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## Art Integration Assignment

One of the art forms that could be most seamlessly integrated into my mathematics classroom is digital storytelling. I chose this medium because my students often struggle to connect their knowledge of mathematics to their knowledge of the world around them. By giving students the creative outlet of storytelling within the parameters of a mathematical context, I hope students will be able to develop deep conceptual understanding of how the mathematics they are learning applies to the world around them.

Currently, I am wrapping up a unit on Particle Motion in Calculus. The scope of our course analyzes linear motion, where a particle can move only in a positive or negative direction. It requires that students understand the concepts of position, velocity, speed, acceleration, jerk, and more. This can be a very abstract concept for students, especially if they have not already taken a physics course. Next time I teach the lesson, I would like to design and implement a lesson where students look at a mathematical model and use it as a foundation for digital story telling. Students can use their knowledge of Calculus to determine when a particle is at rest, in motion in a particle direction, speeding up, slowing down, and more. They can then create a representation of this information. I would love to have students create a video that tells the story, but could also be done with a comic strip or even the writing of a children's book that tells of a "journey." I love that all of these art forms could be shared with younger students, as well. This would be a true test of my own students understanding, as they would need to be able to simplify their findings enough that even a young child could understand it.

I believe strongly that integration of this art form would support my lesson in an entirely new way. Students will need to be able to convert the information they see in a graph or analyze from a function to a real-world scenario, involving time and context. It will challenge them to communicate their mathematical knowledge coherently. It will also allow them to create a memorable tie in their minds to the mathematics, deepening their knowledge and tying the math to something they already understand in their real-world surroundings. This art form also allows for interdisciplinary connections. There is already a clear connection to physics, as much of what we cover in Calculus is really the mathematics behind physics. Students will also have the opportunity to work on their creative writing skills, creating a clear tie to English classes. The idea could be expanded to a historical context as well, requiring that students write a piece of historical fiction in their chosen medium. It would be a wonderful tie in for an interdisciplinary project- perhaps discussing the “journey” of an explorer or a “day in the life” of a person living during a particular era.

Utilizing the arts in my Calculus class provides students with an outlet for creativity and another way to demonstrate their knowledge of mathematics. This would also provide an engaging context for students who do not always easily engage with mathematics. I am looking forward to integrating this idea into my class next year!