

@ Home Math ideas

Expressions and Equations

- Place 2 plates next to each other. Think of each plate as one side of an equation. Place 1 dime on each plate. Add 2 nickels to the left plate. Place 1 dime on the right plate. Are the values on each plate equal? Remove a dime from each plate. What are the new values? Are they equal? What must you do to the left side so the two sides are equal?

Division

- Use beans, buttons, or other counters. Count out 48. How many groups of 6, 8, and 12 are in 48? Repeat with other numbers.

Measurement

- Cut out small slips of paper. On each slip, write a measurement in customary units. Draw one slip at a time, converting the written measurement to a different customary unit. For example, you would convert 36 in. to 3 ft. Repeat the activity, converting to a different unit each time.
- Collect the following items: liquid measuring cup, two empty glasses, one empty pitcher. Work with your child to measure one cup of water. Pour the water into a glass. Next measure one fluid ounce of water and pour it into the second cup. Ask your child to guess how many fluid ounces equal one cup.

Data

- Create a number line to graph the temperature outside. Every hour, mark what the new temperature is. Determine the difference in temperature from hour to hour by adding or subtracting on a number line.
- Measure and graph heights of family members; hours of sleep; length of feet; weight of fruit; volume of containers; cost per units; etc.

www.aMathsDictionaryforKids.com

An animated, interactive dictionary for students which explains over 600 common mathematical terms in simple language.



Layout Design & Collaboration

Janis Heigl
janis@esnorthwest.com

Charlotte Hartman
chartman@iinet.com

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Grade 4

CCSS Math Expectations Checklist

Operation and Algebraic Thinking

Number and Operations in Base 10

Number and Operations Fractions

Geometry, Measurement and Data

Mathematical Practices

4

COMMON CORE STATE STANDARDS INITIATIVE
PREPARING AMERICA'S STUDENTS FOR COLLEGE & CAREER

Number Sense

- On a piece of paper have each player write four lines that will be filled in to create the largest number possible. Each player takes turns rolling a number cube and placing the digit they rolled on any line they choose. Once a digit is placed on a line it may not be moved. Continue rolling until each line is filled with a digit. The person who created the largest number wins.

Fractions and Decimals

- Collect 10 counters or cubes. Count the number of each color you have. Write each amount in the form of a fraction. Example: If you have 3 red counters out of 10 total counters, what would the fraction form of that statement be?
- Collect 10 coins. Count the number of each coin. Write each amount in decimal form. Example: If you have 3 dimes out of 10 total coins, what would the decimal form of that statement be?
- Start a pretend store. Find items around the house and attach price tags to them. Be sure the prices are in decimal form. (Example: \$1.24) Once you have stocked your store, pretend you are the customer and select things you want to buy. Add up the total price. Repeat.
- Sort marbles according to color. Create fractions, using the different marble colors to represent parts of the whole amount of marbles. Draw a pizza pie in the middle of a piece of poster paper and divide your pie into the number of marbles for each color. Practice adding together different sets of fractions.
- Sort a bag of candy into color piles. For example, a bag of 20 candy hearts could be used. Record the correct fraction that matches each pile. For example: If you have 5 pinks, you would record 5/20. Record all colors into fraction form. After all fractions have been recorded, practice combining the fractions.
- Examples of fractions are everywhere! Make a list of all the different places where you might find fractions. Write down three examples, along with addition and subtraction sentences to represent them.



My checklist of what I can do in 4th grade math

I understand that it is important to apply the mathematical practices (identified on the inside cover) on a regular basis.

Operations & Algebraic Thinking

Use the four operations with whole numbers to solve problems: (4.OA.1, 4.OA.2, 4.OA.3)

- I can explain how a multiplication equation can be used to compare.
- I can multiply or divide to solve word problems that use multiplication to compare.
- I can solve multistep word problems using the four operations.
- I can interpret the meanings of remainders.
- I can represent problems using equations with a letter standing for the unknown quantity (variable).
- I can decide if my answer makes sense using mental math, estimation, and rounding.

Gain familiarity with factors and multiples: (4.OA.4)

- I can find factor pairs for whole numbers 1-100.
- I can recognize a whole number as a multiple of each of its factors.
- I can decide whether a whole number (1-100) is: ___ multiple of a given 1-digit # ___ prime # ___ composite #

Generate and analyze patterns: (4.OA.5)

- I can create a number or shape pattern that follows a given rule
- I can identify characteristics about the pattern that are not part of the rule.

Geometry

Draw and identify lines and angles, and classify shapes by properties of their lines and angles: (4.G.1, 4.G.2, 4.G.3)

- I can draw geometric figures.
- I can use two-dimensional figures to identify geometric terms.
- I can classify two-dimensional figures based on parallel or perpendicular lines and angle size.
- I can recognize and identify right triangles.
- I can recognize a line of symmetry.
- I can identify a figure with a line of symmetry.
- I can draw a line of symmetry.

Number & Operations in Base 10

Generalize place value understanding for multi-digit whole numbers ($\leq 1,000,000$): (4.NBT.1, 4.NBT.2, 4.NBT.3)

- I can determine that a digit represents ten times what it would be in the place to its right.
- I can read multi-digit whole numbers using numerals, number names, and expanded form.
- I can write multi-digit whole numbers using numerals, number names, and expanded form.
- I can compare two multi-digit numbers using $>$, $=$, and $<$.
- I can round multi-digit whole numbers to any place.

Use place value understanding and properties of operations to perform multi-digit arithmetic: (4.NBT.4, 4.NBT.5, 4.NBT.6)

- I can fluently add multi-digit numbers.
- I can fluently subtract multi-digit numbers.
- I can multiply a four digit whole number by a one digit whole number using strategies and properties of operations.
- I can multiply two two-digit numbers using strategies and properties of operations.
- I can represent/explain the calculation using an equation, rectangular array, and/or area models. _____ represent _____ explain
- I can apply strategies to find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors.

Number & Operations – Fractions.

(Limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, & 100) Extend understanding of fraction equivalence and ordering: (4.NF.1, 4.NF.2)

- I can explain why fractions are equivalent using fraction models.
- I can recognize and create equivalent fractions.
- I can compare two fractions with different numerators and denominators using $<$, $>$, and $=$.
- I can show/prove the comparison using a fraction model from the same whole. _____ show _____ prove

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

- I can add/subtract fractions. ___ add ___ subtract
- I can break apart a fraction into a sum of fractions with the same denominator in more than one way.
- I can record each sum of fractions using an equation.
- I can prove my equation using a fraction model.
- I can add/subtract mixed numbers with like denominators. ___ add ___ subtract
- I can solve word problems involving fractions with the same denominator by: ___ add ___ subtract
- I can use a visual fraction model to show that fractions have multiples.
- I can use a fraction model to multiply a fraction by a whole number.
- I can use fraction models to solve word problems involving multiplication of a fraction by a whole number.

Understand decimal notation for fractions, and compare decimal fractions: (4.NF.5, 4.NF.6, 4.NF.7)

- I can make an equivalent fraction for tenths as hundredths.
- I can make an equivalent fraction for tenths as hundredths, therefore I can add fractions for tenths and hundredths.
- I can use decimal notation for fractions with denominators 10 or 100.
- I can compare two decimals to hundredths according to their size using $>$, $<$, $=$.
- I can show the comparison when the two decimals are from the same whole.
- I can prove the results using a visual model.

Measurement and Data

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit: (4.MD.1, 4.MD.2, 4.MD.3)

- I can determine the relative sizes of measurement within one system of units.
- I can express measurements in a larger unit in terms of a smaller unit.
- I can record the measurement equivalents in a two-column table.
- I can use the four operations to solve word problems including distance, time, volume, mass, and money.
- I can express measurements in a larger unit in terms of smaller units using simple fractions or decimals.
- I can represent measurement quantities using diagrams such as a number line diagram.
- I can use the area and perimeter formulas in real world and math problems.

Represent and interpret data: (4.MD.4)

- I can make a line plot using fractional units.
- I can use the line plot information to solve problems by adding and subtracting fractions.

Geometric measurement: understand concepts of angle and measure angles: (4.MD.5, 4.MD.6, 4.MD.7)

- I can show what a degree is within a circle
- I can use degrees to measure angles.
- I can read the degree of an angle.
- I can use a protractor to construct and measure angles.
- I can recognize the sum of the angle parts is equal to the whole angle
- I can solve addition and subtraction problems with unknown angles on a diagram.

How to use checklist:

- Show the date of when you were able to do the math expectation.
- Show an example of what you did in a journal.