

Matthew DeBellis
Practicum in STEM Leadership
PDE Proposal

1. What is the title of your leadership project?

Making Stop Motion Videos to Visualize Data: Learning in 3 Dimensions

2. Which option did you choose and why did you select the option/topic?

Leadership Project Option 1: Professional Development Experience. My department is super hands on and crafty. They love learning new techniques and tools and this will provide us with a time for collaboration! Plus- this activity can be used in any unit. I've tried stop motions videos for a few years now and the students absolutely love it. It helps them show their understanding! This one specifically will be about storm tracking because it allows students to see patterns that emerge from data provided from NASA.

3. Who is your proposed audience? Which teachers will you serve with your PD and activities? What grades, subjects, and how many students do they Teach?

My proposed audience is the science department of Rye Neck (middle and high school 15 teachers). They teach from 6th grade to 12th grade. We cover a variety of classes from Regents level core sciences to electives and AP level courses. Each teacher teaches roughly 75-100 students.

4. How will your project demonstrate integration of STEM in the classroom?

Participants in the workshop will use their phones to make a stop motion video to show the path and other data of storms in the Central Pacific, eastern Pacific, and Atlantic. They will use [NOAA](https://www.noaa.gov/) as their backdrop, clay or paper as the storm shape, and <https://worldview.earthdata.nasa.gov/> as a data source. The source offers many different storms from all over the world and advanced tracking data for each one. Participants will have to engineer their stop motion setup (to keep the phone steady) and think computationally of the sequence of photos of their model they will take.

5. What outcomes or expectations do you hope to see for your educators?

Participants will be able to create a detailed physical model of a storm from NASA data. They will be able to convert that model into a GIF to show the change in data to observe patterns in the storm's characteristics and location. Educators will also be able to navigate the NASA worldview as sources of planetary phenomena.

6. How will you follow up with the teachers in attendance?

Teachers will receive a guide with even more data sources from NASA in addition to a google form about the suggestions for improvement or "warm" and "cool" comments.