



### 3-Acts

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Our questions: Can we create math problems in the form of 60 second films that draw people into solving them? How can a math problem give access to every student in the class while still challenging the most persistent of students? We broke the project into three phases: the first, where students experienced doing many 3-Act problems in collaborative groups in math class while learning animation techniques and telling stories in art class. We also analyzed the 3-act problems we did, working at creating criteria for 3-act problems that effectively pull people into the problem while giving them access. In phase two, art and math merged and students drew storyboards in art class to represent a math problem they developed in math. In phase three, students perfected their 3-act problems through critique and feedback cycles.

#### Teacher Reflection

3-Acts is, in essence, a project in math education that pulls as much rigorous math discussion into the project as possible. There is craftsmanship in the refinement of the film; there is authenticity in the search for scenarios that draw people into a math problem; there is intellectual complexity in the dozens of problems that students solve throughout the project and in the tension between the need for great story and the need for access and challenge in a math question.

#### Student Reflection

I learned that failure leads to success. Doing the animation and storytelling was a challenge for me, but throughout the project I learned that perseverance and effort will leave me with the satisfaction of a great final product. A math classroom should be a safe space where students can show their ideas and work together to come up with a solution, can share their creativity and never be scared to be wrong. They should accomplish each task and challenge feeling proud of themselves and never giving up.

—Marysol

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