The suggested **scripted lessons** included in these sections lead students to differentiate between kinds of fractions, to understand the identity element for multiplication and division as the basis for creating equivalent fractions, and to employ spatial and linear models when adding, multiplying, subtracting, and dividing fractional parts.

You will note that some activity pages have an icon in the upper left-hand corner with a reference to a specific scripted lesson. This icon serves as a reminder that you can always lead students through a particular lesson again, should they need to review a concept before completing the chart for that page.

The joy of mathematical thinking is an experience that all children deserve, regardless of their mathematical ability. As educators we need to stand firm in our conviction of what children deserve and what it means to be truly educated as a mathematically proficient individual.

The activities in this book have been field-tested with classroom teachers in Sudbury, Wakefield, and Winchester, Massachusetts. As always, we welcome any suggestions for modifications to these activities that will lead to greater mathematical thinking on the part of our students.

—Mary Saltus and Chet Delani

Correlation to Current Math Standards

Standard	Page No.
Grade 3	
Number and Operations – Fractions (3.NF)	
Understand a fraction 1/*b* as the quantity formed by 1 part when a whole is partitioned into *b* equal parts; understand a fraction *a*/*b* as the quantity formed by *a* parts of size 1/*b*. (3.NF.A.1)	6–9
Understand a fraction as a number on the number line; represent fractions on a number line diagram. (3.NF.A.2)	61–76
Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. (3.NF.A.3a)	61–76
Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model. (3.NF.A.3b)	19–33
Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. (3.NF.A.3c)	15–16, 19–33
Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols>, =, or <. (3.NF.A.3d)	79–87, 111–119

Correlation to Current Math Standards (cont.)

Grade 4	
Number and Operations – Fractions (4.NF)	
Explain why a fraction *a*/*b* is equivalent to a fraction (*n* × *a*)/(*n* × *b*) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. (4.NF.A.1)	19–33, 103–108
Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model. (4.NF.A.2)	79–87
Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. (4.NF.B.3a)	39–49
Decompose a fraction into a sum of fractions with the same denominator in more than one way … Justify decompositions, e.g., by using a visual fraction model. (4.NF.B.3b)	39–49
Replace mixed numbers with equivalent fractions. (4.NF.B.3c)	39–49, 91–100, 111–119
Understand a fraction *a*/*b* as a multiple of 1/*b*. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4).* (4.NF.B.4a)	39–43
Understand a multiple of *a*/*b* as a multiple of 1/*b*, and use this understanding to multiply a fraction by a whole number. (4.NF.B.4b)	39–43
Grade 5	
Number and Operations – Fractions (5.NF)	
Interpret a fraction as division of the numerator by the denominator (*a*/*b* = *a* ÷ *b*). (5.NF.B.3)	51–55, 72–76
Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction: Interpret the product (*a*/*b*) × *q* as a parts of a partition of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a* × *q* ÷ *b*. (5.NF.B.4a)	51–55
Interpret division of a whole number by a unit fraction, and compute such quotients. (5.NF.B.7b)	72–76

