(1.5 hours/ week, 6 weeks)

Course Description:
In this mini course, step into the roles of the Scientist, Architect, Game Analyst, and engage in challenges! Challenges include making elephant toothpaste, solving crimes and more! In this mini course, we will be engaging with math related to these careers and how it interacts with our daily lives. We will explore how math isn't that scary, making you more comfortable through hands-on activities!

Week 1- Introducing myself and introducing each other

- On a scale of 1-10, how would you rate your comfort level with math
- What is your planned career (it's okay if you don't know this one!)
- What do you want to learn specifically about careers involving math?
- List all the careers you think use math
- Why do you think it is important for all these careers?
- What is one memory you have of math being useful in your every day life?

Week 2- Scientist

- Making elephant toothpaste
- Make sure to wear goggles and sleeves up! (preferably a lab coat, but not everyone has one)
- Calculation on the amount of baking soda we need, given ratios, but have to solve for the amount of a substance we need to add
- At the end, relate back to chemists and scientists: how they calculate molarity, the amount needed to be added, etc.

Week 3- Game Day!

- Station 1: Angry Birds
    - Showing the trajectories as parabolas and how you can calculate them to win
- Station 2: Dice Game
    - Calculating the probabilities of the dice landing on a specific side
- Station 3: Building A Tower
    - You can have 10 blocks, build the strongest tower you can

What careers do you think each of these games correlates to?
What are some other ways you use math daily without realizing?

Week 4- Forensic Scientist

Replicate a crime scene, and pretend someone broke a window. Pretend they are forensic scientists and have to find out who did it.
Split into groups and have everyone guess from where the person broke the window (at the end I will reveal and see who's closest)

- Measuring the angle of impact
- Use pythagorean theorem

Then collect alibis (I will put some on the slides)

- Calculate with the time who it could have been and couldn't have been based on the time provided.

Diagnose who the person is that did it!

Week 5- Architect

(1.5 hours/ week, 6 weeks)

First, talk about buildings that are structurally stable and how they are created, also debate about which shape is the strongest and why.

- Build a tower with gumdrops and toothpicks
- Each table will get 50 toothpicks and 20 gumdrops
- You get 30 minutes to build the tower

Week 6- Wrap up and Reflection

- What was your favorite activity that we did?
    - How did STEM tie into it?
- What did you like and dislike about this mini course?
- Have your career plans changed since the beginning of the mini-course?
- Revisit the scale visited at the beginning of the course on how comfortable they are with math
- Relaxed day (coloring and snacks)