

**Grace Christian Academy
Course Description**

Course Title: 4th Grade Math
Course Length: Full Year

Class Meetings (per week): Daily 45 min.
Textbooks: Math 4 for Christian Schools;
BJU Press

General Course Description: Hands on and worksheet activities to learn the math concepts required in 4th grade.

Biblical Principles:

God cares about numbers. He knows them all. He has recorded many for our information. Psalm 147:4, Luke 12:7

The consistency of mathematical truths demonstrates the orderliness, precision, and consistency of God. Genesis 6:14-16, Numbers 14: 29-33, Numbers 26: 64-65

Mathematical study should result in greater appreciation of the works of God in His creation. Psalm 8:3-9, Colossians 1:16-17

General Course Content:

1st Quarter

Principles of addition and subtraction Fact Families
Types of Subtraction
Place Value to 9 digits
Addition and subtraction facts to 5 digits
Time and money
Multiplication facts

2nd Quarter

Division facts
Common fractions
Multiplication: one digit multipliers
Measurement; Customary
Division: one digit advisors

3rd Quarter

Decimal Fractions
Geometry: Plane figures
Multiplication: Two-digit multipliers
Measurement: Metric
Division: Two-digit divisors

4th Quarter

Common Fractions: addition and subtraction
Statistics and graphing
Geometry
Pre-Algebra
Group problem solving

Related Student Objectives/Learner Outcomes:

Students will learn:

1. To accurately complete the addition facts
2. To identify the order principle of addition
3. To demonstrate the order principle of addition
4. To identify the zero principle of addition
5. To demonstrate the zero principle of addition
6. To identify the grouping principle of addition
7. To demonstrate the grouping principle of addition
8. To identify the zero principle of subtraction
9. To demonstrate the zero principle of subtraction
10. To identify the four types of subtraction
11. To read a word problem, write the correct equation, then solve and label the answer
12. To list all of the members of fact families with 4 members
13. To list all of the members of fact families with 3 members
14. To list all of the members of fact families with 2 members
15. To list the 5 steps for solving a word problem
16. To identify the place value through the millions place
17. To write a number in standard form, expanded form, expanded form-multiplication, and number word form
18. To write the value of each digit in a number
19. To order numbers from least to greatest
20. To determine if a number is less than, equal to, or greater than another number and to use the appropriate symbol
21. To round money to the nearest ten dollar place and to any other place value specified that is lower than the ten dollar place value
22. To round a number to the nearest hundred million and to any other lesser place value that is specified
23. To write the correct Roman numeral for standard numbers through the thousands place value
24. To write the correct standard number being represented in Roman numeral form
25. To use front-end estimation in addition problems
26. To accurately use front-end estimation in subtraction problems
27. To accurately use front-end estimation with adjustment in addition problems
28. To accurately use front-end estimation with adjustment in subtraction problems
29. To use rounding from the ten thousands place value downward to estimate an addition problem
30. To use rounding from the ten thousands place value downward to estimate a subtraction problem
31. To use rounding to estimate a subtraction money problem
32. To use rounding to estimate an addition money problem
33. To use front-end estimation with & without adjustment to estimate addition & subtraction of money problems
34. To add and subtract a five digit number
35. To add and subtract a five digit number from a five digit number that has four zeroes
36. To rename minutes as seconds, hours as minutes, and days as hours
37. To tell time to the nearest minute
38. To match equivalent times that are written in different units

39. To distinguish between A.M. and P.M.
40. To determine the amount of elapsed time
41. To accurately read a calendar
42. To match dates in where one has the month and year completely written to dates that are written with numbers and slash marks
43. To complete an appointment book using a calendar
44. To figure and write the total value of money when presented with an assortment of bills and coins
45. To determine what bills and coins to use for various purchases
46. To match equivalent values when comparing dollar amounts to groups of coins
47. To count change back from \$10.00 using the fewest bills and coins possible
48. To answer questions using a timeline
49. To depict a multiplication problem by coloring an array
50. To depict a multiplication problem by circling items into groups
51. To identify the zero principle of multiplication
52. To demonstrate the zero principles of multiplication
53. To identify the one principle of multiplication and to demonstrate it
54. To demonstrate the multiplication-addition principles i.e.: $6 \times 7 = (3 \times 7) + (3 \times 7)$
55. To explain what a factor, product, multiple, divisor, dividend, and quotient
56. To list all of the multiplication and division facts for each fact family
57. To identify the numerator and the denominator of a fraction
58. To compare fractions that have numerators that are the same but the denominators are different
59. To compare fractions that have denominators that are the same but the numerators are different
60. To determine if fractions with different numerators & denominators are equivalent by cross-multiplying
61. To raise a fraction to higher terms
62. To reduce fractions to its lowest term
63. To compare mixed numbers to determine =, <, or > status
64. To identify the Grouping Principle of Multiplication
65. To demonstrate the Grouping Principle of Multiplication
66. To mentally solve multiplication problems in which one factor is a multiple of 10,000 or 1,000
67. To solve multiplication problems where one factor has up to four digits & the other two digits
68. To solve multiplication problems in which one factor is in dollar-and-cent form
69. To determine the more sensible measurement of an object using standard measurements
70. To determine what unit should be used in measuring the length, weight, temperature, and volume of an object using standard measurements (i.e.: inches, feet, pound, ounces, Fahrenheit)
71. To rename units of measurement from cups into pints, into quarts, into gallons, etc, within the confines of standard measurements
72. To solve a division problem with multiples of 10 or 100 as the dividend
73. To solve a division problem with a one-digit divisor
74. To perform a multiplication check with and without a remainder
75. To determine the amount of digits in the quotient of a division problem before solving
76. To write an equation and solve it for division and multiplication word problems
77. To accurately place a zero in the quotient when there are not enough tens or ones to divide into the dividend
78. To solve division problems when the dividend is money

79. To write a word problem that would portray a division equation
80. To determine the total and average of a list of numbers
81. To explain and/or define a point, line, line segment, ray, angle, circumference, radius, and diameter
82. To identify and name a point, line, line segment, ray, and angle
83. To identify a vertex
84. To identify a right angle
85. To identify an acute angle
86. To identify an obtuse angle
87. To determine the perimeter of an object
88. To determine the area of an object
89. To identify and label the sides and angles of the following polygons: triangle, quadrilateral, pentagon, hexagon, heptagon, and octagon
90. To mentally multiply multiples of 10
91. To demonstrate the multiplication-addition principle in order to solve a multiplication problem
92. To accurately measure the length of an object in metric measurements
93. To determine a logical estimate of the length of an object in metric units
94. To determine the more sensible measurement of an object using metric measurements
95. To determine what unit should be used in measuring the length, width, temperature, and volume of an object using metric measurements
96. To rename units of measurement from centimeter to decimeters to meters, etc. within the confines of the metric system
97. To solve multiplication problems where both the multiple and multiplier have at least two digits
98. To accurately measure the length of an object in metric units
99. To determine a logical estimate of the length of an object in metric units
100. To determine the more sensible measurement of an object using metric measurements
101. To determine what unit should be used in measuring the length, width, temperature, and volume of an object using metric measurements
102. To add and subtract mixed numbers
103. To add and subtract unlike fractions
104. To determine the equivalent percentage of fractions with a denominator of 100
105. To organize information on bar graphs, line graphs, and pictographs
106. To determine the mode and frequency of graphed information
107. To determine if two figures are similar or congruent
108. To determine lines of symmetry in figures
109. To figure the perimeter of various figures
110. To figure the area of various figures
111. To identify the following parts of a three-dimensional figure: face, edge, vertex, flat surface, and curved surface
112. To identify the following 3-dimensional figures: rectangular prism, cone, cylinder, pyramid, and sphere
113. To figure the volume of various three-dimensional figures
114. To examine and determine whether 2-dimensional figures have been turned flipped, flipped and turned, or slid
115. To add positive and negative numbers using a number line
116. To add positive and negative numbers using an algebra mat and counters

117. To subtract positive and negative numbers using a number line
118. To subtract positive and negative numbers using an algebra mat and counters
119. To read a word problem, write a number sentence using a letter to represent the unknown and solve the problem
120. To read a real life business scenario and use math to solve a problem
121. To read every day business problems and solve them using math

Presentation Methods:

Manipulatives
Visual Aids
Workbook
Hands on Instruction
Music/Sing Along

Evaluation and Grading Methods:

- Written Test at end of each unit
- Worksheet grades
- Observation during hands-on and board work activities
- Grading Scale as follows:

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
0% - 59%	F

Enrichment Resources or Special Activities:

- Using place value sheets and manipulatives to demonstrate renaming
- Using play money and coins to make change
- Demonstrating time using small individual clocks
- Fraction tiles

Supplemental resources for Enrichment:

- Basic Worksheets, Heath Mathematics
- Enrichment Worksheets, Heath Mathematics