VERNON MALONE
COLLEGE AND CAREER ACADEMY
Silver Hawks

PBL

# Real World Projects That Impact Our Lives

## Course: Math 4 (Honors)

## Instructor: Mrs. Grismer

### Project Overview:

Introduction and review of key features of functions with quadratic functions with a hands-on activity. Mini lessons with higher degree functions utilizing the same key features reviewed with quadratics. The middle will be sets of practice checkpoints and a traditional assessment, followed by the final project assessment using their birthday function. The final project will incorporate Desmos.com for graphing their birthday function, as well as writing an essay and presenting their work to their classmates.

### Instructor Reflection:

***Most memorable part of PBL**: "Seeing the success that my students had and hearing things like, "You can write a paper in math class!" and "I didn't think I could do this, but then I did it and it was easy!"*

***In the future, I would:** "Add in another feedback day for the students to get feedback on their presentation slides."*

***Future impact of students:** "I am hoping this will set them up nicely for identifying key features of functions as we move through the different types of functions. I also hope that this shows them that they can do hard things and be successful! That if you put in the effort, then you will most certainly see the reward."*

### Student Reflections:

*"I learned to **expand my learning methods** and that math is for everyone. **Everyone is a math person** but what makes it different is that they either have a **fixed or growth mindset."***

*"This PBL helped me explain my **math skills in words** and presentations and not just in numbers. "*

*"The way this project was broken down into different **parts allowed me to focus** on each one individually and helped me understand things better."*

*"I was successful because of the class time our Math teacher gave us to complete project and the **feedback activity** (switching papers three times for grammar, requirements, and suggestion checks). "*

*"Having my **peers look after my work** and **review my essay** helped me succeed. "*

*"This project will impact my future by knowing how to **write about mathematical facts in an essay**. It might seem simple but, again since I've never done this before it was a different "experience". "*

*"This project will impact my life by better **understanding my weaknesses** and knowing how to give a **presentation in math terms.** "*

### Driving Question:

How can we efficiently and effectively describe and communicate ALL the key features graphically and verbally of our Birthday Polynomial Function?

### Essential Questions:

How do we determine increasing and decreasing intervals? Positive and negative intervals?
How do we find the zeros of the function on a graph?
How do we determine the turning points? Relative maximums and minimums?
How do we find and describe end behavior, given a graph?
How do we describe domain and range, given a graph?

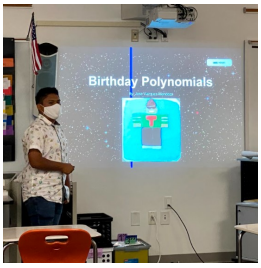
### Product:

Birthday Polynomial Function Graphs, Essay Paper and Presentation

Mrs. Grismer helping students with PBL feedback.

PBL peer feedback exchange.

PBL presentation preparation.




PBL presentation day!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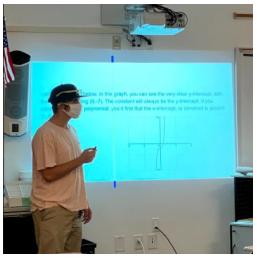

PBL presentation day!