

# CONTENTS

---

<b>Preface</b>	<b>vii</b>
Organization of the Book	vii
Acknowledgments	viii
<b>Introduction</b>	<b>1</b>
Student Struggles with Fractions	1
Focusing on Mathematical Practice	2
Focusing on Mathematical Content	5
Summary	5
<b>Grade 1</b>	<b>7</b>
Partitioning Wholes Into Equal Areas	7
Summary	10
<b>Grade 2</b>	<b>11</b>
Partitioning Wholes Into Equal Areas	11
Summary	15
<b>Grade 3</b>	<b>17</b>
Interpreting $\frac{a}{b}$ as Copies of $\frac{1}{b}$	17
Equivalent Fractions	24
Comparing Fractions	29
Partitioning Wholes Into Equal Areas	33
Summary	35
<b>Grade 4</b>	<b>37</b>
Equivalent Fractions	37
Comparing Fractions	40
Relating Fractions and Mixed Numbers	46
Adding and Subtracting Fractions with the Same Denominator	49

Multiplying Fractions by Whole Numbers	55
Interpreting Decimals	57
Comparing Decimals	61
Summary	62
<b>Grade 5</b>	<b>63</b>
Representing Decimal Thousandths	63
Comparing Decimals Involving Thousandths	67
Adding and Subtracting Fractions	69
Interpreting Fractions as an Implied Division	79
Multiplying Fractions	81
Dividing with Fractions	88
Summary	89
<b>Grade 6</b>	<b>91</b>
Relating Ratios to Fractions	91
Dividing Fractions by Fractions	94
Interpreting Rational Numbers	101
Summary	103
<b>Grade 7</b>	<b>105</b>
Ratios and Proportional Relationships	105
Adding and Subtracting Rational Numbers	109
Multiplying and Dividing Rational Numbers	115
Writing Rational Numbers as Decimals	119
Summary	121
<b>Conclusion</b>	<b>123</b>
<b>Bibliography</b>	<b>125</b>
<b>Index</b>	<b>129</b>
<b>About the Author</b>	<b>133</b>