Math 10 Project Log

Math 10 Mission: The mission of this course is to help learners see the world through a rigorous mathematical lens by using the habits of a mathematician (generating ideas, recognizing/resolving errors, communicating, and synthesizing) to solve real world problems.

Most days in Math 10 you will have a starter or an exit ticket you will answer on this document. The goal of your project is to catalog your learning for a project from start to finish. This will be a way for you to keep track of your progress and also for me to assess how well you are meeting the objective for the project and the course.

Most days there will be a question posted on my DP that you will copy and paste on your document and answer it. Every two weeks there will be a completion grade entered for your project logs.

Rocket Project

Essential Questions:

1. How do you make a successful water rocket?
2. How do you describe a rocket in flight?

Entry #1:

Read through and annotate The Habits of a Mathematician doc
Answer the following:

1. What habit are you best at and why?

2. Where can you improve most with your mathematical thinking?

3. Write a goal for math 10 this year based on the habits of a mathematician.

Entry #2:

1. Go over the POW write up
    a. POW Exemplar using the POW Rubric
2. Discuss the following prompts for the exemplar and write a one sentence summary of your discussion as evidence.
    a. In what ways does this person have a clear problem statement? How could it be improved?

b. In what ways does the process make it clear to understand, and to what extent could it be replicated by someone that is not familiar with the problem?

c. In what ways is the conclusion honest, and shows a clear understanding of the solution and how to get there?

Entry #3 (Catapult Reflection)

1. What did the catapult mini-project teach you and why is it important for the rockets?

2. What part of the engineering process was vital for creating a successful catapult?

3. What advice would you give next year's sophomores for the catapult mini-project?

Project Log #5

1. What is the definition of a vector? Describe in your own words.
2. Why is velocity a vector and speed is not? Explain.

Project Log #4

Watch this video for an alternative way to do your POW write up.

1. What did you notice when watching Nora's POW?
2. How effective was Nora's process and why?
3. What was something she could improve on?

Project Log #5

1. What is the definition of a vector? Describe in your own words.
2. Why is velocity a vector, and speed is not? Explain.

Project Log #6

Task: Read the following article and answer the following prompts.
https://www.intmath.com/blog/mathematics/vector-fields-a-simple-and-painless-introduction-3345

1. Find the definition of a vector field and describe it in your own words below.

2. Write 3-5 sentences of one example of vectors you found interesting and why?

Project Log #7

Directions:
Go to google classroom and find the Janitor POW Assignment
Look at the Feedback and answer the questions.
Complete the super short feedback survey

Questions:

What is one strength in your POW write up?
What section can be most improved and why?
What do you want to work on for your next POW?

Project Log #8

1. Which rocket performed the best and why? (Backslider, Loose Nose Cone, Tommy Toy)

2. What design element is most important when building rockets and why? (Fins, Nose cone, pressure chamber, parachute deployment system)

3. How do you build a successful water rocket? (3-5 sentences)