

## **Correlation with NCTM's Principles and Standards and Curriculum Focal Points**

<i>Beyond Pizzas and Pies</i> Chapter	Correlation with NCTM's <i>Principles and Standards</i> and <i>Curriculum Focal Points</i>
<p><b>1</b> The Problem with Partitioning: It's Not Just About Counting the Pieces</p>	<p>From <i>Curriculum Focal Points</i></p> <p>Number and Operations Standard: Grade 3: Developing an understanding of fractions and fraction equivalence:</p> <p><i>Students . . . understand that the size of a fractional part is relative to the size of the whole.</i></p>
<p><b>2</b> Top or Bottom: Which One Matters? Helping Students Reason About Generalizations Regarding Numerators and Denominators</p>	<p>From <i>Principles and Standards for School Mathematics</i></p> <p>Number and Operations Standard: Grades 3–5:</p> <p><i>Through the study of various meanings and models of fractions—how fractions are related to each other and to the unit whole and how they are represented—students can gain facility in comparing fractions, often by using benchmarks such as <math>\frac{1}{2}</math> or 1. (149)</i></p>
<p><b>3</b> Understanding Equivalency: How Can Double Be the Same?</p>	<p>From <i>Principles and Standards for School Mathematics</i></p> <p>Number and Operations Standard: Grades 3–5: Understand numbers, ways of representing numbers, relationships among numbers, and number systems:</p> <p><i>Students can see fractions as numbers, note their relationship to 1, and see relationships among fractions, including equivalence. (150)</i></p>

(continued)

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<p><b>4</b> Fraction Kits: Friend or Foe?</p>	<p>From <i>Principles and Standards for School Mathematics</i></p> <p>Number and Operations Standard: Grades 3–5:</p> <p><i>Students should build their understanding of fractions as parts of a whole. . . . They will need to see and explore a variety of models of fractions, focusing primarily on familiar fractions such as halves, thirds, fourths, fifths, sixths, eighths, and tenths . . . students can see how fractions are related to a unit whole, compare fractional parts of a whole, and find equivalent fractions. (150)</i></p>
<p><b>5</b> Is <math>\frac{1}{2}</math> Always Greater than <math>\frac{1}{3}</math>? The Importance of Context in Identifying the Unit</p>	<p>From <i>Curriculum Focal Points</i></p> <p>Number and Operations Standard: Grade 3: Developing an understanding of fractions and fraction equivalence:</p> <p><i>Students . . . understand that the size of a fractional part is relative to the size of the whole.</i></p>
<p><b>6</b> How Come <math>\frac{1}{5} \neq .15</math>? Helping Students Make Sense of Fraction and Decimal Notation</p>	<p>From <i>Curriculum Focal Points</i></p> <p>Number and Operations Standard: Grade 4: Developing an understanding of decimals, including the connections between fractions and decimals:</p> <p><i>Students relate their understanding of fractions to reading and writing decimals that are greater than or less than 1, identifying equivalent decimals, comparing and ordering decimals, and estimating decimal or fractional amounts in problem solving. They connect equivalent fractions and decimals by comparing models to symbols and locating equivalent symbols on the number line.</i></p>

<b><i>Beyond Pizzas and Pies Chapter</i></b>	<b><i>Correlation with NCTM’s Principles and Standards and Curriculum Focal Points</i></b>
<p><b>7</b> The Multiple Meanings of Fractions: Beyond Pizzas and Pies</p>	<p>From <i>Principles and Standards for School Mathematics</i></p> <p>Number and Operations Standard: Grades 3–5:</p> <p><i>All students should develop understanding of fractions as parts of unit wholes, as parts of a collection, as locations on number lines, and as divisions of whole numbers. (148)</i></p>
<p><b>8</b> Comparing Fractions: Do You Always Need a Common Denominator?</p>	<p>From <i>Principles and Standards for School Mathematics</i></p> <p>Number and Operations Standard: Grades 3–5:</p> <p><i>Students can learn to compare fractions to familiar benchmarks such as <math>\frac{1}{2}</math>. And, as their number sense develops, students should be able to reason about numbers by, for instance, explaining that <math>\frac{1}{2} + \frac{3}{8}</math> must be less than 1 because each addend is less than or equal to <math>\frac{1}{2}</math>. (33)</i></p>