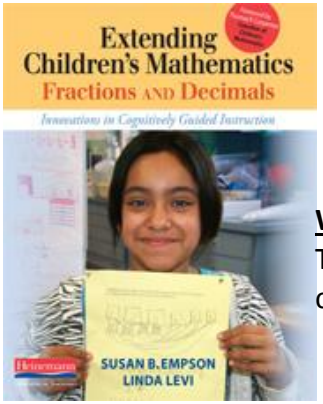

Definition of Decimals – Chapter 7

Guide for using Extending Children's Mathematics: Fractions and Decimals (Susan Empson and Linda Levi) as a resource.

Why is this book valuable?

The purpose of this book is to "show how the same kinds of intuitive knowledge and sense making that provide the basis for children's learning of whole-number arithmetic can be extended to fractions and decimals." (page xi)

Helpful Resources for Teacher Learning

Pages xi - xiv
Forward – This provides a great justification for why this book is helpful in teaching fractions and decimals.

Pages xvii –xxvi (especially page xxiii to see focus on decimals)
Introduction – This introduction is VERY helpful in explaining "Issues in Learning Fractions and Decimals: Rethinking Our Approach" and aligns well with our Common Core content and practice standards.

Pages 148 - 170
Chapter 7 – Understanding Decimals
"In this chapter, we describe how students can learn decimals as a natural extension of what they understand about base ten and fractions." (page 148)

Pages 171 – 177 Problems for Decimals and Instructional Guidelines for Teaching Decimal Numbers

Important Teacher Notes

"Unfortunately, many students begin the study of decimals without a strong understanding of fractions, base ten, or both. Too often base-ten instruction focuses on naming places and writing numerals with little attention to understanding groups of powers of 10 and the relationship among these groups…you might be a fourth-, fifth-, or sixth-grade teacher who has to teach decimals to students who lack a relational understanding of base ten and/or fractions. In this case, you can take the approach that Ms. Andrews did (see page 153) and integrate the study of decimals with the study of base ten and fractions." (page 170)

Because we know there are gaps due to the implementation of Common Core, following the structure seen in this chapter "From the Classroom: Teaching Decimals" (page 153) is a great way to structure your time during this unit. Refer to the Unit 6 resources page for hard copies of problems posed in this section as well as additional problems to pose (from this chapter) to encourage decimal understanding.