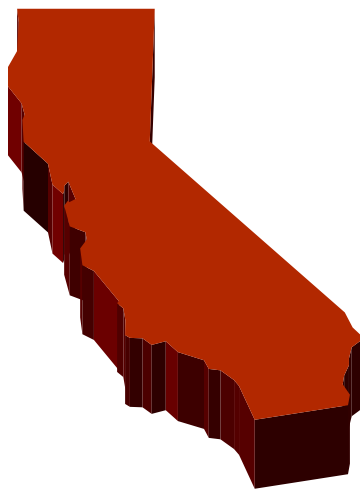


**MATHEMATICS  
CONTENT  
STANDARDS  
FOR CHRISTIAN  
UNIFIED SCHOOLS  
OF SAN DIEGO**

**Fourth Grade  
Parent Handbook**



# Standards for Mathematics

## Number Sense

### **1.0 Place Value**

By the end of fourth grade, your child will:

- 1.1 Read and write whole numbers to millions.
- 1.2 Order and compare whole numbers and decimals to two decimal places.
- 1.3 Round whole numbers to the thousands.
- 1.4 Decide/explain when a rounded solution is appropriate.
- 1.5 Explain different interpretations of fractions (e.g., parts of a whole, parts of a set, and division of whole numbers).
- 1.6 Write tenths and hundredths in decimal and fraction notations and know the fraction and decimal equivalents for halves and fourths (e.g.,  $\frac{1}{2} = 0.5$  or  $.50$ ;  $\frac{7}{4} = 1 \frac{3}{4} = 1.75$ ).
- 1.7 Write the fraction represented by drawing parts of a figure; represent a given fraction by using drawings; and relate a fraction to a simple decimal on a number line.
- 1.8 Use concepts of negative numbers.
- 1.9 Identify, on a number line, the relative position of positive fractions, positive mixed numbers, and positive decimals to two decimal places.

### **2.0 Computation- Decimals and Fractions**

By the end of fourth grade, your child will:

- 2.1 Estimate and compute the sum or difference of whole numbers and positive decimals to two places.
- 2.2 Round two place decimals to one decimal or the nearest whole number and judge the reasonableness of the rounded answer.
- 2.3 Solve problems involving fractions and mixed numbers.
- 2.4 Recognize and find a fractional part of a whole group, set, or number.
- 2.5 Add and subtract fractions and mixed numbers.
- 2.6 Write fractions and mixed numbers as decimal numbers.

### **3.0 Computation- Whole Numbers**

By the end of fourth grade, your child will:

- 3.1 Solve addition and subtraction problems with multi digit numbers.
- 3.2 Solve problems involving multiplication of multi digit numbers by two digit numbers.
- 3.3 Solve problems involving division of multi digit numbers by one digit numbers.

- 3.4 Identify the inverse operations of addition, subtraction, multiplication, and division.
- 3.5 Divide whole numbers with remainders.

#### **4.0 Factoring**

By the end of fourth grade, your child will:

- 4.1 Understand that many whole numbers break down in different ways (e.g.,  $12 = 4 \times 3 = 2 \times 6 = 2 \times 2 \times 3$ ).
- 4.2 Know that numbers such as 2,3,5,7, and 11 do not have any factors except 1 and themselves and that such numbers are called prime numbers.
- 4.3 Find factors and multiples of given numbers.

### **Algebra and Functions**

#### **1.0 Number Sense**

By the end of fourth grade, your child will:

- 1.1 Use letters, boxes, or other symbols to stand for any number in simple expressions or equations (e.g., demonstrating an understanding and the use of the concept of a variable).
- 1.2 Interpret and evaluate mathematical expressions that now use parenthesis.
- 1.3 Use parenthesis to indicate which operation to perform first when writing expressions containing more than two terms and different operations.
- 1.4 Use and interpret formulas (e.g., Area = length x width or  $A = lw$ ) to answer questions about quantities and their relationships.
- 1.5 Understand that an equation such as  $y = 3x + 5$  is a prescription for determining the second number when a first number is given.
- 1.6 Solve problems with square roots and perfect squares.
- 1.7 Solve problems using powers and exponents.

#### **2.0 Manipulate Equations**

By the end of fourth grade, your child will:

- 2.1 Know equal added to equals are equal.
- 2.2 Know equals multiplied to equals are equals.

### **Measurement and Geometry**

#### **1.0 Measurement**

By the end of fourth grade, your child will:

- 1.1 Measure the area of rectangular shapes using appropriate units such as square centimeters, square meter, square inch, square yard, or square mile.
- 1.2 Recognize that rectangles that have the same area can have different perimeters.

- 1.3 Understand that rectangles that have the same perimeter can have different areas.
- 1.4 Understand and use formulas to solve problems involving perimeters and areas of rectangles and squares. Use those formulas to find the areas of more complex figures by dividing the figures into basic shapes.
- 1.5 Find the volume of a container using standard or metric units.

## **2.0 Geometry**

By the end of fourth grade, your child will:

- 2.1 Identify lines that are parallel and perpendicular.
- 2.2 Identify the radius and diameter of a circle.
- 2.3 Identify congruent figures.
- 2.4 Identify figures that have bilateral and rotational symmetry.
- 2.5 Know the definitions of a right angle, acute angle, and an obtuse angle. Understand that  $90^\circ$ ,  $180^\circ$ ,  $270^\circ$ , and  $360^\circ$  are associated, respectively, with  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , and full turns.
- 2.6 Visualize, describe, and make models or geometric solids (e.g., prisms, pyramids) in terms of the number and shape of faces, edges, and vertices; interpret two-dimensional representations of three-dimensional objects; and draw patterns (of faces) for a solid that, when cut and folded, will make a model of that solid.
- 2.7 Know the definitions of different triangles (e.g., equilateral, isosceles, scalene) and identify their attributes.
- 2.8 Know the definition of different quadrilaterals (e.g., rhombus, square, rectangle, parallelogram, trapezoid).

## **Statistics, Data Analysis, and Probability**

### **1.0 Making Predictions**

By the end of fourth grade, your child will:

- 1.1 Interpret possible outcomes for a simple probability situation in an organized way (e.g., tables, grids, tree diagrams).
- 1.2 Express outcomes of experimental probability situations verbally and numerically (e.g., 3 out of 4;  $\frac{3}{4}$ ).

## **Mathematical Reasoning**

### **1.0 Make Decisions about a Problem**

By the end of fourth grade, your child will:

- 1.1 Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.
- 1.2 Determine when and how to break a problem into simpler parts.

## **2.0 Solve Problems and Justify Reasoning**

By the end of fourth grade, your child will:

- 2.1 Use estimation to verify the reasonableness of calculated results.
- 2.2 Apply strategies and results from simpler problems to more complex problems.
- 2.3 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
- 2.4 Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; supporting solutions with the evidence in both verbal and symbolic work.
- 2.5 Indicate the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy.
- 2.6 Make precise calculations and check the validity of the results from the context of the problem.

## **3.0 Make Connections**

By the end of fourth grade, your child will:

- 3.1 Evaluate the reasonableness of the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.
- 3.2 Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.
- 3.3 Develop generalizations of the results obtained and apply them in other circumstances.
- 3.4 Recognize God as the creator of Earth and founder of mathematic principles.
- 3.5 Recognize the attributes of God evident in mathematics (e.g., orderly, unchanging, absolute)