



Instructor:

Mrs. Grismer

Course:

Pre-Calculus



Driving Question

What is the meaningful problem to be solved or question to be answered that frames the project?

How can we utilize models to predict the population growth of aphids and use that model to create a plan to protect our soybean crops?

Authenticity & Sustained Inquiry

How does this project involve real-world context, tasks and tools, impact, or personal issues in the students' lives?

Did you know that agriculture is the leading industry in North Carolina? With that in mind, it impacts not only the state's economy but the food that is put on the table. With this project, students will be studying the reproduction of aphids (insects which may cause damage to plants) and methods that may slow down and/or prevent their potential damage.

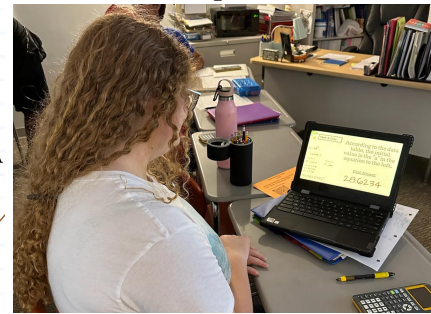
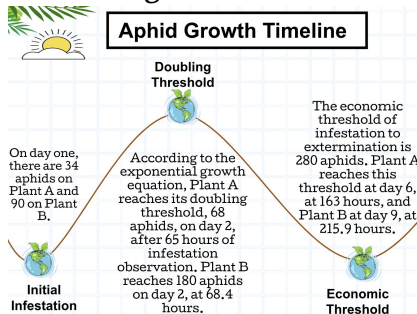
Public Products with Student Voice & Choice

What were some products students chose to make, and how did they share their products outside of the classroom?



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Students created graphs that depict potential aphid population growth and methods to decrease its speed.



Teacher Reflection

Teachers reflect on the PBL process, the quality of student work, and any changes to make for future use.

I've used this project several times and have modified it each time. Now, the students are able to be a bit more creative with what they research and how they model their data, especially with their collected imperfect data that is more realistic. Students were able to buy into their project, evaluate and rationalize various methods on how to deal with aphids, and express how they would deal with the aphid population.

Student Reflections

Students reflect on the learning, the effectiveness of their inquiry and project activities, and obstacles that arose and strategies for overcoming them.

- "I thought more about the math we learn in school and how to apply it in the real world, even in fields of agriculture."
- "I'm in the Biopharmaceutical program so seeing how the logistics and logarithms are applied in the real-world was useful."
- "It helped with teaching us to process large amounts of available data and make logical conclusions. It also included soft skills of working with other people, including delegation, division of tasks, and mutual understanding of a shared project."
- "This project helped me grow in actually applying data to map out a solution and observation which is essential when using proper data and measurement in the creation of drugs."
- "I grew by becoming more adept to individual research."

Noted Skills Gained

Data Analysis

Research

Modeling Math Equations

Collaboration

Problem-Solving

Evaluating