Developing Essential Understanding of Rational Numbers

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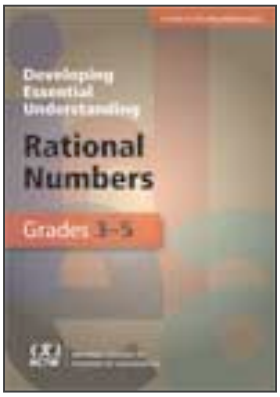
DESCRIPTION



Developing Essential Understanding of Rational Numbers, by Carne Clarke, William Fisher, Rick Marks, Sharon Ross, and Rose Mary Zbiek, explores the mathematics of rational numbers in both fractional and decimal forms and their relationship to percent. This useful resource for teachers and their leaders focuses on fractions and emphasizes mathematics important for teachers in grades 3-5 to understand.

Chapter 1 enumerates, expands on, and gives examples of four big ideas and related essential understandings that include:

1. Extending Our Use of Numbers
2. Making Sense of Rational Numbers.
3. Rational Numbers and Equivalence
4. Computing with Rational Numbers

Chapter 2 guides the reader in seeing how the ideas in chapter 1 are connected to the mathematics students have encountered earlier or will encounter later in school. Chapter 3 outlines four shifts that teachers can help students make on their way to understanding rational numbers. These shifts are related to the big ideas of rational numbers and include shifts from unrelated system to natural extension, from one model to many representations, from whole number-based to equivalence-based comparisons, and from "rules" to sense making.

STAGE 1 LEADERSHIP DEVELOPMENT

Developing Essential Understanding of Rational Numbers, by Carne Clarke, William Fisher, Rick Marks, Sharon Ross, and Rose Mary Zbiek, supports stage 1 leadership development of leaders working to know and model the Teaching and Learning Principle. Specialists wanting to deepen their understanding of rational numbers and the challenges in teaching rational numbers will find this book a useful tool. Working alone or with a colleague, specialists may begin by reading about the challenges of teaching, learning, and assessment of rational numbers along with possible approaches to them in chapter 3. With this perspective in mind, read and reflect on the mathematical ideas in chapters 1 and 2.