

Relevant 4th grade California SCORE Standards
“Math: Batter Up”

Number Sense

1.0 Students understand place value of whole numbers and decimals to two decimal places, how these relate to simple fractions, and use concepts of negative numbers:

- 1.2 Order and compare whole numbers and decimals to two decimal places.
- 1.3 Round whole numbers through the millions to the nearest ten, hundred, thousand, ten thousand, or hundred thousand.
- 1.4 Decide when a rounded solution is called for and explain why such a solution may be appropriate.
- 1.5 Explain different interpretations of fractions, for example, parts of a whole, parts of a set, and division of whole numbers by whole numbers; explain equivalents of fractions.
- 1.6 Write tenths and hundredths in decimal and fraction notation and know the fraction and decimal equivalents for halves and fourths.

2.0 Students extend their use and understanding of whole numbers to the addition and subtraction of simple decimals:

- 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.

3.0 Students solve problems involving addition, subtraction, multiplication, and division of whole numbers and understand the relationships among the operations:

- 3.1 Demonstrate an understanding of, and the ability to use, standard algorithms for addition and subtraction of multi-digit numbers.
- 3.2 Demonstrate an understanding of, and the ability to use, standard algorithms for multiplying a multi-digit number by a two-digit number and for dividing a multi-digit number by a one-digit number; use relationships between them to simplify computations and to check results.
- 3.3 Solve problems involving multiplication of multi-digit numbers by two-digit numbers.

3.4 Solve problems involving division of multi-digit numbers by one-digit numbers.

Algebra and Functions

1.0 Students use and interpret variables, mathematical symbols, and properties to write and simplify expressions and sentences:

1.1 Use letters, boxes, or other symbols to stand for any number in simple expressions or equations (e.g., demonstrate an understanding and the use of the concept of a variable).

Mathematical Reasoning

1.0 Students make decisions about how to approach problems:

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 Students use strategies, skills, and concepts in finding solutions:

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; support solutions with 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 Students move beyond a particular problem by generalizing to other situations:

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