

# Calculus - Function Story Project 2018

Due: Mar. 23, 2018

## Driving Question

How do functions and their tangent lines help us describe the world?

## Deliverable

Create a presentation card (no larger than a half-page) summary along with an animated Desmos graph that addresses the following requirements.

- Story - Create a story of a situation or event your function is meant to represent.
  - Why does the function have the shape that it does? This should be self-evident in the way you tell your story. Make it make sense.
- Equation - Write an equation of a not-too-basic function that corresponds with your story.
  - Cannot be a linear or quadratic function.
- Graph: Create an animated tangent line graph in Desmos for your function.
  - Must show at least one animated tangent line.
  - Must display values for  $f'(c)$  and  $f''(c)$  as shown in example.
- Write-Up: Describe the meaning and interpret, in terms of your story, every major element of your function and graph.
  - What is the meaning of the input and output variables of your function?
  - What is the meaning of the slope / tangent line of your function?
  - What problem (if any) does the tangent line graph help to solve?

## Rubric

	Story	Equation	Graph	Write-Up (counts double)
4	Cool! Or realistic	Sophisticated	Every detail is perfect and clear as day	You literally thought of everything
3	Okay, but not interesting	Matches the story	Accurate and complete	Answers the prompts
2	Too simple	Kind of works	Some things missing	Some things could be more clear
1	Um, what?	Serious issues	Does not work	Say again?