



Curriculum Units by Fellows of the National Initiative
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The Starting Line-Up: Analyzing the Number Line to Conceptualize Foundational Skills for Algebra

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This unit uses the number line to re-teach basic mathematics skills to deepen students' conceptual understanding of number conceptualization, fractions, and the addition and subtraction operations. The unit is intended to be a pre-cursor to Algebra I. Many concepts in Algebra I are connected to linear equations and models. Using a linear model to re-teach foundational skills will allow students to answer higher-level questions and explain their thinking.

The skills reinforced are all related to Common Core State Standards across all grade levels. These foundational skills are reoccurring throughout the "Creating Equations" and "Reasoning with Equations and Inequalities" standards. As teachers plan individual lessons and classroom activities, it will be important to ensure that students are being exposed to all of the Mathematical Practice Standards as well.

In this unit, a variety of teaching strategies will be employed such as the use of manipulatives and technology to gain a comprehension of the operations on the number line. The unit will also require a focus on active learning through intentional math discussions in the classroom, employing the use of Socratic Seminars. I believe that if this unit is used as an introductory unit, student will be able to connect their prior knowledge of these skills through the study of the number line and will build a solid conceptual foundation for their continued success throughout the school year.

(Developed for Pre-Honors Algebra, grade 8; recommended for Mathematics Intervention, grades 6-8)

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