

# Scope & Sequence of Lessons

## Fourth Grade by lesson number

### # Lesson Concept

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## PLACE VALUE AND COUNTING

### Place value

- 1 Recognizing the thousands, hundreds, tens and ones place
- 50 Recognizing numbers less than a million given in words, expanded notation or place value
- 85 Recognizing tenths and hundredths places
- 102 Recognizing places up through trillions
- 131 Recognizing the thousandths place

### Recognizing number words

- 3 Recognizing any number less than 1,000
- 7 Recognizing any number less than 10,000
- 22 Recognizing numbers greater than 1,000
- 46 Recognizing ordinals up to 100
- 50 Recognizing numbers up to 999,999
- 85 Recognizing decimal number words
- 102 Recognizing numbers up through trillions
- 126 Recognizing Roman Numerals I, V, X, L, C, D, M

### Missing number series

- 6 Filling in missing numbers in sequences counting by 1, 2, 3, 4, 5, or 10
- 23 Filling in missing numbers in sequences counting by 6, 7, 8, or 9
- 48 Filling in missing numbers in sequences involving three-digit numbers
- 103 Filling in missing numbers in sequences counting by 11 or 12
- 113 Filling in missing numbers in sequences counting by varying amounts
- 117 Filling in missing numbers in a sequence of decimal numbers

### Putting numbers in order

- 8 Arranging 4 four-digit numbers in order from least to greatest and from greatest to least
- 105 Putting decimal numbers in order from least to greatest and greatest to least
- 145 Arranging fractions, decimals and mixed numbers on a number line

## ADDITION OF WHOLE NUMBERS

- 1 Adding 4 four-digit numbers with regrouping
- 13 Recognizing addition and subtraction fact families; bridging 20 or 30 when adding
- 72 Learning about the Commutative Property of Addition
- 108 Learning about the Associative Property of Addition

## SUBTRACTION OF WHOLE NUMBERS

- 1 Subtracting 2 three-digit numbers
- 2 Subtracting 2 three-digit numbers with regrouping
- 13 Recognizing addition and subtraction fact families
- 36 Subtracting four-digit numbers

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### MULTIPLICATION OF WHOLE NUMBERS

#### Multiplication facts

- 12 Learning multiplication facts with products through 20 and products with 5 (up to 45), 10 (up to 90), 11 (up to 99) or 12 (up to 48) as a factor
- 24 Learning multiplication facts with products up to 30
- 24 Recognizing multiplication and division fact families
- 36 Learning multiplication facts with products up to 50
- 49 Learning multiplication facts with products up through 81
- 51 Recognizing multiples
- 73 Learning multiplication facts with products up through 81 and products less than 100 with 12 as a factor
- 91 Determining lowest common multiple
- 91 Learning multiplication facts with products with 11 (up to 121) and 12 (up to 144) as a factor

#### One-digit multiplier, two or more digit multiplicand

- 12 Multiplying a one-digit times a two or three-digit number

#### Two-digit multiplier

- 32 Multiplying with a two-digit multiplier without a zero in the ones place in multiplier and without regrouping
- 47 Multiplying two two-digit numbers when there is a zero in the ones place in the multiplier, no regrouping
- 62 Multiplying two two-digit numbers, regrouping only with the ones or the tens place
- 84 Multiplying two two-digit numbers, regrouping twice
- 116 Multiplying three-digit number by two-digit number; multiplying money amounts with a two-digit multiplier
- 141 Computing products involving two decimal numbers
- 142 Computing products involving two decimal numbers

#### Three-digit multiplier

- 146 Multiplying a three-digit number times a three-digit number

#### Other

- 24 Learning the terminology for multiplication
- 72 Learning the Commutative Property of Multiplication
- 108 Learning the Distributive and Associative Properties of Multiplication

### DIVISION OF WHOLE NUMBERS

#### Division facts, no remainders

- 21 Learning division facts with dividends up through 20 and dividends with 5 as a factor
- 24 Recognizing multiplication and division fact families
- 49 Learning division facts with dividends to 30 and dividends as multiples of 10 (to 90), 11 (to 99) or 12 (to 48)
- 73 Learning division facts with dividends up through 50
- 87 Learning division facts with dividends up to 81 and dividends less than 100 with 12 as a factor
- 93 Determining factors
- 94 Determining prime numbers and prime factors
- 106 Determining the greatest common factor
- 135 Determining if a number, greater than 20, is a prime number

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#### **Division facts, remainders**

- 33 Learning division facts with remainders with dividends up through 20
- 70 Learning division facts with remainders with dividends up to 30 and dividends with 5 as a factor
- 91 Learning division facts with remainders with dividends to 50
- 111 Learning division facts with remainders with dividends to 81

#### **One-digit divisor – two or more digit quotient**

- 27 Dividing one-digit divisor into two-digit dividend with two-digit quotient, no regrouping or remainders
- 28 Dividing one-digit divisor into three-digit dividend with three-digit quotient, no regrouping or remainders
- 42 Dividing one-digit divisor into three-digit dividend with two-digit quotient, no regrouping or remainders
- 43 Dividing one-digit divisor into three-digit dividend with two-digit quotient, no regrouping or remainders
- 52 Dividing one-digit divisor into three-digit dividend, with two-digit quotient with regrouping and remainders
- 53 Dividing one-digit divisor into three-digit dividend, with two-digit quotient with regrouping and remainders
- 61 Dividing money by a one-digit divisor
- 82 Dividing one-digit divisor into four-digit dividend with three-digit quotient
- 83 Dividing one-digit divisor into four-digit dividend with three-digit quotient
- 115 Calculating a decimal answer in division problems when zeroes need to be added to the right of the dividend

#### **Two-digit divisor**

- 59 Dividing a two-digit divisor into a dividend less than 100, no remainders
- 89 Dividing with a two-digit divisor and a dividend less than 100 with remainders
- 138 Dividing a two-digit divisor into a three-digit dividend with a two-digit quotient
- 151 Dividing a two-digit divisor into a three-digit dividend with a one-digit quotient

#### **Other**

- 24 Learning the terminology for division
- 109 Dividing dollars by dollars

### **FRACTIONS**

- 15 Recognizing the numerator and denominator
- 15 Determining fractional part of a group when modeled in words, with extraneous information/the word “not”
- 16 Learning that the whole is the sum of its parts
- 17 Computing half of a group
- 54 Computing  $\frac{1}{2}$  to  $\frac{1}{9}$  of a group
- 67 Adding and subtracting fractions
- 75 Determining equivalent fractions using models or money
- 76 Adding and subtracting fractions with like denominators
- 79 Comparing fractions
- 81 Adding and subtracting mixed numbers
- 88 Changing an improper fraction to a mixed number
- 95 Determining the improper fraction with the greatest or least value in a set of fractions
- 99 Calculating equivalent fractions using multiplication
- 110 Calculating equivalent fractions using division
- 112 Converting an improper fraction as part of a mixed number
- 114 Selecting the fraction that best represents a shaded region
- 118 Converting mixed numbers to decimal numbers by setting up equivalent fractions
- 125 Comparing fractions in less than and greater than problems and in true and not true number statements by setting up equivalent fractions
- 127 Converting fractions to percent by setting up equivalent fractions

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- 128 Converting fractions to percent by setting up equivalent fractions
- 145 Arranging fractions, decimals, and mixed numbers on a number line
- 148 Converting fractions to decimals using division
- 153 Multiplying fractions
- 154 Multiplying fractions and whole numbers

## MONEY

- 9 Learning the change equivalents up to a dollar for dimes, nickels and pennies
- 9 Recognizing coins
- 11 Recognizing the dollar symbol and decimal point
- 11 Recognizing money number words
- 11 Regrouping with money amounts when adding or subtracting
- 12 Multiplying money amounts by a one-digit multiplier
- 16 Learning the change equivalents up to \$1.00 for quarters and half-dollars
- 26 Solving word problems using mental multiplication of coins; calculating change using the fewest coins
- 55 Rounding to the nearest dollar
- 61 Dividing money by a one-digit number
- 109 Dividing dollars by dollars
- 116 Multiplying money amounts with a two-digit multiplier
- 139 Calculating cost per unit

## DECIMALS

- 85 Recognizing tenths and hundredths places; recognizing decimal number words
- 86 Adding and subtracting decimals
- 100 Comparing decimal numbers in true and not true statements and in less than and greater than problems
- 105 Putting decimal numbers in order from least to greatest and greatest to least
- 107 Dividing decimal numbers by a whole number
- 115 Calculating a decimal answer in division problems when zeroes need to be added to the right of the dividend
- 117 Filling in a missing number in a sequence counting by decimal numbers
- 118 Converting mixed numbers to decimal numbers by setting up equivalent fractions
- 131 Recognizing the thousandth place
- 131 Rounding decimal numbers to the nearest tenth or hundredth
- 137 Selecting the decimal that represents a shaded region
- 141 Computing products involving two decimal numbers
- 145 Arranging fractions, decimals, and mixed numbers on a number line
- 148 Converting fractions to decimals using division

## PERCENT

- 127 Converting fractions to percent by setting up equivalent fractions
- 128 Converting fractions to percent by setting up equivalent fractions
- 136 Selecting the percent that represents a shaded region
- 143 Solving word problems involving percent

## TIME - CLOCK

- 18 Telling time to the minute
- 18 Recognizing a quarter past or to the hour or half past the hour
- 18 Calculating minutes before the hour
- 18 Learning 60 minutes = 1 hour
- 18 Calculating elapsed time
- 57 Calculating elapsed time (hours) involving AM and PM
- 90 Learning the equivalent for one year in days
- 111 Calculating elapsed time in minutes across the 12 on the clock

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#### **TIME - CALENDAR**

- 19 Computing the date within one week
- 19 Learning 7 days = 1 week
- 19 Learning the abbreviations for days and months
- 66 Learning the equivalent for one year in weeks and the number of days in each month
- 124 Learning the equivalent for one year in days
- 124 Learning about leap year

#### **ODD AND EVEN NUMBERS**

- 17 Recognizing odd and even numbers less than 100
- 61 Recognizing sets of odd and even numbers
- 102 Recognizing three-digit odd and even numbers

#### **WORD PROBLEMS**

- 1 Solving multi-step word problems using addition and subtraction
- 4 Solving word problems using deductive reasoning
- 10 Determining if there is sufficient information to answer the question; determining what information is needed
- 26 Solving word problems using mental multiplication of coins
- 31 Solving word problems using multiplication and division
- 33 Solving word problems involving division with remainders
- 41 Solving word problems using reasoning
- 45 Estimating range for an answer using rounding to the nearest ten
- 45 Estimating answers for addition, subtraction and multiplication word problems; rounding to nearest 10
- 56 Calculating ratios of 2 to 1 and 3 to 1
- 69 Estimating answers for addition, subtraction and multiplication word problems; rounding to nearest 100 or 1000
- 69 Estimating range for an answer using rounding to the nearest hundred or thousand
- 72 Selecting the correct equation
- 77 Solving word problems by listing the possibilities
- 90 Estimating which answer is most reasonable; determining what the question is, given information & answer
- 92 Calculating distance, time and speed in word problems
- 96 Solving word problems involving area and perimeter
- 121 Reading maps drawn to scale
- 122 Calculating averages
- 129 Estimating answers to problems involving nine-digit numbers
- 139 Calculating unit cost
- 143 Solving word problems involving percent
- 150 Calculating the mean, mode and median

#### **MEASUREMENTS**

- 29 Estimating standard measurements
- 30 Reading measuring devices
- 37 Learning the equivalents for feet, inches and yards
- 63 Learning the equivalents for meters, kilometers, kilograms, dozen
- 63 Converting measurements using multiplication
- 63 Determining the measurement that is longer or shorter or heavier or lighter
- 64 Learning length abbreviations
- 73 Converting measurements using division
- 87 Learning the equivalents of gallons, pounds and tons
- 123 Learning the abbreviations for quarts, gallons, kilograms, grams, pounds and ounces

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### **GEOMETRY**

- 15 Recognizing squares, circles, triangles and rectangles
- 30 Recognizing lines of symmetry
- 37 Measuring line segments to the nearest half inch, quarter inch and half centimeter
- 38 Learning the terminology of parallel, intersecting and perpendicular lines
- 39 Learning the terminology of plane, figure, polygon, quadrilateral, parallelogram, and diagonal
- 40 Recognizing three-dimensional figures - sphere, cube, cone, cylinder, rectangular, square and triangular pyramids and rectangular prism
- 40 Learning the terminology of flat and curved faces, vertices and edges
- 58 Learning the terminology of pentagon, hexagon, octagon and pentagon
- 58 Recognizing patterns
- 58 Determining figures that do and do not belong in a set
- 60 Recognizing when figures are similar or congruent figures; recognizing flips, turns and slides
- 64 Calculating perimeters
- 65 Determining coordinate points
- 68 Calculating the area of a rectangle
- 70 Measuring angles
- 70 Learning the sum of the angles for a rectangle and a triangle
- 71 Recognizing the parts of a circle
- 78 Recognizing right, obtuse and acute angles
- 95 Calculating the volume of a rectangular prism with one or more layers of cubes
- 96 Solving word problems involving area and perimeter
- 96 Calculating the diameter, given the radius
- 97 Measuring vertical or horizontal lines by subtracting X or Y coordinates
- 98 Recognizing equilateral, isosceles and scalene triangles
- 101 Recognizing the pattern in a sequence of figures or pattern of shading
- 105 Calculating the volume of a rectangular prism using the formula  $L \times W \times H$
- 120 Calculating area and perimeter given coordinates on a coordinate grid
- 130 Determining if coordinate points are on a given line
- 132 Associating the 360 degrees in a circle with one-quarter, one-half, three-quarter and full turns
- 140 Determining negative numbers using coordinate points
- 144 Learning the terminology of rhombus and trapezoid
- 147 Calculating the area of a parallelogram
- 149 Calculating the surface area of a rectangular prism
- 155 Calculating the area of a triangle

### **ESTIMATING**

- 45 Rounding to the nearest ten
- 55 Rounding to the nearest hundred or thousand
- 55 Rounding to the nearest dollar
- 69 Estimating answers to word problems rounding to the nearest hundred or thousand
- 104 Rounding to the nearest whole number
- 129 Estimating answers to problems involving nine-digit numbers
- 131 Rounding decimal numbers to the nearest tenth or hundredth

### **PRE-ALGEBRA**

- 8 Recognizing the symbols  $<$  less than and  $>$  greater than
- 14 Filling in a missing number in an equation; determining value of a letter that has been substituted for number
- 22 Selecting the correct operation
- 25 Completing patterns in a chart

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- 34 Filling in missing numbers in equations with parentheses
- 34 Learning the order of operations when solving an equation
- 34 Filling in numbers where all numbers are represented by letters
- 35 Moving the numbers in a number sentences in order to change from  $\neq$  to  $=$
- 35 Finding the value of an unknown by performing the same operation on both sides of an equation
- 44 Using Venn diagrams to understand the union and intersection of sets
- 72 Selecting the correct equation
- 74 Recognizing true and not true equations
- 74 Selecting the correct symbol for a number sentence
- 87 Using trial and error to replace letters with numbers in an equation
- 133 Comparing positive and negative numbers
- 134 Determining the equation that represents a problem and the one that solves the problem
- 152 Determining the rule that creates a pattern

### **PROBABILITY**

- 5 Calculating probability

### **GRAPHS**

- 5 Interpreting pie graphs
- 20 Interpreting bar graphs and picture graphs
- 80 Interpreting information in a line graph
- 119 Comparing two or more sets of data using bar or line graphs

# Scope & Sequence of Stretches

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#### **NUMBER SENSE ON A GRID**

- 17 arrange numbers 0-8 so consecutive numbers don't touch
- 63 arrange numbers 0-9 so consecutive numbers don't touch
- 68 arrange numbers 0-9 so consecutive numbers don't touch; different shape

#### **NUMBER SENSE ARABIC & ROMAN NUMERALS**

- 003 add 1 digit #s to 23 without using a 1, 5 or 8
- 026 write 24-17 without using a 2, 4, 1 or 7
  
- 109 move a line for true equation; addition
- 128 move a line to make a true equation; add, subtr
- 143 move a line to make a true equation

#### **WHAT NUMBER (TWO, THREE, etc.)**

- 013 what one number is midway between 54 and 92
- 129 what one number used 3 times with any operators = 30
- 132 what 2-digit number is 3x sum of digits
- 142 what 2-digit number is 5x sum of digits
  
- 008 which 3 consecutive numbers total 141
- 090 which 3 consecutive odd numbers total 51
- 105 which 3 consecutive even numbers total 168
  
- 021 which 4 consecutive numbers total 106
- 113 which 4 consecutive numbers total 190
- 122 which 4 consecutive odd numbers total 240

#### **PUT IN ORDER**

- 001 4 kids arrive at school; what is the order of arrival
- 002 4 people; what is order of height from short to tall
- 054 4 kids arrive at school; what is the order of arrival; different clues
- 057 4 dogs in show; what is the order of finishing awards
- 061 4 houses on a street of different colors; what is their order
- 072 4 people; what are their ages and order from young to old

#### **WHICH ONE IS (NEXT IN SEQUENCE, HEAVIEST, LARGEST)**

- 049 pound of feathers & pound of nails; which is heaviest
- 060 what is the next figure drawn in sequence
- 077 Score on Rob's 10th spelling test = 99
- 130 How far did Ralph run in each of 5 months
- 136 How many insects did bird eat in 4 days
- 138 How far did Ralph jog in each of 6 months

#### **ADDITION ON A GRID**

- 007 arrange numbers 0-9 so sums are all 14
- 011 arrange numbers 0-9 so sums are all 18
- 106 arrange 4 each of digits 1,2,3,4 so sums are 10

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#### USE DIGITS AND OPERATORS TO CREATE SPECIFIED ANSWERS

- 006 use 1-9 once each to create 3 addition problems with equal sums  
025 use 1-8 once each to make 4 equal sums  
067 use 0-9 once each to fill blanks for equation  
092 use 1-9 once each to create 3 addition problems with consecutive sums  
096 use 0-9 once each to fill blanks for equation  
102 use 1-9 once each to create 3 subtraction problems with equal remainders  
126 keep 1-10 in order, use operators to make total equal 100

#### PRE-ALGEBRA (WHICH LETTER IS WHICH DIGIT 0-9)

- 069 3 problems (add, subtract, divide) using diamond, square, star, circle, hexagon to represent numbers
- 009  $KA+B=KC$  and  $C-A=B$   
015  $AC \times B=AC$  and  $AB+C=AB$  and  $A-B=B$   
019  $M+N=KB$  and  $M \times N=TN$  and  $M-N=B$   
031  $AB/C=D$  &  $(A+A) \times C=D$  &  $C-(A+A)=A$  Parenthesis introduced  
039  $P + P = QR$  &  $QR \div R = P$   
045  $C \times C=C$  &  $D \times A=B$  &  $D+A=H$  &  $ExF=F$  &  $K+G=CD$   
052  $MN-P=MP$  and  $N+P=MV$   
056  $M \times N=P$  and  $RM-N=RR$  and  $P+P=RN$   
075  $A+A+A=BC$  and  $BC-A=DE$  and  $A/C=B$   
080  $A+A+A+A=CF$  and  $C+F=A$  and  $C \times C=A$   
089  $A \times C=BC$  and  $C/E=B$  and  $C-E=A$   
093  $A \times BC=AD$  and  $A \times C=D$  and  $C-B=B$   
099  $EW/X=B$  and  $W/E=A$  and  $W+E=X$   
104  $BC/D=E$  &  $(B \times E) \times B=BC$  and  $C/B=G$   
109  $AB/C=D$  and  $ExF=CB$  and  $B \times C=GA$   
114  $50.00 - ((4 \times B) + (3 \times P) + T) =$  Change from a purchase  
147  $58 - X + 8 = 43$ ;  $(58+8)-43=X$ ;  $23 = X$

#### PRE-ALGEBRA (BALANCING BOTH SIDES OF AN EQUATION)

- 023 5 quart & 3 quart bottles; need 2 quarts  
076 3 box / 2 box; balance 1-digit numbers  
087 3 box / 2 box; balance 2-digit numbers  
095 3 box / 3 box; balance 2-digit numbers  
133 3 crossing stream; how do they do it using 1 raft that holds only 2  
134 3 boxes & balance scale; find heaviest in 1 weighing  
139 5 boxes & balance scale; find heaviest in 2 weighings  
144 9 boxes & balance scale; find heaviest in 2 weighings  
149 9 boxes & balance scale; find heaviest in 3 weighings  
154 15 boxes & balance scale; find heaviest in 3 weighings

#### PRE-ALGEBRA (GIVEN A TOTAL & CERTAIN DETAILS, HOW MANY DOES EACH HAVE)

- 005  $A+J=12$ ;  $J+6=A$ ; how many dogs  
014  $K+B+L=42$ ;  $K/2=B$ ;  $K*2=L$ ; how many cats  
022  $H+C+S=18$ ;  $H+2=S$ ;  $H*2=C$ ; how many hits  
027  $T+Y+B+A=34$ ;  $B*3=Y$ ;  $B/2=A$ ;  $Y+B=T$  how many trees  
029  $Jo+J+G+B=32$ ;  $G+1=J$ ;  $J*3=B$ ;  $C*2=Jo$  how many cards  
033  $P+M+C=25$ ;  $C+1=M$ ;  $P-5=M$ ; how many fish

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- 038 how many more than less than marbles  
041  $T+R+C=30$ ;  $T*5=R$ ;  $C/4=T$ ; how many birds  
047  $A+B+C=20$ ;  $A-2=B$ ;  $C-3=B$ ; how many coins  
055  $A+B+C=27$ ;  $A/2=B$ ; how many books  
086  $Br+P+B=33$ ;  $Pu=Bu*3$ ;  $Bu=5$ ;  $Bu+Bf=8$ ;  $Brf/2=Bf$  how many stamps of each kind

### PRE-ALGEBRA (GIVEN TOTAL PRICE, UNIT PRICE & TOTAL ITEMS, HOW MANY EACH)

- 091 Total cost .31; how many each .02, .03 & .04 if total number is 10  
103 Total cost .87; how many each .04, .05 .06 & .08 if total number is 16  
111 Total cost 1.40; how many each .06, .07, .08 & .09 if total number is 18

### PRE-ALGEBRA (GIVEN TOTALS, HOW MANY EACH OF TWO ITEMS)

- 071 24 legs; 7 heads - how many each of men & cows  
079 57 legs; 16 stools - how many each of 3 & 4 legged stools

### PRE-ALGEBRA (GIVEN NUMBER AND INTERVAL, HOW MANY WILL THERE BE)

- 012 8, then 10, then 12 etc how many in 10 yrs  
016 2, then 4, then 8 etc when will total be 500  
035 15 then 25 then 35 etc how many after 6 mo  
048 7 in room each shaking hands; how many: 21  
059 24  $-1/2$ ; then  $-1/3$ , then  $-1/4$  etc how many; 1  
062 7 in a row, then 10 then 13 etc how many in the 10th row: 34  
070 3 bird 3 worm 3 min; how long will it take 33 birds to eat worms  
116 104 in 4 day; each day 10 more than prev day  
124 2, then 4, then 8 etc when will total be 1000  
153 trillion pennies; spend a million a day, how long to spend them all

### HOW MUCH (CONTENTS VS CONTAINER)

- 083 Total .80; bottle is .60 more than cider; how much is cider  
101 Total .90; milk is .50 more than bottle; how much is milk

### PRE-ALGEBRA (TRIAL & ERROR WITH DIVISION)

- 115 How many brownies  $N < 72$ ;  $N/5$  gives  $r3$ ,  $N/4$   $r3$ .  $N/3$   $r3$ ,  $N/2$   $r1$   
117 How many yards;  $N/8$  no  $r$ ;  $N/7$   $r2$ ;  $N/6$  no  $r$ ;  $N/5$  no  $r$ ;  $N/4$  no  $r$ ;  $N/3$  no  $r$ ;  $N/2$  no  $r$   
121 How many stamps  $N < 72$ ;  $N/5$  gives  $r4$ ;  $N/4$  gives  $r3$ ;  $N/3$  gives  $r2$ ;  $N/2$  gives  $r1$   
155 Age of kids  $A \times B \times C = 36$ ;  $A + B + C = H$ ;  $A = B$

### DEDUCTIVE REASONING (BASED ON EVIDENCE, IS A STATEMENT TRUE)

- 040 Two statements; based on what you are told, is the third statement T, F or DNK? F  
051 Two statements; based on what you are told, is the third statement T, F or DNK? T  
064 Two statements; based on what you are told, is the third statement T, F or DNK? F  
073 Two statements; based on what you are told, is the third statement T, F or DNK? T  
084 Two statements; based on what you are told, is the third statement T, F or DNK? F  
098 Three statements; based on what you are told, is the fourth statement T, F or DNK? T  
108 Three statements; based on what you are told, is the fourth statement T, F or DNK? F  
120 Three statements; based on what you are told, is the fourth statement T, F or DNK? F  
127 Three statements; based on what you are told, is the fourth statement T, F or DNK? T

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#### **DEDUCTIVE REASONING (MATCH PEOPLE WITH DESCRIPTION)**

- 034 4 athletes with playing position; match names to positions
- 037 4 relatives; match first and last names
- 042 4 employees; match names with jobs
- 046 4 toys on floor; match toys with owners
- 050 4 students; match names with subjects
- 074 4 kids with drinks; match drinks to kids
- 081 4 girls with sports; match girls to sports
- 088 4 kids with dogs; match dogs with owners
- 097 4 kids with pets; match pets using chart
- 112 4 teams, 8 people; find teams using chart

#### **VENN DIAGRAMS AND SETS**

- 145 Of 21 students, 5 have no siblings, 2 have sister, 4 have brother; how many have both
- 151 Of 26 students, 4 have none, 13 boys, 16 girls; how many have both

#### **TIME - DATE & CALENDAR**

- 010 Birthday on 95th day of the year; what is the date
- 018 Birthday on 153rd day of the year; what is the date
- 043 Birthday on 200th day of the year; what is the date

#### **TIME - EVENTS IN A DAY**

- 148 8 class periods, lunch & breaks; what time will it be when school's out

#### **MONEY**

- 020 What is value of your city, given 1 cent for A, 2 cents for B, etc.
- 028 Create words that equal 25 cents or less, given 1 cent for A, 2 cents for B, etc.
- 030 What 24 coins add exactly to \$1.00
- 146 How many coins can you have and still not be able to change 1.00 bill

#### **GEOMETRY**

- 004 Move 1 line to make 3 squares from 4 squares
- 044 Move 3 lines to make 3 squares from 5 squares
- 058 Move 4 lines to make 6 triangles from 8 triangles
- 066 Move 3 lines to make 2 rectangles from 4 squares
- 078 Move 3 lines to make 3 squares from 4 squares
- 082 Move 2 lines to make 7 squares from 4 squares
- 100 Move 2 lines to make 2 squares from 4 squares
- 107 Move 5 lines to make 3 squares from 6 squares
- 123 Move 8 lines to make 3 squares from 9 squares
  
- 131 Using 10 lines, make 5 triangles
  
- 036 Given 6 circles arranged in triangle; invert shape by moving 2
- 053 Given 10 circles arranged in triangle; invert shape by moving 3
- 032 Given a complex drawing, how many shapes: 13 triangles
- 065 Given a complex drawing, how many shapes: 30 squares
- 094 Given a complex drawing, how many shapes: 27 triangles
- 110 Given a different complex drawing, how many shapes: 27 triangles

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- 119 Given a complex drawing, how many shapes: 51 rectangles
- 024 How many ways can 3 squares be connected
- 118 How many pieces of carpet are needed to make 12 sq yds of carpet
- 125 How many bags cement are needed to make a sidewalk=650
- 135 What are the dimensions of rectangle perimeter fence
- 137 What is the area of the unshaded region
- 150 What is area of square w/144 cm perimeter
- 140 which of 3 cubes on the right is the same as the left cube
- 141 which letter on the back of a cube is opposite the visible letter on the cube

### COMBINATIONS

- 085 alphabet soup; which 4-letter combinations are possible
- 152 change word from side to dish, each time changing one character

### CHARTING/GRAPHING

- 086 using chart to find out how many stamps of each kind
- 097 4 kids with pets; match pets using chart
- 112 4 teams, 8 people; find teams using chart

### PATTERNS

- 012 8, then 10, then 12 etc how many in 10 yrs
- 016 2, then 4, then 8 etc when will total be 500
- 035 15 then 25 then 35 etc how many after 6 mo
- 060 what is the next figure drawn in sequence
- 077 Score on Rob's 10th spelling test = 99
- 116 104 in 4 day; each day 10 more than prev day
- 124 2, then 4, then 8 etc when will total be 1000
- 130 How far did Ralph run in each of 5 months
- 136 How many insects did bird eat in 4 days
- 138 How far did Ralph jog in each of 6 months

# Scope & Sequence of Activities

## Fourth Grade

by activity number and page

#	Pg	Activity Concept
1	A4	Recording and interpreting probability data using graphs
2	A6	Interpreting data plotted on bar and line graphs
3	A8	Plotting data points on a grid
4	A10	Extracting and interpreting the information displayed on line graphs
5	A12	Collecting data and creating pie graphs to display the data
6	A14	Observation and Experimentation: proving a hypothesis
7	A16	Reasoning by listing possibilities
8	A18	Reasoning by asking questions
9	A20	Math in advertising
10	A22	Creating word problems to fit equations
11	A24	Arranging complex plane figures on a grid
12	A28	Perimeter and area of squares and rectangles
13	A30	Perimeter and area of triangles
14	A32	Using number lines to represent sets of real and whole numbers

# Create A Problem (Back of Tests)

by test, with page number, title and lesson concept

<b>Test</b>	<b>Page</b>	<b>Concepts</b>
Test 01	12	Word Problems - observation & interpretation - The Walking Club
Test 02	24	Word Problems - observation & interpretation - Getting to Know Each Other
Test 03	36	Word Problems - observation and interpretation - Planning a Family Reunion Picnic
Test 04	48	Word Problems - observation and interpretation - Day of the Family Reunion Picnic
Test 05	60	Word Problems - observation and interpretation - Planning a Walk-A-Thon
Test 06	72	Word Problems - observation and interpretation - The Walk and Roll-A-Thon
Test 07	96	Word Problems - observation and interpretation - Filed Trip to the Zoo
Test 08	108	Word Problems - observation & interpretation - The Speed of Animals
Test 09	120	Word Problems - observation & interpretation - The Spiny-Tailed Iguana
Test 10	132	Word Problems - observation & interpretation - Dolphins
Test 11	144	Word Problems - observation & interpretation - Dangerous Sharks
Test 12	156	Word Problems - observation & interpretation - Harmless Sharks
Test 13	180	Create multiplication/division problems - Bones in Our Body
Test 14	192	Create multiplication/division problems - Giraffes
Test 15	204	Create multiplication/division problems - La Brea Tar Pit Skeletons
Test 16	216	Create length/distance problems - Whales
Test 17	228	Graphing - creating and interpreting line graph - Bicycle Racing
Test 18	240	Graphing - creating and interpreting line graph - Tour de Vacation
Test 19	264	Word and Money Problems - finish the story - Super Plumber
Test 20	276	Word and Time Problems - finish the story - Preparing the Baseball Diamond
Test 21	288	Word and Money Problems - finish the story - A Day of Roller Skating
Test 22	300	Time and Money Problems - finish the story - The Tree House
Test 23	312	Time and Money Problems - finish the story - A Day at the County Fair
Test 24	324	Time and Age Problems - finish the story - Dance Class

# Lesson Concepts

## Fourth Grade

by lesson & page number

#	Pg	Lesson Concept
1	2	Recognizing thousands, hundreds, tens and ones places; solving multi-step story problems using addition and subtraction; adding 4 four-digit numbers with regrouping and subtracting two three-digit numbers
2	4	Subtracting two three-digit numbers with regrouping
3	6	Recognizing any number less than 1,000
4	8	Solving word problems using deductive reasoning
5	10	Calculating probability, interpreting pie graphs
	<b>12</b>	<b>Test 1 &amp; Create a Problem 1 – The Walking Club</b>
6	14	Filling in missing numbers in sequences counting by 1, 2, 3, 4, 5, or 10
7	16	Recognizing any number less than 10,000
8	18	Recognizing the symbols and terms $<$ less than, $>$ greater than; arranging 4 four-digit numbers in order from least to greatest and from greatest to least
9	20	Learning change equivalents up to \$1.00 for dimes, nickels & pennies; recognizing coins
10	22	Determining if there is sufficient information to answer the question; determining what information is needed to answer a question
	<b>24</b>	<b>Test 2 &amp; Create a Problem 2 – Getting to Know Each Other</b>
11	26	Recognizing the dollar symbol and decimal point; recognizing money number words; regrouping with money amounts when adding or subtracting
12	28	Learning the multiplication facts with products up through 20 and products with 5 (up to 45), 10 (up to 90), 11 (up to 99) or 12 (up to 48) as a factor; multiplying a one-digit times a two or three-digit number; multiplying money amounts
13	30	Recognizing addition and subtraction fact families; bridging 20 or 30 when adding
14	32	Filling in a missing number in an equation; determining the value of a letter that has been substituted for a number
15	34	Recognizing squares, circles, triangles and rectangles; recognizing numerator and denominator; determining the fractional part of a group of items when modeled or given in words, sometimes including extraneous information or the word “not”
	<b>36</b>	<b>Test 3 &amp; Create a Problem 3 – Planning a Family Reunion Picnic</b>
16	38	Learning that the whole is the sum of its parts; learning change equivalents up to \$1.00 for quarters and half-dollars
17	40	Computing half of a group; recognizing odd and even numbers less than 100
18	42	Telling time to the minute; recognizing quarter past or to the hour, half past the hour; calculating minutes before hour; learning 60 minutes = 1 hour; calculating elapsed time
19	44	Computing the date within one week; learning 7 days = 1 week; learning abbreviations for days and months
20	46	Interpreting bar graphs and picture graphs
	<b>48</b>	<b>Test 4 &amp; Create a Problem 4 – The Day of the Family Picnic</b>
21	50	Learning division facts with dividends up through 20 and dividends with 5 as a factor
22	52	Selecting the correct operation; recognizing numbers greater than 1,000
23	54	Filling in missing numbers in sequences counting by 6, 7, 8, or 9
24	56	Learning multiplication facts with products up to 30; recognizing multiplication and division fact families; learning the terminology for multiplication and division
25	58	Completing patterns in a chart
	<b>60</b>	<b>Test 5 &amp; Create a Problem 5 – Planning a Walk-a-thon</b>

# Lesson Concepts

## Fourth Grade

by lesson & page number

#	Pg	Lesson Concept
26	62	Solving word problems using mental multiplication of coins; calculating change using fewest coins
27	64	Dividing one-digit divisor into two-digit dividend with two-digit quotient, no regrouping or remainders
28	66	Dividing a one-digit divisor into a three-digit dividend with a three digit quotient, no regrouping or remainders
29	68	Estimating standard measurements
30	70	Recognizing lines of symmetry; reading measuring devices
	<b>72</b>	<b>Test 6 &amp; Create a Problem 6 – The Walk and Roll-a-thon</b>
31	74	Solving word problems involving multiplication and division
32	76	Multiplying with two-digit multiplier without zero in the ones place in the multiplier and without regrouping
33	78	Learning division facts with remainders with dividends up through 20; solving word problems involving division with remainders
34	80	Filling in missing numbers in equations with parentheses; learning the order of operations when solving an equation; replacing letters with numbers in an equation
35	82	Changing a number sentence from $\neq$ to $=$ ; finding the value of an unknown by performing the same operation on both sides of an equation
	<b>84</b>	<b>First Quarter Test</b>
36	86	Subtracting four-digit numbers; learning multiplication facts with products to 50
37	88	Measuring line segments to the nearest half inch, quarter inch and half centimeter; learning the equivalents for feet, inches and yards
38	90	Learning terminology of parallel, intersecting and perpendicular
39	92	Learning terminology of plane figure, polygon, quadrilateral, parallelogram, diagonal
40	94	Recognizing three-dimensional figures - sphere, cube, cone, cylinder, rectangular, square and triangular pyramid and rectangular prism; learning terminology of flat and curved faces, vertices and edges
	<b>96</b>	<b>Test 7 &amp; Create a Problem 7 – Field Trip to the Zoo</b>
41	98	Solving word problems using reasoning
42	100	Dividing one-digit divisor into three-digit dividend with two-digit quotient, no regrouping or remainders
43	102	Dividing one-digit divisor into three-digit dividend with two-digit quotient, no regrouping or remainders
44	104	Using Venn Diagrams to understand the union and intersection of sets
45	106	Rounding to the nearest ten; estimating range for an answer; estimating answers for addition, subtraction and multiplication word problems using rounding
	<b>108</b>	<b>Test 8 &amp; Create a Problem 8 – The Speed of Animals</b>
46	110	Recognizing ordinal number words up to 100
47	112	Multiplying two two-digit numbers with zero in the ones place in the multiplier, no regrouping
48	114	Filling in missing numbers in sequences involving three-digit numbers
49	116	Learning multiplication facts with products to 81; learning division facts with dividends to 30 and dividends that are multiples of 10 (to 90), 11 (to 99) or 12 (to 48)
50	118	Recognizing numbers less than a million given in words, expanded notation/place value
	<b>120</b>	<b>Test 9 &amp; Create a Problem 9 – The Spiny-tailed Iguana</b>

# Lesson Concepts

## Fourth Grade

by lesson & page number

#	Pg	Lesson Concept
51	122	Recognizing multiples
52	124	Dividing one-digit divisor into three-digit dividend with two-digit quotient; regrouping and remainders
53	126	Dividing one-digit divisor into three-digit dividend with two-digit quotient; regrouping and remainders
54	128	Computing $\frac{1}{2}$ to $\frac{1}{9}$ of a group
55	130	Rounding to the nearest hundred or thousand; using rounding in order to estimate; rounding to the nearest dollar
	<b>132</b>	<b>Test 10 &amp; Create a Problem 10 – Dolphins</b>
56	134	Calculating ratios of 2 to 1 and 3 to 1
57	136	Calculating elapsed time (hours) involving AM and PM
58	138	Recognizing patterns; learning the terminology of pentagon, hexagon, and octagon; determining figures that do or do not belong in a set
59	140	Dividing a two-digit divisor into a dividend less than 100, no remainders
60	142	Recognizing when figures are similar or congruent; recognizing flips, turns and slides
	<b>144</b>	<b>Test 11 &amp; Create a Problem 11 – Dangerous Sharks</b>
61	146	Recognizing sets of odd and even numbers; dividing money by a one-digit divisor
62	148	Multiplying two two-digit numbers, regrouping only with the ones or the tens place
63	150	Measurement equivalents for meters, kilometers, kilograms, dozen; converting foot & inch totals to inches; determining if measurement is longer /shorter or heavier / lighter
64	152	Calculating perimeters; learning length abbreviations
65	154	Determining coordinate points
	<b>156</b>	<b>Test 12 Create a Problem 12 – Harmless Sharks</b>
66	158	Learning the equivalent for one year in weeks and the number of days in each month
67	160	Adding and subtracting fractions
68	162	Calculating the area of a rectangle
69	164	Estimating answers to word problems rounding to the nearest hundred or thousand; using rounding to establish a range
70	166	Learning division facts with remainders with dividends up to 30 and dividends with 5 as factor; measuring angles; learning the sum of the angles for rectangle and triangle
	<b>168</b>	<b>Second Quarter Test</b>
71	170	Recognizing the parts of a circle
72	172	Selecting correct equation; learning Commutative Property of Addition & Multiplication
73	174	Learning division facts with dividends up through 50; learning multiplication facts with products up through 81 and products less than 100 with 12 as a factor; converting measurements using division
74	176	True /not true number sentences; selecting correct symbol for number sentence
75	178	Determining equivalent fractions using models or money
	<b>180</b>	<b>Test 13 &amp; Create a Problem 13 – Bones in Our Body</b>
76	182	Adding and subtracting fractions with like denominators
77	184	Solving word problems by listing possibilities
78	186	Recognizing right, obtuse and acute angles
79	188	Comparing fractions
80	190	Interpreting information given in a line graph
	<b>192</b>	<b>Test 14 &amp; Create a Problem 14 – Giraffes</b>

# Lesson Concepts

## Fourth Grade

by lesson & page number

#	Pg	Lesson Concept
81	194	Adding and subtracting mixed numbers
82	196	Dividing a one-digit divisor into a four-digit dividend with a three-digit quotient
83	198	Dividing a one-digit divisor into a four-digit dividend with a three-digit quotient
84	200	Multiplying two two-digit numbers, regrouping twice
85	202	Recognizing tenths and hundredths places; recognizing decimal number words
	<b>204</b>	<b>Test 15 &amp; Create a Problem 15 – More Skeletons</b>
86	206	Adding and subtracting decimal numbers
87	208	Learning division facts with dividends up to 81 & dividends less than 100 with 12 as a factor; using trial and error to replace letters with numbers in an equation; learning the equivalents of gallons, pounds, tons
88	210	Changing an improper fraction to a mixed number
89	212	Dividing with a two-digit divisor and a dividend less than 100 with remainders
90	214	Determining the question, given the information and the answer; learning equivalent for one year in days; estimating which answer is most reasonable
	<b>216</b>	<b>Test 16 &amp; Create a Problem 16 – Whales</b>
91	218	Determining the lowest common multiple; learning multiplication facts with products with 11 (up to 121) and 12 (up to 144) as a factor; learning division facts with remainders with dividends to 50
92	220	Calculating distance, time and speed in word problems
93	222	Determining factors
94	224	Determining prime numbers and prime factors
95	226	Calculating the volume of a rectangular prism with one or more layers of cubes; determining the improper fraction with the greatest or least value in a set of fractions
	<b>228</b>	<b>Test 17 &amp; Create a Problem 17 – Bicycle Racing</b>
96	230	Solving word problems involving area and perimeter; calculating diameter, given radius
97	232	Measuring vertical or horizontal lines by subtracting x or y-coordinates
98	234	Recognizing equilateral, isosceles and scalene triangles
99	236	Calculating equivalent fractions using multiplication
100	238	Comparing decimal numbers in true / not true and less than / greater than problems
	<b>240</b>	<b>Test 18 &amp; Create a Problem 18 – Tour de Vacation</b>
101	242	Recognizing the pattern in a sequence of figures or pattern of shading
102	244	Recognizing numbers through trillions; recognizing three-digit odd & even numbers
103	246	Filling in missing numbers in sequences counting by 11 or 12
104	248	Rounding to the nearest whole number
105	250	Calculating the volume of a rectangular prism using the formula $L \times W \times H$ ; putting decimal numbers in order from least to greatest and greatest to least
	<b>252</b>	<b>Third Quarter Test</b>
106	254	Determining the greatest common factor
107	256	Dividing decimal numbers by a whole number
108	258	Distributive Property of Multiplication, Associative Property of Multiplication & Addition
109	260	Dividing dollars by dollars
110	262	Calculating equivalent fractions using division
	<b>264</b>	<b>Test 19 &amp; Create a Problem 19 – Super Plumber</b>

# Lesson Concepts

## Fourth Grade

by lesson & page number

#	Pg	Lesson Concept
111	266	Calculating elapsed time in minutes across the 12 on a clock
112	268	Converting improper fractions as part of mixed numbers
113	270	Filling in missing numbers in sequences counting by varying amounts
114	272	Selecting the fraction that best represents a shaded region
115	274	Calculating a decimal answer in division when adding zeroes to right of the dividend
	<b>276</b>	<b>Test 20 &amp; Create a Problem 20 - Preparing the Baseball Diamond</b>
116	278	Multiplying a three-digit number by a two-digit number; multiplying money amounts with a two-digit multiplier
117	280	Filling in missing numbers in a sequence of decimal numbers
118	282	Converting mixed numbers to decimal numbers by setting up equivalent fractions
119	284	Comparing two or more sets of data using bar or line graphs
120	286	Calculating area and perimeter given coordinates on a coordinate grid
	<b>288</b>	<b>Test 21 &amp; Create a Problem 21 – A Day of Roller Skating</b>
121	290	Reading maps drawn to scale
122	292	Calculating averages
123	294	Calculating averages; Learning abbreviations for quarts, gallons, kilograms, grams, pounds and ounces;
124	296	Learning the equivalent for one year in days; learning about leap year
125	298	Comparing fractions in less than / greater than and true / not true number sentences by setting up equivalent fractions
	<b>300</b>	<b>Test 22 &amp; Create a Problem 22 – The Tree House</b>
126	302	Recognizing Roman Numerals I, V, X, L, C, D, M
127	304	Converting fractions to percent by setting up equivalent fractions
128	306	Continued - Converting fractions to percent by setting up equivalent fractions
129	308	Estimating answers to problems involving nine-digit numbers
130	310	Determining if coordinate points are on a given line
	<b>312</b>	<b>Test 23 &amp; Create a Problem 23 – A Day at the County Fair</b>
131	314	Recognizing thousandth place; rounding decimal numbers nearest tenth or hundredth
132	316	Associating 360 degrees in a circle with one-quarter, one-half, three-quarter & full turns
133	318	Comparing positive and negative numbers
134	320	Determining equation that represents a problem and the one that solves the problem
135	322	Determining if a number, greater than 20, is a prime number
	<b>324</b>	<b>Test 24 &amp; Create a Problem 24 – Dance Class</b>
136	326	Selecting the percent that represents a shaded region
137	328	Selecting the decimal that represents a shaded region
138	330	Dividing a two-digit divisor into a three-digit dividend with a two-digit quotient
139	332	Calculating cost per unit
140	334	Determining negative numbers using coordinate points
	<b>336</b>	<b>Fourth Quarter Test</b>
141	338	Computing products involving two decimal numbers
142	340	Continued - Computing products involving two decimal numbers
143	342	Solving word problems involving percent
144	344	Learning the terminology of rhombus and trapezoid
145	346	Arranging fractions, decimals, and mixed numbers on a number line
	<b>348</b>	<b>Year End Test 1</b>

# Lesson Concepts

by lesson & page number

## Fourth Grade

#	Pg	Lesson Concept
146	350	Multiplying a three-digit number times a three-digit number
147	352	Calculating the area of a parallelogram
148	354	Converting fractions to decimals using division
149	356	Calculating the surface area of a rectangular prism
150	358	Calculating the mean, mode and median
	<b>360</b>	<b>Year End Test 2</b>
151	362	Dividing a two-digit divisor into a three-digit dividend with a one-digit quotient
152	364	Determining the rule that creates a pattern
153	366	Multiplying fractions
154	368	Multiplying fractions and whole numbers
155	370	Calculating the area of a triangle