Standard 4.NF.3 Understand a fraction a/b with a >1 as a sum of fractions 1/b. In other words, any fraction is a sum of unit fractions.

a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, for example, by using a visual fraction model. For example, 3/8 = 1/8 + 1/8 + 1/8; 3/8 = 1/8 + 2/8; 2 1/8 = 1 + 1 + 1/8; 2 1/8 = 8/8 + 8/8 + 1/8.

c. Add and subtract mixed numbers with like denominators, for example, by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. For example, 3 1/4 + 2 1/4 = 13/4 + 9/4 = 22/4; 3 1/4 + 2 1/4 = (3+ 2) + (1/4 + 1/4) = 5 + 2/4 = 5 2/4, which is equivalent to 22/4.

d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, for example, by using visual fraction models and equations to represent the problem.

Please Note: Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers (Standards 4.NF.3–4).

Denominators for fourth grade are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100.

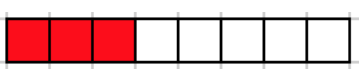
Key Elements: Addition and subtraction of fractions is joining and separating parts referring to the same whole. A fraction can be decomposed into a sum of fractions with the same denominator. A Mixed number is a whole number and a fraction. A unit is one of what we are counting.

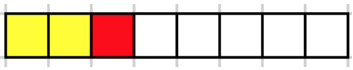
Number bonds to Decompose:

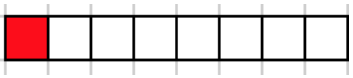
$\frac{3}{5} + \frac{4}{5} = \frac{7}{5} = 1\frac{2}{5}$

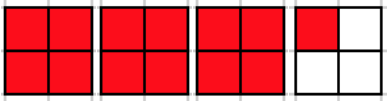
$\frac{5}{5}$ $\frac{2}{5}$

Bar Model: $38 = 18 + 18 + 18$

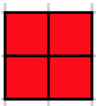


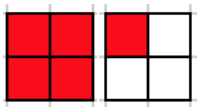
38 = 28 + 18 

218 = 88 + 88 + 18 

Adding a Mixed Number: 3 14 + 2 14 

44 + 44 + 44 + 14 = 134

134 + 94 = 224 

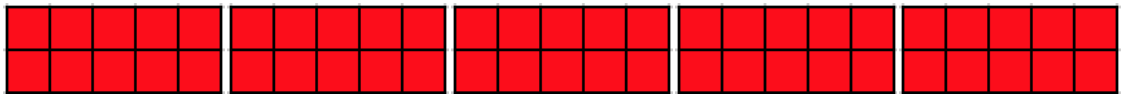


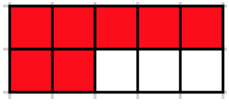
44 + 44 + 14 = 94

OR

3 + 2 = 5 14 + 1 4 = 24 5 + 24 = 5 24

Subtracting a Mixed Number: 5 710 - 3 310 = 2 410



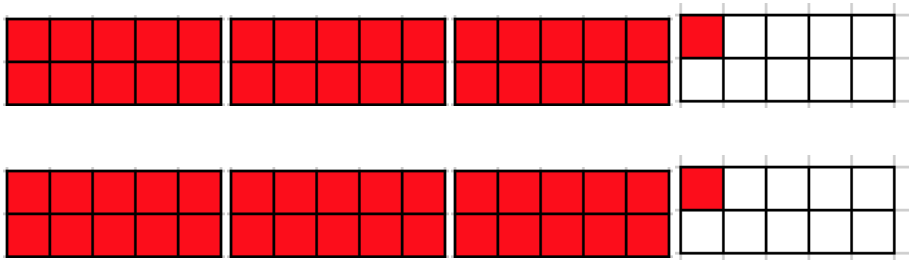


5 – 3 =

2 $710 - 310 = 410$

$2 + 410 = 2\,410$

Subtracting a Mixed Number: $3\,110 - 1\,310 = 1\,810$



1 1 $+1010 +$ $110 = 2\,1110$

Decompose

$3\,110 - 1\,310 =$

2 $1010 + 110 = 2\,1110$; $2\,1110 - 1\,310 = 1\,810$