



# YALE NATIONAL INITIATIVE

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Curriculum Units by Fellows of the National Initiative

2014 Volume V: Place Value, Fractions, and Algebra: Improving Content Learning through the Practice Standards

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## Defending a Fractions Position

Guide for Curriculum Unit 14.05.03, published September 2014

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The unit, Defending a Fractions Position, was inspired by a group of students, who are full of energy, highly motivated, but have had personal and academic struggles in various stages of their lives. The goal of the unit is to demonstrate how powerful concrete tools are in developing abstract ideas. It begins with building background knowledge in ways students see or connect with fractions on a daily basis. Next, the unit examines two powerful tools: the area model, also known to some as the brownie pan, and a linear model, the number line. Through the use of the area model and the number line the unit addresses the concept of unit fractions, and through them, general fractions. These models are used to develop the student's conceptual understanding. The unit works through a series of concepts and strategies from identify fractions on a number line to comparing fractions to benchmarks of zero, half and one whole. It also addresses additional concepts of ordering, adding and subtracting fractions. Finally, the unit provides activities that use concrete representations to promote student conceptual understanding.

(Developed for Mathematics, grades 4-5; recommended for Mathematics, grades 4-5)

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