Évariste Galois embodied the proverb "The flame that burns twice as bright burns half as long." He died at twenty in a duel surrounding a broken love affair, and in the night before (knowing he would likely lose) wrote a letter outlining several mathematical ideas that were called "the most substantial piece of writing in the whole literature of mankind."

His work was the first to use the word group in its modern sense; with it, he created the entire field of Galois theory, which allowed mathematicians to disprove (amongst other things) a longstanding conjecture that all roots of polynomials can be expressed in terms of a finite number of radicals and elementary operations.

In this project, you will be Galois. (Minus the "dying tragically in a duel" part.) Namely, you will work your way through his results, prove and study his theorems, and recreate as many of his results as you can! A successful run of this project will consist of a group creating a collection of presentations/writeups that would take a first-year CCS mathematics student through the mathematical highlights of Galois theory.