

**NUMBERS AND OPERATIONS**

Use signs of equality and inequality - not equal, <, >.	m
Compare and order whole numbers to 6 digits.	m
Compare and order whole numbers to 9 digits.	I
Use Natural counting.	m
Compare and order decimals.	D

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Use place value understanding to round multi-digit whole numbers to any place:

Round numbers to the nearest ten, hundred, thousand.	M
Round numbers to the nearest thousand.	I
Recognize, read and write place value 6 digits to the left of the decimal point.	M
Recognize, read and write place value 9 digits to the left of the decimal point.	I
Recognize, read and write place value to the right of the decimal point by one digit.	M
Recognize, read and write place value to the right of the decimal point by two digits, three digits.	I

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Use place value understanding and properties of operations to perform multi-digit arithmetic.

Add.

Compute, no regrouping 3 addends, 1 digit.	m
Compute, no regrouping 4 or more addends, 1 digit.	m
Compute with regrouping 2 or more 3 digit numbers.	m
Compute with regrouping 2 or more 4 digit numbers.	m
Add with negative numbers.	I
Apply commutative property.	D
Apply associative property.	D
Add using mental Math.	D

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Subtract.

Estimate.	D
Define subtrahend, minuend, difference.	m
Compute with regrouping two 3 digit numbers.	m
Compute with regrouping any 2 numbers.	M
Subtract using mental Math.	D

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Multiply.

Estimate.	D
Compute products with factors up to 5X5.	m
Define multiplier, multiplicand, product, factor.	m
Master facts through 12.	M

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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

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**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

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**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

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**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

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*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:  $3/8=1/8+1/8+1/8$ ;  $3/8=1/8+2/8$ ;  $2\ 1/8= 1+1/8= 8/8+8/8+1/8$*

*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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**Decimals**

Round to the nearest whole number.	I
Convert decimal to percent and percent to decimal.	I
Convert fractions to decimals and decimals to fractions.	I
Convert fraction to percent and percent to fraction.	I
Understand decimal notation for fractions, and compare and order decimal fractions.*	M

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**ALGEBRA**

Using algebraic and analytical methods to understand patterns and relationships:

By observing, describing, comparing and creating.	D
By sorting and classifying by characteristics.	D
By predicting what comes next and the missing element.	D
By distinguishing between growing and repeating patterns.	D
By representing information numerically, graphically and verbally.	D
By discussing, analyzing change.	D
To identify unknown quantities, algebraic phrases.	D
To identify patterns.	D
To solve simple equations.	M
Using a variable as a place holder.	I
By discussing/analyzing change by measuring and comparing quantities.	D
By discussing/analyzing change by using tables and graphs.	D
Recognize, read, and write ratios.	I
Solve word problems using the Distance formula: Distance = Rate X Time.	I
Solve word problems involving unit pricing.	I

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**MEASUREMENT AND DATA**

Solve problems involving measurement and conversion of measurements.

Compare and/or ordering objects using appropriate units of:

Length: 1 inch, 1/2 inch, 1/4 inch.	m
Length: 1/8, 1/16.	D
Length: Mile.	m
Make conversions within systems.	D
Length: Metric system, Length - millimeter, centimeter, decimeter, meter.	D
Length: Dekameter, hectometer.	I
Length: Kilometer.	D

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Capacity: milliliter, liter, kiloliter.	D
Weight, mass.	D
Make conversions within systems.	I
Temperature: Celcius.	D

**Money and Time**

Subtract dollars and cents.	M
Multiply dollars and cents.	I
Divide dollars and cents.	I
Round numbers to the nearest dollar.	M
Recognize, tell and count money - \$20, \$50 and \$100.	m
Make change.	M
Use manipulative materials to model concepts of measurement.	D
Recognize, read and write time in 5 minute intervals.	m
Recognize, read, and write minutes before and after.	M
Identify AM and PM.	M
Recognize, read, and write digital, analog time	m
Recognize, read, and write sequence of events, timelines.	M
Compute elapsed time, duration - without changing units.	D
Compute elapsed time, duration - with changing units.	D
Read and create schedules.	D
Recognize time zones.	I

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**GEOMETRY**

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

Determine proper tool for measurement - protractor.	I
Use compass properly.	I
Define, compare, demonstrate and calculate perimeter of square, rectangle.	D
Define, compare, and calculate Circumference.	D
Define, compare, and calculate Volume of a rectangular prism.	D
Explain scale drawings.	I
Construct scale drawings.	I
Use geometry and spatial sense to investigate and predict the result of slide, turn, flip.	D

Describe, model, draw, and classify:

Point.	m
Straight line.	I

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Intersecting line.	I
Ray, segment.	I
Angle measurement.	I
Right angle.	D
Acute, obtuse, straight angles.	I
Quadrilaterals.	I
Parallelograms, rhombuses, trapezoids.	I
Pentagons, hexagons, octagons.	D
Center, chord, diameter, Pi, radius.	I
Irregular shapes.	D
Cube, cylinder, sphere, cone.	M
Triangular, rectangular prisms.	D
Pyramid.	D
Analyze symmetry, congruency.	D

Construct convincing arguments and proofs to solve geometric figures and patterns.

Using simple materials.	D
Using diagrams.	D
Using technology.	D

**STATISTICS AND PROBABILITY**

Collect and describe data.	D
Interpret, and create picture graph, bar graph.	M
Interpret and create tables.	D
Interpret and create circle graph.	D
Interpret and create Line graph solid.	D
Interpret and create Line graph broken.	I
Interpret and create Venn diagram.	D
Identify or compute Mean, median, mode, range.	I
Compute probability - single event.	D
Compute probability - permutations, combinations.	D
Format questions - conduct experiments, surveys.	D
Format questions - demonstrate data collection methods.	D
Format questions - design data collection methods.	D
Draw conclusions.	I
Communicate results.	I

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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

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