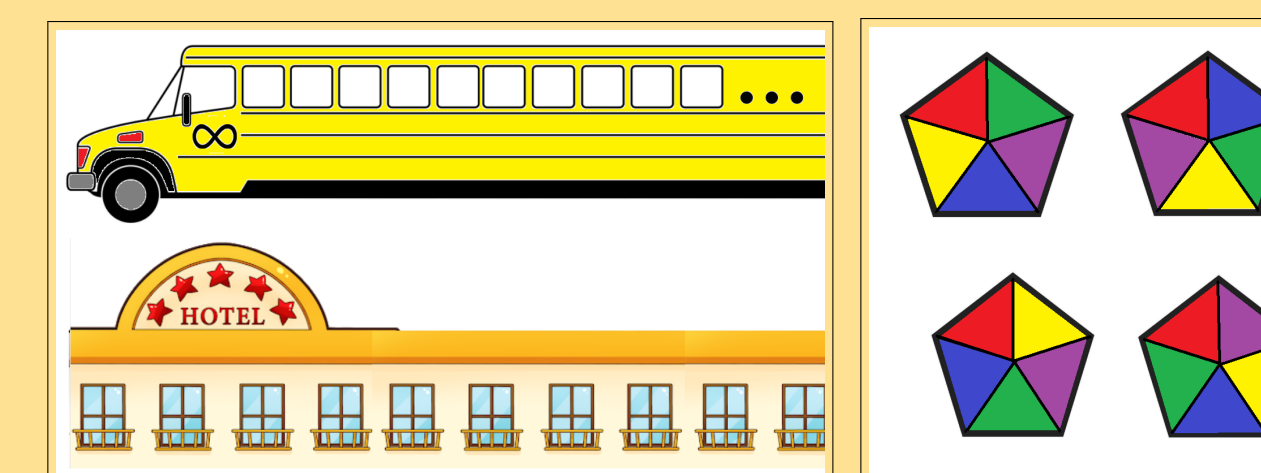


### New Activity

For our new activity, we're utilizing a new format to expand our audience. Our new booth activity can be brought to various STEM events and schools as a representation of the work MEGL outreach does.

#### Activity Pieces:

- **You Can Count on Monsters**
  - Solving trees
- **Playground of the Infinite**
  - Infinite Bus and Hotel
- **Really Big Numbers**
  - Doubling and factorial growth coloring
- **Snowflake Symmetry**
  - Cayley Table for  $D_4$
- **Your Teachers Are Lying to You**
  - Hyperbolic and spherical geometry

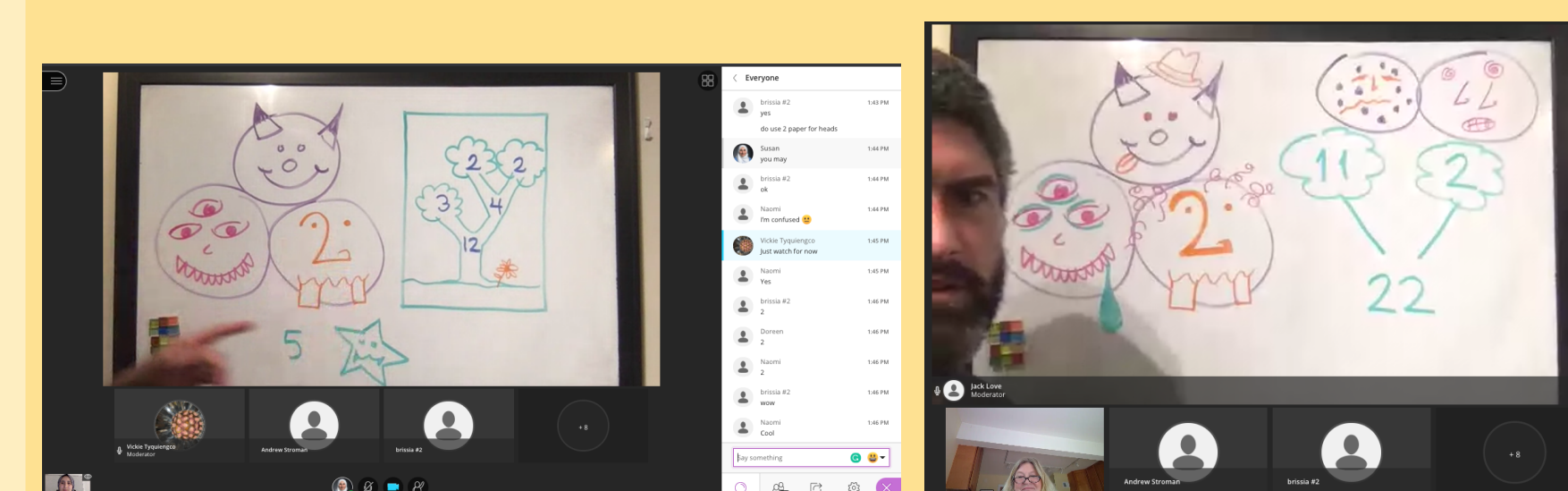


### Virtual Activities

In order to maintain contact with different schools and keep an active presence in the community, we created 3 online variations of activities. These online variations can be used to reach students outside of the area or .

#### Online activities:

- You Can Count on Monsters
- Snowflake Symmetry
- Really Big Numbers



## Future Goals

- Reach more students and target more secondary school students
- Expand our list of activities
- Create more follow-up lessons
- Expand the scope of outreach.

## Potential Future New Activity Themes

- Mathematical Problem-solving
- Topology Magic
- Counter Examples in Mathematics

## More Photos

