

Grade 4

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DATE COMPLETED

Multiply by 10, 100, 1000.	I
Compute with no regrouping - 2X1 digits.	m
Compute with no regrouping - 2X2 digits, 3X2 digits.	M
Compute with regrouping - 2X1 digit, 2x2 digits/3x2 digits.	M
Multiply 4x3 digits, more digits.	I
Check by division.	I
Identify common multiple, least common mulitple of two or more numbers.	I
Apply commutative property.	D
Apply associative property.	I
Use mental math.	D

Divide.

Estimate.	D
Define divisor, dividend, quotient, remainder.	M
Master facts through 12.	M
Compute with no remainder - 2X1 digit, 3X1 digit.	M
Compute with no remainder - 3X2 digits, more digits.	M
Divide by 10, 100, 1000.	I

Compute with whole numbers, decimals, fractions, remainders

2X1 digit, 3X1 digit.	D
4X2 digits, 5X2 digits.	I
6X3 digits, more digits.	I
Check with multiplication.	I
Divide using mental math.	D
Divide using expanded notation.	D

Fractions

Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$

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

Fractions - calculate equal parts of a whole.	D
Identify unlike fractions.	I
Recognize, read and write mixed numbers.	M
Rewrite franctions in simplest form.	I
Identify proper and improper fractions.	M
Solve fraction inequalities.	D
Compare and order fractions.	D

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Calculate equivalent fractions, simplest form.	I
Identify the least common denominator.	I
Identify the greatest common factor.	I
Add fractions with like denominators.	I
Add fractions with unlike denominators.	I
Add mixed numbers.	I
Add improper fractions.	I
Add and subtract decimals, aligning decimal points.	I
Add fractions using mental math.	I
Subtract fractions with like denominators.	I
Subtract fractions with unlike denominators.	I
Subtract with mixed numbers.	I
Subtract with improper fractions, proper fractions.	I
Subtract using mental math.	I
Multiply with fractions - Fraction X fraction.	I
Multiply with fractions - Fraction X whole number.	I
Multiply using mental math.	I

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, e.g. by using a visual fraction model. Examples: $3/8=1/8+1/8+1/8$; $3/8=1/8+2/8$; $2\ 1/8= 1+1+1/8= 8/8+8/8+1/8$

Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction..

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.

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 $5 \times (1/4)$, recording the conclusion by the equation $5/4=5 \times (1/4)$.

Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (in general, $n \times (a/b) = (n \times a)/b$).

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. For example, if each person at a party with $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?

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Make decisions, predictions.	I
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PROBLEM SOLVING

Analyze and plan the problem, determining the appropriate strategy by:

Drawing pictures.	D
Creating original problems.	D
Determining if information is sufficient to solve.	D
Relating to an easier problem.	I
Using tables, charts, graphs and diagrams.	D
Using trial and error.	D
Working backwards.	D
Sorting, classifying and using patterns.	D
Estimating.	D
Choosing correct operation.	D
Solve problems involving percents less than, greater than 100%.	I
Solve fraction and decimal word problems.	I
Solve word problems with two statements of equality.	I
Solve problems to check reasonableness.	D
Formulate, develop and communicate logical arguments.	I
