



Curriculum Units by Fellows of the National Initiative
2018 Volume IV: Big Numbers, Small Numbers

Answering Big Questions by Finally Understanding Big Numbers

Guide for Curriculum Unit 18.04.01, published September 2018

by Aaron Bingea

As a middle school math teacher I find a level of joy in mathematics and more specifically with numbers. I believe that if we understand numbers, we are better able to make sense of our world. Unfortunately, my students in large part do not share my enthusiasm for math and often times demonstrate an aversion to numbers especially those that are unfamiliar. My overarching motivation for this unit is to revisit the basic structure of our number system and help them understand numbers in a more in depth and conceptual way. This will allow students to access 8th grade content that involves laws of exponents and scientific notation with greater ease and interest. Ultimately by developing my student's abilities to reason and operate with big numbers they will be able to ask and answer their own big questions about the world and hopefully enjoy doing it. The concepts covered in this unit are as follows:

1. Understanding the Relative Size of Numbers
2. Numbers as Powers of 10 and Laws of Exponents
3. Estimating
4. Scientific Notation
5. Operating with Scientific Notation

(Developed for Mathematics, grade 8; recommended for Algebra I, grade 9)

<https://teachers.yale.edu>

©2023 by the Yale-New Haven Teachers Institute, Yale University, All Rights Reserved. Yale National Initiative®, Yale-New Haven Teachers Institute®, On Common Ground®, and League of Teachers Institutes® are registered trademarks of Yale University.

For terms of use visit https://teachers.yale.edu/terms_of_use