

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

**Fifth Grade  
Parent Handbook**



# Standards for Mathematics

## Number Sense

### **1.0 Relative Magnitude of Numbers**

By the end of fifth grade, your child will:

- 1.1 Estimate, round, and manipulate very large (e.g., millions) and very small (e.g., thousandths) numbers.
- 1.2 Interpret percents as a part of a hundred; find decimal and percent equivalents for the common fractions and explain why when they represent the same value; compute a given percent of a whole number.
- 1.3 Understand and compute positive integer powers of nonnegative integers; compute examples as repeated multiplication.
- 1.4 Determine the prime factors of all numbers through 50.
- 1.5 Identify and represent on a number line decimals, fractions, mixed numbers, and positive and negative integers.
- 1.6 Write factors of numbers using exponential notation.

### **2.0 Computation**

By the end of fifth grade, your child will:

- 2.1 Add, subtract, multiply, and divide with decimals; add with negative integers; subtract positive integers from negative integers; and verify the reasonableness of results.
- 2.2 Demonstrate proficiency with division, including division with positive decimals and long division with multi digit divisors.
- 2.3 Solve simple problems, including ones arising in concrete situations, involving the addition and subtraction of fractions and mixed numbers (like and unlike denominators of 20 or less), and express answers in the simplest form.
- 2.4 Understand the concept of multiplication and division of fractions.
- 2.5 Compute and perform simple multiplication and division of fractions, and apply these procedures to solving problems.

## Algebra and Functions

### **1.0 Simple Expressions**

By the end of fifth grade, your child will:

- 1.1 Use information taken from a graph or equation to answer questions about a problem situation.
- 1.2 Use a letter to represent an unknown number; write and evaluate simple algebraic expressions in one variable by substitution.
- 1.3 Know and use the distributive property in equations and expressions with variables.

- 1.4 Identify and graph ordered pairs in the four quadrants of the coordinate plane.

## **Measurement and Geometry**

### **1.0 Area and Volume**

By the end of fifth grade, your child will:

- 1.1 Find the area of simple figures using formulas (e.g.,  $L \times W$  for rectangles,  $S^2$  for squares,  $\frac{1}{2}bh$  for triangles).
- 1.2 Construct a cube and rectangular box from two-dimensional patterns and use these patterns to compute the surface area for these objects.
- 1.3 Understand the concept of volume and use the appropriate units in common measuring systems (e.g., cubic centimeters [ $\text{cm}^3$ ], cubic meter [ $\text{m}^3$ ], cubic inch [ $\text{in}^3$ ], and cubic yard [ $\text{yd}^3$ ] to compute the volume of rectangular solids.
- 1.4 Differentiate between, and use appropriate units of measures for, two- and three-dimensional objects (e.g., find the perimeter, are, and volume).

### **2.0 Geometry**

By the end of fifth grade, your child will:

- 2.1 Measure, identify, and draw angles, perpendicular and parallel line, rectangles, and triangles by using appropriate tools (e.g., straightedge, ruler, compass, and protractor).
- 2.2 Know that the sum of the angles of any triangle is  $180^\circ$  and the sum of the angles of any quadrilateral is  $360^\circ$  and use this information to solve problems.
- 2.3 Visualize and draw two-dimensional views of three-dimensional objects made from rectangular solids.

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

### **1.0 Data**

By the end of fifth grade, your child will:

- 1.1 Know the concepts of mean, median, and mode; computing and comparing simple examples to show that they may differ.
- 1.2 Organize and display single-variable data in appropriate graphs and representations (e.g., histogram, circle graphs) and explain which types of graphs are appropriate for various data sets.
- 1.3 Use fractions and percentages to compare data sets of different sizes.
- 1.4 Identify ordered pairs of data from a graph and interpret the meaning of the data in terms of the situation depicted by the graph.
- 1.5 Know how to write ordered pairs correctly; for example  $(x,y)$ .

## **Mathematical Reasoning**

### **1.0 Making Decisions About a Problem**

By the end of fifth 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 fifth grade, your child will:

- 2.1 Use estimation to verify the reasonableness for 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 evidence in both verbal and symbolic work.
- 2.5 Indicate the relative advantages of exact and approximate solutions to problems and giving 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 fifth grade, your child will:

- 3.1 Evaluate the reasonableness of the solution in the context of the original situation.
- 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)