

SPARKNotes

Students Pursuing Advanced Reasoning & Knowledge

January 27, 2023

Calendar

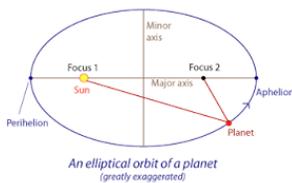
- February 2 Planetarium field trip
- March 14-16 Spring Break
- May 24 Second Semester Student Presentations
- May 25 Field Day and last day of classes

Lesson Summaries

Algebra and Math

We started the week going over their Casino Day analysis and seeing how much math is involved in betting. It was apparent how low the probability of winning is because the odds are in favor of the “house.” Next, we did a Perennial Math challenge, which is a program that encourages algebraic problem-solving. The rest of the week was spent going over the requirements for the Math in Art project for the second semester. We looked at various artists and art forms, all of which involved mathematical principles such as Fibonacci’s Golden Ratio, Fractals, Symmetry, Tessellations, and 3-dimensional measurements. Students are doing research this weekend to decide what art form they will create and the artists who use them.

Science



We spent this week learning about Renaissance astronomers Nicholas Copernicus, Tycho Brahe, Johannes Kepler, and Galileo Galilei. Each person brought a new discovery: from a heliocentric solar system to the speed of planets to measuring distance using astronomical units. We discussed in detail the importance of geometry when studying astronomy as most of these discoveries were done through measuring angles and shapes of

planets. To demonstrate Kepler’s discovery of the planet’s rotations, we created ellipses using string and tape. Next week, we will discuss Isaac Newton and modern discoveries of the last 100 years.



Language Arts Blue

The students are writing an original short story using the blueprint of S.E. Hinton’s *The Outsiders* book with modern day references to give a sense of place and time. They are including references to today’s technology, slang, fashions, and societal problems. In addition, they need to include literary devices such as metaphors, personification, and imagery to create more depth and interest to their stories.

Language Arts Green

I was very impressed with the students' essays analyzing *The Giver* book and movie. To be honest, I had never written with such depth and maturity when I was their age! It just shows that students will rise to the challenge you give them. They are now working on a story to submit to the Florida Writers Association for Youth Collections contest. This year's theme is Secrets and they have some very creative ideas already.

Social Studies

Last week, I introduced different types of businesses. This week, I showed students what the various tax forms look like (W-2s and 1040s) while explaining income and expenses. Then they did a class activity where they were tasked with creating three ads using different prompts. First, they worked alone as a business owner, next they worked with a partner, and last they worked with four students as a "board of directors." Students enjoyed the creative process of making a radio advertisement and also learned about the advantages and disadvantages of the different types of businesses such as sole proprietorships, partnerships, and corporations.

Some of the students enjoyed creating an ad completely on their own while others really enjoyed bouncing ideas off of their peers. When working in a group of four students, it became apparent what roles the students naturally leaned towards: leaders, creative thinkers, or helpful encouragers. Next, we discussed what goes into a business and what documents businesses use to track their own progress. I am using parts of the following video on the basics of business and investing and simplifying it for the students:

<https://www.youtube.com/watch?v=WEDlj9JBTC8>

