

This booklet is designed to be used by the homeschooling parent, tutor, or parent who wants to track their elementary math students' progress.

I intentionally present this information with each subject as the focus rather than grade levels. This is because all too often a student may be behind in only one area of basic math, which affects other areas. It is easier on the tutor to back track through a subjects sequence rather than grade by grade.

The other scenario is of course, the student who has completed what is expected at grade level and needs a further challenge.

Today, with the trend towards not having school books at home, it is difficult for parents to know what has been covered, and what should be approached next.

It is for this reason I created this, to allow you, the tutor, to have an easily accessible reference of the mathematical journey your student has travelled, and what is yet to come.

As you introduce a certain skill, record the date. Then, as you offer worksheets to practice the skill, keep a record of these. You will soon see your student achieve mastery of all the required Kindergarten through 6th grade skills.

Grade Level Math Skills of the Elementary Student

A Tracking Document *for* Parents/Tutors

A complete list of elementary math skills required for math mastery from Kindergarten to Sixth Grade/Class. Listed by subject, with grade reference and progress tracking section.



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Grade	Patterns and Classifications	Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
K	Establish concepts of likeness and difference by sorting and classifying objects according to attributes: size, shape, color, amount, function.							
K	Define a set by the common property of its elements							
K	In a collection of objects that includes a given set and an item that does not belong, indicate which item does not belong							
K	Moving from concrete objects to pictorial representations, recognize patterns and predict the extension of a pattern							
K	Extend a sequence of ordered concrete objects							
1st	Establish concepts of likeness and difference by sorting and classifying objects according to attributes: size, shape, color, amount, function							
1st	Define a set by the common property of its elements							
1st	In a collection of objects that includes a given set and an item that does not belong, indicate which item does not belong							
1st	Recognize patterns and predict the extension of a pattern.							

	Geometry Skills	Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
K	Identify left and right hand side							
K	Identify top, bottom, middle							
K	Know and use terms of orientation and relative position such as: closed, open; on, under, over; between, in the middle of, next to, beside, inside, outside, around, far from, near to, above, below, to the right of, to the left of, here and there.							
K	Identify and sort basic plane figures: square, rectangle, triangle, circle							
K	Identify basic shapes in a variety of common objects and artifacts (windows, pictures, books, buildings, cars, et.)							
K	Recognize shapes as the same or different							
K	Make congruent shapes and designs							
K	Compare size of basic plane figures (larger or smaller)							
1ST	Identify left and right hand side							
1ST	Identify top, bottom, middle							
1ST	Know and use terms of orientation and relative position such as: closed, open; on, under, over; between, in the middle of, next to, beside, inside, outside, around, far from, near to, above, below, to the right of, to the left of, here and there.							
1ST	Identify and sort basic plane figures: square, rectangle, triangle, circle							
1ST	Identify basic solid figures: sphere, cube, cone							
1ST	Identify basic shapes in a variety of common objects and artifacts (balls, cans, windows, pictures, books, buildings, cars, et.)							
1ST	Make congruent shapes and designs							
	Geometry Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S

2 ND	Identify and draw basic plane figures: square, rectangle, triangle, circle								
2 ND	Describe square, rectangle, triangle according to number of sides; distinguish between - square and rectangle as regards length of sides.								
2 ND	Measure perimeter in inches of squares and rectangles								
2 ND	Identify solid figures – sphere, cube, pyramid, cone, cylinder- and associate solid figures with planar shapes: sphere (circle), cube (square) pyramid (triangle)								
2 ND	Make congruent shapes and designs								
2 ND	Identify lines as horizontal; vertical, perpendicular, parallel								
2 ND	Name lines and line segments (e.g. Line AB Line segment CD)								
2 ND	Identify a line of symmetry and create simple symmetric figures								
3 RD	Identify lines as horizontal; horizontal, vertical, perpendicular, parallel								
3 RD	Name lines and line segments (e.g. Line AB Line segment CD)								
3 RD	Polygons: recognize vertex (plural: vertices); identify sides as line segments (e.g. side CD); identify pentagon, hexagon and octagon (regular)								
3 RD	Identify angles by letter names (e.g. $\angle ABC$); identify a right angle; know that there are four right angles in a square or rectangle.								
3 RD	Compute area in square inches (in^2) and square centimeters (cm^2)								
3 RD	Recognize and draw congruent figures; identify a line of symmetry, and create symmetric figures.								
3 RD	Identify solid figures: sphere, cube, rectangular solid, pyramid, cone, cylinder.								
	Geometry Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S	W/S

4 TH	Plot points on a coordinate plane (grid) using ordered pairs of positive whole numbers								
4 TH	Identify and draw points, segments, rays, lines								
4 TH	Identify and draw lines: horizontal; vertical; perpendicular; parallel; intersecting								
4 TH	Identify angles; identify angles as right, acute, or obtuse.								
4 TH	Identify polygons – Triangle, quadrilateral, pentagon, hexagon and octagon (regular) Parallelogram, trapezoid, rectangle, square.								
4 TH	Identify and draw diagonals of quadrilaterals.								
4 TH	Circles: Identify radius (plural: radii) and diameter; radius = $\frac{1}{2}$ diameter								
4 TH	Recognize similar and congruent figures								
4 TH	Know the formula for the area of a rectangle (Area = length x width) and solve problems involving finding area in a variety of square units (such as mi ² ; yd ² ; ft ² ; in ² ; km ² ; m ² ; cm ² ; mm ²)								
4 TH	Compute volume of rectangular prisms in cubic units (cm ³ , in ³)								
5 TH	Identify and draw points, segments, rays, lines								
5 TH	Identify and draw lines: horizontal; vertical; perpendicular; parallel; intersecting								
5 TH	Measure the degrees in angles, and know that right angle = 90° acute angle: less than 90° obtuse angle greater than 90° straight angle 180°								
	Geometry Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S	W/S

5 TH	Identify and construct different kinds of triangles; equilateral, right and isosceles								
5 TH	Know what it means to triangles to be congruent								
5 TH	Identify polygons: triangle, quadrilateral, pentagon, hexagon and octagon, parallelogram, trapezoid, rhombus, rectangle, square								
5 TH	Know that regular polygons have sides of equal length and angles of equal measure,								
5 TH	Identify and draw diagonals of polygons								
5 TH	Circles: Identify arc, chord, radius and diameter.								
5 TH	Using a compass, draw circles with a given diameter or radius								
5 TH	Area: review the formula for the area of a rectangle and solve problems involving finding area in a variety of square units								
5 TH	Find the area of triangles, using the formula $A = \frac{1}{2}(b \times h)$								
5 TH	Find the area of an irregular figure (such as a trapezoid) by dividing into regular figures for which you know how to find the area.								
5 TH	Compute volume of rectangular prisms in cubic units, using the formula $V = l \times w \times h$								
5 TH	Find the surface area of a rectangular prism.								
6 TH	Identify and measure the degrees in angles (review terms; right, acute, obtuse, straight)								
6 TH	Bisect an angle								
6 TH	Construct an angle congruent to a given angle								
6 TH	Construct a figure congruent to a given figure, using reflection over a line of symmetry, and identify corresponding parts.								
	Geometry Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S	W/S
6 TH	Show how congruent plane figures can be made to correspond through reflection, rotation and translation								

6 TH	<u>Triangles</u> Know that the sum of the measures of the angles of a triangle is 180'								
6 TH	Construct different kinds of triangles								
6 TH	Know terms by which we classify kinds of triangles – length of sides, equilateral, isosceles, scalene – by angles, right, acute and obtuse								
6 TH	Identify congruent angles and sides, and axes of symmetry, in parallelograms, rhombuses, rectangles and squares								
6 TH	Find the area (A) and perimeter (P) of plane figures or given the area or perimeter find the missing dimension, using formulas of rectangle ($A = lw$; $P = 2(l+w)$), square, ($A = s^2$; $P = 4s$) triangle ($A = \frac{1}{2}bh$; $P = s_1 + s_2 + s_3$) parallelogram ($A = bh$ $P = 2(b + s)$)								
6 TH	<u>Circles</u> Identify arc, cord, radius, and diameter; know that radius = $\frac{1}{2}$ diameter. Using a compass, draw circles with a given diameter or radius.								
6 TH	Solve problems involving application of the formulas for finding the circumference of a circle: $C = 2\pi r$ or $C = \pi d$ using 3.14 as the value of Pi								
6 TH	Find the volume of a rectangular solids or given the volume find a missing dimension, using the formulas $V = lwh$ or $V = bh$ (in which b = area of base)								

	Algebra Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
5 th	Identify prime factors of numbers to 100 and write using exponential notation for multiple primes							
5 th	Determine the greatest common factor (GCF) of given numbers							
5 th	Determine the least common multiple (LCM) of given numbers							
5 th	Solve word problems with multiple steps							
5 th	Solve problems with more than one operation							
5 th	Commutative, associative, distributive properties: know the names and understand the properties.							
5 th	Solve word problems involving multiplication							
5 th	Solve word problems with multiple steps							
5 th	Solve problems with more than on operation							
5 th	Recognize variables and solve basic equations using variables							
5 th	Write and solve equations for word problems							
5 th	Find the value of an expression given the replacement values for the variables, e.g. what is $7 - c$ if $c = 3.5$?							
6 th	Exponents Review squares and square roots, using the terms squared and cubed and to the nth power, read and evaluate numerical expressions with exponents, review powers of ten, write numbers in expanded notations using exponents.							
6 th	Solve word problems with multiple steps							
6 th	Solve problems with more than one operation, according to order of operations (with and without a calculator)							
6 th	Recognize uses of variables and solve linear equations in one variable							

	Algebra Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
6 th	Solve word problems by assigning variables to unknown quantities, writing appropriate equations, and solving them							
6 th	Find the value for an expression, given replacement values for the variables, e.g. what is $7/x - y$ when $x = 2$ and $y = 10$?							
6 th	Simplify expressions with variables by combining like terms							
6 th	Understand the use of the distributive property in variable expressions such as $2x(2y + 3)$							
6 th	Exponents Review squares and square roots, using the terms squared and cubed and to the n th power, read and evaluate numerical expressions with exponents, review powers of ten, write numbers in expanded notations using exponents.							
6 th	Solve word problems with multiple steps							
6 th	Solve problems with more than one operation, according to order of operations (with and without a calculator)							
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6 th	Simplify expressions with variables by combining like terms							
6 th	Understand the use of the distributive property in variable expressions such as $2x(2y + 3)$							

	Data Analysis and Probability Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
2 nd	Record numeric data systematically and find the lowest and highest values in a data set.							
3 rd	Create and interpret bar graphs and line graphs							
3 rd	Record outcomes for a simple event (e.g. tossing a die) and display the results graphically.							
4 th	Create and interpret bar graphs and line graphs							
5 th	Understand probability as a measure of the likelihood that an event will happen; using simple models, express probability of a given even as a fraction, as a percent, and as a decimal between 0 and 1							
5 th	Collect and organize data in graphic form (bar, line and circle graphs)							
5 th	Solve problems requiring interpretation and application of graphically displayed data							
5 th	Find the average (mean) of a given set of numbers							
5 th	Plot points on a coordinate plane, using ordered pairs of positive and negative whole numbers							
5 th	Graph simple functions							
6 th	Find the range and measures of central tendency (mean, median and mode) of a given set of numbers.							
6 th	Understand the use of a sample to estimate a population parameter (such as the mean) and that larger samples provide more stable estimates.							
6 th	Represent all possible outcomes of independent compound events in an organized way and determine the theoretical probability of each outcome.							
6 th	Compute the probability of any one of a set of disjoint events as the sum of their individual probabilities.							
6 th	Solve problems requiring interpretation and application of graphically displayed data.							
6 th	Construct a histogram; a tree diagram.							

	Numbers and Operations Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
K	Using concrete objects and pictorial representations compare sets: Same as (equal) more than, less than, most & least.							
K	Count forward from 1 to 31, first beginning with 1, and later from any given number; backward from 10, from 1 to 10 by twos, by fives and tens to 50.							
K	Write numbers 1 to 31							
K	Count and write number of objects in a set							
K	Given a number, identify one more, one less							
K	Identify ordinal positions first (1 st) through sixth (6 th)							
K	Identify pairs							
K	Interpret simple pictorial graphs							
K	Identify $\frac{1}{2}$ as one of two equal parts of a region or object; find $\frac{1}{2}$ of a set of concrete objects.							
K	Add and subtract to ten, using concrete objects							
K	Recognize the meaning of the plus (+) sign							
K	Subtraction: the concept of "taking away" recognize the meaning of the minus (-) sign.							
1 st	Write numbers 0 – 100							
1 st	Count from 0 – 100 by ones; twos; fives; tens							
1 st	Count by tens from a given single-digit numbers							
1 st	Count forward and backwards							
1 st	Use tallies							
1 st	Identify ordinal position 1 st to 10 th							

	Numbers and Operations Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
1st	Identify dozen; half dozen; pair							
1 st	Recognize place value: ones, tens, hundreds							
1 st	Identify more and less; counting how many more or less							
1 st	Given a number, identify one more and one less; ten more and ten less.							
1 st	Compare quantities using the signs <, >, =							
1 st	Recognize fractions as part of a whole: 1/3							
1st	Create and interpret simple pictorial graphs and bar graphs.							
1 st	Know the meaning of the plus (+) sign, know what a “sum” is,							
1 st	know addition facts to 10 + 10;							
1 st	Add in any order,							
1 st	know what happens when you add zero,							
1 st	know how to write addition problems horizontally and vertically,							
1st	know that when you add 3 numbers, you get the same sum regardless of grouping of addends.							
1 st	Solve two digit addition problems with and without regrouping.							
1 st	Understand subtraction as “taking away”							
1 st	Know the meaning of the minus (-) sign							
1 st	Know what a “difference” is							
1 st	Know subtraction facts corresponding to addition facts							
	Numbers and Operations Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S

1st	Know how to write subtraction problems horizontally and vertically								
1 st	Solve two digit subtraction problems with and without regrouping								
1 st	Mentally subtract 10 from a two digit number.								
2nd	Write numbers to 1,000								
2nd	Read and write words for numbers from one to one-hundred								
2nd	Count: by twos, threes, fives and tens; by tens from any given number, by hundreds to 1,000; by fifties to 1,000 – forward and backward.								
2nd	Use a number line								
2nd	Use tallies								
2nd	Identify ordinal positions, 1 st to 20 th , and write words for ordinal numbers, first to twentieth								
2nd	Identify even and odd numbers								
2nd	Identify dozen, half-dozen; pair								
2nd	Recognize place value: ones, tens, hundred, thousands								
2nd	Write numbers up to hundreds in expanded form (eg. $64 = 60 + 4$; $349 = 300 + 40 + 9$)								
2nd	Given a number, identify one more and one less; ten more and ten less.								
2nd	Round to the nearest ten								
2nd	Create and interpret simple bar graphs								
2nd	Identify and extend numerical and symbolic patterns.								
2nd	Recognize these fractions as part of a whole set or region and write the corresponding numerical symbols – $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{5}$, $\frac{1}{6}$, $\frac{1}{8}$, $\frac{1}{10}$								
2nd	Recognize fractions that are equal to 1								
	Numbers and Operations Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S	W/S

2nd	Achieve timed mastery of addition facts								
2nd	Recognize what an addend is								
2nd	Know how to write addition problems horizontally and vertically								
2nd	Know how to add in any order and check a sum by changing the order of the addends								
2nd	Estimate the sum								
2nd	Solve two-digit and three-digit addition problems with and without regrouping.								
2nd	Find the sum (up to 999) of any two whole numbers								
2nd	Add three two-digit numbers								
2nd	Practice doubling (adding a number to itself)								
2nd	Understand the inverse relation between addition and subtraction; use addition to check subtractions								
2nd	Know addition and subtraction 'fact families'								
2nd	Achieve master of subtraction facts								
2nd	Estimate the difference								
2nd	Know how to write subtraction problems horizontally and vertically								
2nd	Solve two-digit and three digit subtraction problems with and without regrouping								
2nd	Given two whole numbers of 999 or less, find the difference								
2nd	Recognize the 'times' sign (x)								
2nd	Know what a 'factor' and 'product' mean								
2nd	Understand that you can multiply numbers in any order								
	Numbers and Operations Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S	W/S
2nd	Multiplication facts: Know the product of any single-digit number x1, 2, 3, 4, 5								

2nd	Know what happens when you multiply by 1, by 0 and by 10								
2nd	Practice simple word problems involving multiplication								
3rd	Read and write numbers (in digits and words) up to six digits.								
3rd	Recognize place value up to hundred thousands								
3rd	Count by twos, threes, fives, and tens, count by tens from any given number								
3rd	Write numbers in expanded form								
3rd	Use a number line								
3rd	Identify ordinal position 1 st to 100 th								
3rd	Review: even and odd numbers; dozen, half-dozen and pair								
3rd	Round to the nearest ten; to the nearest 100								
3rd	Identify perfect squares (and square roots) to 100, and recognize the square root sign $\sqrt{\quad}$								
3rd	Identify Roman numerals from 1 to 20								
3rd	Understand what negative numbers are in relation to familiar uses (such as temperatures below zero)								
3rd	Locate positive and negative whole numbers on a number line								
3rd	Recognize fraction to 1/10 and fractions whose denominator is 100								
3rd	Identify numerator and denominator								
3rd	Write mixed numbers								
3rd	Recognize equivalent fraction (e.g. $\frac{1}{2} = \frac{3}{6}$)								
	Numbers and Operations Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S	W/S
3rd	Compare fraction with like denominators using the signs <, > and =								
3rd	Know and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$								

3rd	Read and write decimals to the hundredths.							
3rd	Review and practice basic addition facts							
3rd	Mentally estimate a sum							
3rd	Use mental computation strategies							
3rd	Addition with and without regrouping; find the sum (up to 10,000) of any two whole numbers							
3rd	Understand addition and subtraction as inverse operations; use addition to check subtraction							
3rd	Review and practice basic subtraction facts							
3rd	Mentally estimate the difference							
3rd	Use mental computation strategies							
3rd	Subtraction with and without regrouping; given two whole numbers of 10,000 or less find the difference							
3rd	Master basic multiplication facts to 10 x 10							
3rd	Mentally multiply by 10, 100 and 1,000							
3rd	Multiply two whole numbers, with and without regrouping, in which one factor is 9 or less and the other is a multi-digit number up to three digits							
3rd	Write numbers in expanded form using multiplication e.g. (9,278 = (9x1,000) + (2 x 100) = (7 x 10) + 8.							
3rd	Estimate a product							
3rd	Solve word problems involving multiplication							
3rd	Understand multiplication and division as inverse operations							
	Numbers and Operations Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
3rd	Know the meaning of dividend, divisor and quotient							
3rd	Know basic division facts to 100 ÷ 10							

3rd	Know that you cannot divide by 0							
3rd	Know that any number divided by 1 = that number							
3rd	Divide two and three-digit dividends by one-digit divisors							
3rd	Solve division problems with remainders							
4th	Read and write numbers (in digits and words) up to nine digits							
4th	Recognize place value up to hundred millions							
4th	Order and compare numbers to 999,999,999 using the signs < , > =							
4th	Write numbers in expanded form							
4th	Use a number line; locate positive and negative whole numbers on a number line							
4th	Round to the nearest ten, hundred and thousand							
4th	Identify perfect squares (and square roots) to 144; recognize the square root sign							
4th	Identify Roman numerals from 1 to 1000 and identify years as written in Roman Numerals							
4th	Know the meanings of multiple, factor, prime number and composite number							
4th	Recognize fractions to one-twelfth							
4th	Identify numerator and denominator							
4th	Write mixed numbers; change improper fractions to mixed numbers and vice versa							
4th	Recognize equivalent fractions (e.g. $\frac{1}{2} = \frac{2}{4}$)							
	Numbers and Operations Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
4th	Put fractions in lowest terms							
4th	Rename fractions with unlike denominators to fractions with common denominators							
4th	Compare fractions with like and unlike denominators using the signs < , > , =							

4th	Solve problems in the form of $2/3 = \frac{1}{2}x$							
4th	Add and subtract fractions with like denominators							
4th	Express simple outcomes as fractions (e.g. 3 out of 4 as $\frac{3}{4}$)							
4th	Read and write decimals to the nearest thousandth							
4th	Read and write decimals as fractions (e.g. $0.39 = 39/100$)							
4th	Write decimal equivalents for halves, quarters, eighths and tenths							
4th	Compare fractions to decimals using the signs $<$, $>$, $=$							
4th	Write decimals in expanded form							
4th	Round decimals to the nearest tenth, to the nearest hundredth							
4th	Compare decimals, using the signs $<$, $>$, $=$							
4th	Read and write decimals on a number line							
4th	Add and subtract with decimal numbers to two places.							
4th	Review and reinforce basic multiplication facts to 10×10							
4th	Mentally multiply by 10, 100, 1000							
4th	Identify multiples of a given number, common multiples of two given numbers							
4th	Multiply by two-digit and three digit numbers							
	Numbers and Operations Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
4th	Write numbers in expanded form using multiplication							
4th	Estimate a product							
4th	Use mental computation strategies for multiplication, such as breaking a problem into partial products e.g. $3 \times 27 = (3 \times 20) + (3 \times 7) = 60 + 21 = 81$							

4th	Check multiplication by changing the order of the factors							
4th	Multiply three factors in any given order							
4th	Solve word problems involving multiplication							
4th	Understand multiplication and division as inverse operations							
4th	Review the meaning of dividend, divisor and quotient							
4th	Review and reinforce basic division facts to $100 \div 10$							
4th	Identify different ways of writing division problems: $28 \div 7$; $7\sqrt{28}$; $28/7$							
4th	Identify factors of a given number, common factors of two given numbers							
4th	Review: you cannot divide by 0; any number divided by 1 = that number							
4th	Estimate the quotient							
4th	Divide dividends up to four-digits by one-digit and two-digit divisors							
4th	Solve division problems with remainders							
4th	Check division by multiplying and adding remainder							
5th	Read and write numbers (in digits and words) up to the billions							
5th	Recognize place value up to billions							
5th	Order and compare numbers to 999,999,999 using the signs $<$, $>$, $=$							

	Numbers and Operations Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
5th	Write numbers in expanded form							
5th	Integers – locate positive and negative integers on a number line, compare integers using the symbols $<$, $>$, $=$; know that the sum of an integer and its opposite is 0, Add and subtract positive and negative integers							
5th	Using a number line, locate positive and negative whole numbers							
5th	Round to the nearest ten, to the nearest hundred, to the nearest thousand, to the nearest hundred thousand							
5th	Determine and express simple ratios.							
5th	Use ratios to create a simple scale drawing							
5th	Ratios and rates: solve problems on speed as a ratio, using the formula $S = D/T$ (or $D = R \times T$)							
5th	Recognize the percent sign (%) and understand percent as “per hundred”							
5th	Express equivalencies between fractions, decimals, and percent’s and know common equivalencies: $1/10 = 10\%$, $1/4 = 25\%$, $1/2 = 50\%$, $3/4 = 75\%$							
5th	Find given percent of a number							
5th	Determine the least common denominator (LCD) of fractions with unlike denominators							
5th	Recognize equivalent fractions							
5th	Put fractions in lowest terms Compare fractions with like and unlike denominators, using the signs $<$, $>$, $=$							
5th	Identify the reciprocal of a given fraction; know that the product of a given number and its reciprocal = 1							
5th	Add and subtract mixed numbers and fractions with like and unlike denominators							
5th	Multiply and divide fractions							
	Add and subtract fractions with like and unlike denominators							
	Add and subtract mixed numbers and fractions;							

	Numbers and Operations Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
5th	Multiply mixed numbers and fractions							
5th	Round fractions to the nearest whole numbers							
5th	Write fractions as decimals							
5th	Read, write and order decimals to the nearest ten-thousandth							
5th	Write decimals in expanded form							
5th	Read and write decimals on a number line							
5th	Round decimals (and decimal quotients) to the nearest tenth; to the nearest hundredth, to the nearest thousandth							
5th	Estimate decimal sums, differences, and products by rounding							
5th	Multiply decimals by 10, 100 and 1000; by another decimal							
5th	Divide decimals by whole numbers and decimals							
5th	Multiply two factors of up to four digits each							
5th	Write numbers in expanded form using multiplication							
5th	Estimate a product							
5th	Use mental computation strategies for multiplication, such as breaking a problem into partial products e.g. $(3 \times 27 = (3 \times 20) + (3 \times 7) = 60 + 21 = 81)$							
5th	Understand multiplication and division as inverse operations							
5th	Know what it means for one number to be “divisible” by another number							
5th	Know that you cannot divide by 0; that any number divided by 1 = that number							
5th	Estimate the quotient							
5th	Know how to move the decimal point when dividing by 10, 100 or 1000							
	Numbers and Operations Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S

5th	Divide dividends up to four digits by one-digit, two-digit, and three-digit divisors								
5th	Solve division problems with remainders; round a repeating decimal quotient								
5th	Check division by multiplying (and adding remainder)								
6th	Read and write numbers (in digits and words) up to the trillions								
6th	Recognize place value up to hundred-billions								
6th	Integers (review)								
6th	Locate positive and negative integers on a number line								
6th	Compare integers using $<$, $>$, $=$								
6th	Know that the sum of an integer and its opposite is 0								
6th	Add and subtract positive and negative integers								
6th	Determine whether a number is a prime number or composite number								
6th	Round to the nearest ten, nearest hundred, nearest thousand, nearest hundred thousand, nearest million								
6th	Compare and order whole numbers, mixed numbers, fractions and decimals using the symbols $<$, $>$, $=$								
6th	Determine the greatest common factor (GCF) of given numbers								
6th	Determine the least common multiple (LCM) of given numbers								
6th	Solve proportions including word problems involving proportions with one unknown								
6th	Use ratios and proportions to interpret map scales and scale drawings								
6th	Set up and solve proportions from similar triangles								
	Numbers and Operations Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S	W/S
6th	Understand the justification for solving proportions by cross-multiplication								

6th	Convert between fractions, decimals and percent's							
6th	Find the given percent of a number, and find what percent a given number is of another number							
6th	Solve problems involving percent increase and decrease							
6th	Find an unknown number when a percent of the number is known							
6th	Use expressions with percent's greater than 100% and less than 1%							
6th	Addition, commutative and associative properties: know the names and understand the properties							
6th	Understand addition and subtraction as inverse operations							
6th	Add and subtract with integers, fractions and decimals, both positive and negative							
6th	Commutative, associative, and distributive properties: know the names and understand the properties.							
6th	Multiply multi-digit factors, with and without a calculator							
6th	Estimate a product							
6th	Multiply with integers, fractions and decimals both positive and negative							
6th	Distributive property for multiplication over addition or subtractions, that is $A \times (B + C)$ or $A \times (B - C)$							
6th	Understand multiplication and division as inverse operations							
6th	Estimate the quotient							
6th	Divide multi-digit dividends by up to three-digit divisors, with and without a calculator							

	Measurement Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
K	<u>Money</u> Identify pennies, nickels, dimes and quarters							
K	Identify the one dollar bill							
K	Identify the dollar sign (\$) and the cents sign (¢)							
K	Write money amounts using the cents sign (¢)							
K	Identify familiar instruments of measurement, such as ruler, scale, thermometer							
K	Compare objects according to : Linear measure – long short; longer than shorter than; big bigger biggest etc.							
K	Measure length using non-standard units							
K	Begin to measure length in inches							
K	Height: taller than, shorter than							
K	Weight: heavy, light – heavier than, lighter than							
K	Capacity (volume) full and empty, less full than, as full as, fuller than							
K	Temperature: hotter and colder							
K	Time – sequence events: before and after, first, next last							
K	Compare duration of events: which takes more or less time							
K	Read a clock face and tell time to the hour							
K	Know the days of the week and the months of the year							
K	Orientation in time: today, yesterday, tomorrow; morning, afternoon; this morning vs. yesterday morning etc.							
1st	Identify familiar instruments of measurement, such as ruler, scale, thermometer							
1st	Compare objects according to linear measure							

	Measurement Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
1st	Measure length using non-standard units							
1st	Measure length in inches and feet, and in centimeters							
1st	Weight – Compare weights of objects using a balance scale							
1st	Measure weight in non-standard units and in pounds							
1st	Capacity (volume) – Estimate and measure capacity in cups. Identify quart, gallon							
1st	Temperature: associate temperature in degrees Fahrenheit with weather							
1st	Time: Sequence events: before and after; first, next last. Compare duration of events, which takes more or less time							
1st	Read a clock face and tell time to the half-hour							
1st	Know the days of the week and the months of the year, both in order and out of sequence							
1st	Orientation in time: today, yesterday, tomorrow, morning, afternoon, evening, night, this morning vs yesterday morning etc.							
2nd	<u>Linear Measure</u> Make linear measurement in feet and inches, and in centimeters							
2nd	Know that one foot = 12 inches							
2nd	Know abbreviations: ft., in.							
2nd	Measure and draw line segments in inches to ½ inch, and in centimeters							
2nd	Estimate linear measurements, then measure to check estimate							
2nd	<u>Weight</u> Compare weights of objects using a balance scale							
2nd	Estimate and measure weight in pounds, and know abbreviation: lb.							
2nd	<u>Capacity (volume)</u> Estimate and measure capacity in cups							
2nd	Measure liquid volumes: cups, pints, quarts, gallons							

	Measurement Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
2nd	Compare U.S. and metric liquid volumes: quart and liter (one liter is a little more than one quart)							
2nd	<u>Temperature</u> Measure and record temperature in degrees Fahrenheit to the nearest 2 degrees.							
2nd	Know the degree sign " ° "							
2nd	<u>Time</u> Read a clock face and tell time to five-minute intervals							
2nd	Know how to distinguish time as A.M and P.M							
2nd	Understand noon and midnight							
2nd	Solve problems on elapsed time (how much time has passed)							
2nd	Using a calendar, identify the date, day of the week, month and year							
2nd	Write the date using words and numbers.							
3rd	<u>Linear</u> Make linear measurements in yards, feet and inches and in centimeters and meters.							
3rd	Know that one foot = 12 inches; one yard = 36 inches; 3 feet = 1 yard; 1 meter = 100 centimeters; 1 meter is a little more than one yard							
3rd	Measure and draw line segments in inches (to ¼ inch) and in centimeters.							
3rd	Estimate linear measurements, then measure to check estimates.							
3rd	<u>Weight</u> Compare weights of objects using a balance scale.							
3rd	Estimate and measure weight in pounds and ounces; grams and kilograms							
3rd	Know abbreviations: lb., oz., g., Kg.							
3rd	<u>Capacity (volume)</u> Estimate and measure liquid capacity in cups, pints, quarts, gallons and liters							
3rd	Know that 1 quart = 2 pints; 1 gallon = 4 quarts							

	Measurement Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S																														
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3rd	<u>Temperature</u> Measure and record temperature in degrees Fahrenheit and Celsius																																					
3rd	Know the degree sign Identify freezing point of water as 32°F = 0°C																																					
3rd	<u>Time</u> Read a clock face and tell time to the minute as either A.M. or P.M. tell time in terms of both “minutes before” and “minutes after” the hour.																																					
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3rd	Write the date using words (for name of month) and numbers, and only numbers.																																					
4th	<u>Linear</u> Estimate and make linear measurements in yard, feet and inches (to 1/8 th inch) and in meters, centimeters and millimeters																																					
4th	<u>Weight</u> Estimate and measure weight in pounds and ounces; grams and kilograms																																					
4th	<u>Capacity (volume)</u> Estimate and measure liquid capacity in teaspoons, tablespoons, cups, pints, quarts, gallons and in milliliters and liters.																																					
4th	Know the following equivalences among US customary units of measurement and solve problems involving changing units of measurement <table border="1"> <thead> <tr> <th>Linear</th> <th>Capacity</th> <th>Linear</th> <th>Capacity</th> </tr> </thead> <tbody> <tr> <td>1 ft = 12 in</td> <td>1 cup = 8 fl oz</td> <td>1 cm = 10mm</td> <td>1 cl = 10 ml</td> </tr> <tr> <td>1 yd = 3 ft = 36 in</td> <td>1 pt = 2 c</td> <td>1m = 100 cm = 1,000mm</td> <td>1 liter = 1,000 ml</td> </tr> <tr> <td>1mi. = 5,280 ft</td> <td>1 qt = 2 pt</td> <td>1km = 1,000m</td> <td>1 liter = 100 cl</td> </tr> <tr> <td>1 mi = 1,760 yd</td> <td>1 gal = 4 qts</td> <td>Mass</td> <td></td> </tr> <tr> <td>Weight</td> <td></td> <td>1 cg = 10 mg</td> <td></td> </tr> <tr> <td>1 lb = 16 oz</td> <td></td> <td>1g = 100 cg = 1,000mg</td> <td></td> </tr> <tr> <td>1 ton = 2,000 lbs</td> <td></td> <td>1 kg = 1,000g</td> <td></td> </tr> </tbody> </table>	Linear	Capacity	Linear	Capacity	1 ft = 12 in	1 cup = 8 fl oz	1 cm = 10mm	1 cl = 10 ml	1 yd = 3 ft = 36 in	1 pt = 2 c	1m = 100 cm = 1,000mm	1 liter = 1,000 ml	1mi. = 5,280 ft	1 qt = 2 pt	1km = 1,000m	1 liter = 100 cl	1 mi = 1,760 yd	1 gal = 4 qts	Mass		Weight		1 cg = 10 mg		1 lb = 16 oz		1g = 100 cg = 1,000mg		1 ton = 2,000 lbs		1 kg = 1,000g						
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	Measurement Skills	Date Concept Introduced	Concept revisited	W/S	W/S	W/S	W/S	W/S
5th	Convert to common units in problems involving addition and subtraction of different units							
5th	Solve problems on elapsed time; regroup when multiplying and dividing amounts of time.							
6th	Solve problems requiring conversion of units within the US customary system and within the metric system							
6th	Associate <u>prefixes</u> used in metric system with quantities Kilo = thousand Hecto = hundred Deka = ten Deci = tenth Centi = hundredth Mili = thousandth							
6th	Solve problems on <u>elapsed time</u> ; express parts of an hour in fraction or decimal form.							