

In an effort to keep parents and guardians informed of the expectations and content being covered in math class this year, this informational handout will be provided for each chapter. Its intent is to assist in guiding you in ways to support your child in deepening their mathematical understanding.



Scan the QR code to check out teaching strategies for this chapter.

In each chapter we will spend time reviewing material taught in prior grades as it relates to the standards being taught in fourth grade. Our goal is to keep a balance of skill based learning along with enhancing our student's ability to problem solve and think conceptually.

Review Material from Prior Grades
<ol style="list-style-type: none"> 1) Recognize fractions as a part-whole relationship. (3.NF.1) 2) Represent fractional amounts in various ways. (3.NF.2) 3) Products of whole numbers. (3.OA.1) 4) Multiplication and division word problems. (3.OA.3) 5) Products and quotients of whole numbers within 100. (3.OA.7)
New Material for 4th Grade
<ol style="list-style-type: none"> 1) I can understand addition and subtraction of fractions as joining and separating parts referring to the same whole. (4.NF.3) 2) I can decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. (4.NF.3) 3) I can add and subtract mixed numbers with like denominators, e.g., by replacing each number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. (4.NF.3) 4) I can solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. (4. NF.3) 5) I can understand a fraction a/b as a multiple of $1/b$. (4.NF.4) 6) I can understand a multiple of a/b as a multiple of $1/b$. (4.NF.4.) 7) I can understand a multiple of a/b as a multiple of $1/b$, to multiply a fraction by a whole number. (4.NF.4.) 8) I can solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. (4.NF.4)
End of Chapter Expectations
<ol style="list-style-type: none"> 1) Chapter Assessment

*Please note the list above highlights the main skills to be assessed. Teachers may include additional content to meet the needs of their students.

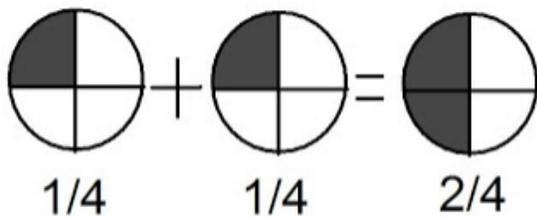
Strategies for Operations with Fractions

☺ Family Practice ☺

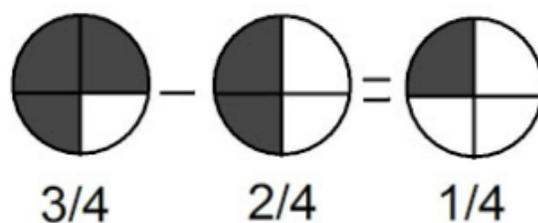
Check out some of these free, math websites to practice fraction skills and concepts.

- 1) Multiplying Fractions By Whole Numbers-
<http://www.xpmath.com/forums/arcade.php?do=play&gameid=110#.UdwhwWkS5PU>
- 2) Fruit Shoot (Addition of Fractions)-
<http://www.sheppardsoftware.com/mathgames/fractions/FruitShootFractionsAddition.htm>
- 3) Math Man (Add and Subtract Fractions w/Like Denominators)-
http://www.sheppardsoftware.com/mathgames/fractions/mathman_add_subtract_fractions.htm
- 4) IXL Math- <http://www.ixl.com/math/grade-4>

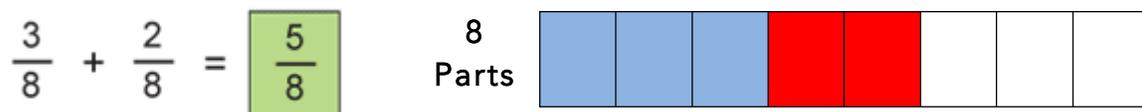
Modeling Addition of Fractions



Modeling Subtraction of Fractions



Add Like Fractions (with an area model)



Step 1: Draw a rectangle and divide it based on the denominator.

Step 2: Using the numerator for both fractions, shade in the parts of the whole area model.

Step 3: Count all of the parts and that will be your numerator.

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Strategies for Operations with Fractions, Continued

Subtract Like Fractions (with an area model)

$$\frac{4}{5} - \frac{2}{5} = \frac{2}{5}$$

5
Parts

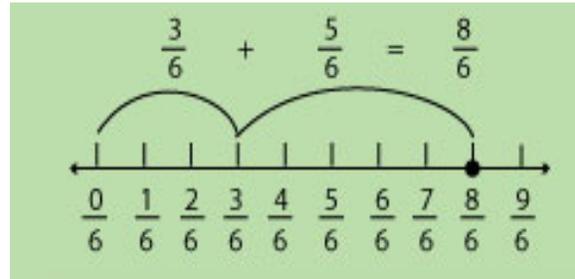


Step 1: Draw a rectangle and divide it based on the denominator.

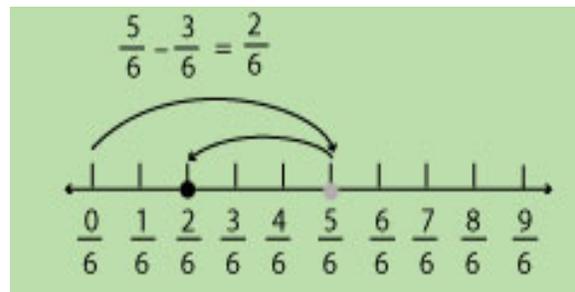
Step 2: Using the numerator from the first fraction, shade in the parts of the whole area model.

Step 3: Cross out squares based on the second numerator and count the remaining squares to solve.

Add Fractions
(using a number line)



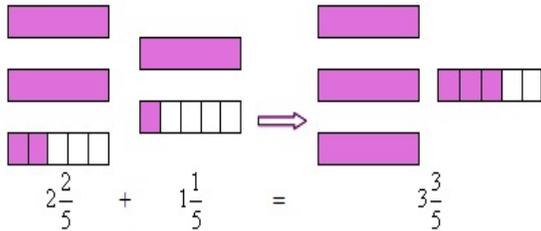
Subtract Fractions
(using a number line)



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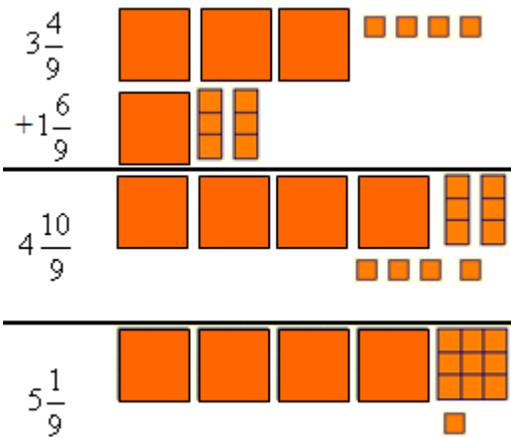
Strategies for Operations with Fractions, Continued

Add Mixed Numbers Using Models



- 1) Draw the models for the whole and fraction for each mixed number.
- 2) Add the wholes and write the sum.
- 3) Add the fractions and write the sum.

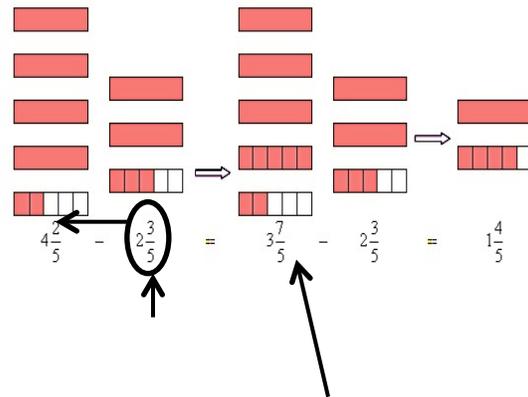
Regrouping Example



**If you have to regroup because you create an improper fraction, change it to a mixed number and add the whole to the sum you already have and write your leftover fraction.

Subtract Mixed Numbers Using Models

- 1) Draw the models for the whole and fraction for each mixed number.
- 2) If possible subtract the whole and fractions from the mixed numbers.
- 3) If you must regroup, trade in a whole for a fraction.



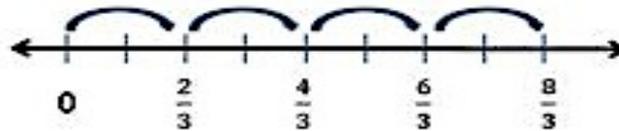
The 3 in the numerator is smaller than the 2, so the 2 needs to be regrouped. Borrow a whole from the 4, and add it in fraction form to the 2/5.

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Strategies for Operations with Fractions, Continued

Multiplying Fractions by a Whole Number Using a Number Line

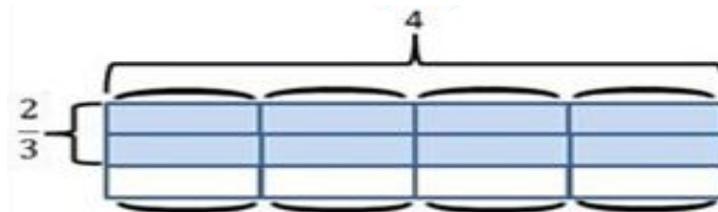
$$4 \times \frac{2}{3} = \frac{8}{3}$$



- 1) Divide the number line into the fractional parts based on the denominator. (ex. thirds)
- 2) See how much you should be jumping each time based on the numerator. (ex. 2)
- 3) Jump the fractional amount the number of times the factor indicates. (ex. 4)
- 4) Where you end is the product.

Multiplying Fractions by a Whole Number Using an Area Model

$$4 \times \frac{2}{3} = \frac{8}{3}$$



- 1) Create a box and divide it into fractional parts based on how many times the factor indicates into columns. (ex. 4)
- 2) Divide the rows based on the fraction's denominator and shade based on the numerator.
- 3) Count all shaded sections for a total product.

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