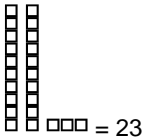


# FIRST GRADE MATH

*By the end of First Grade a student will be able to*

## NUMBERS

- read, write and compare whole numbers up to 100
- skip count by 2's, 5's and 10's to 100
- demonstrate concept of odd and even numbers using manipulatives
- demonstrate group recognition of amounts in sets
- quantify and order cardinal numbers (total number in a set) and ordinal numbers (first, second, third,...)
- use manipulatives to develop initial understanding of place value and the base-ten number system (1's, 10's, 100's) in quantifying and ordering numbers



$$\square\square\square = 23$$

- use appropriate vocabulary and symbols to describe relationships between numbers (> greater than, < less than, = equal to)
- connect the number words and numerals to the quantities they represent (one = 1, two =2, etc.)
- construct and solve one-step addition and subtraction number sentences and number stories using manipulatives (concrete objects and pictures)
- construct number sentences to match word problems
- develop strategies for whole number computation with a focus on addition and subtraction up to 12
- compare 2 or more sets using manipulatives

$$\square\square\square > \square\square$$

- use the calculator for counting patterns
- compute using fact families
- use mental math counting strategies

$5+6 = 6$  +mentally count on 7, 8, 9, 10, 11 or  $9+5$  so  $10+5=15$ , 9 is 1 less than 10 so  $9+5$  is 1 less or 14.

## MEASUREMENT & GEOMETRY

- determine the attributes of an object that are measurable (e.g., length and weight are, color and texture are not)
- compare and order objects according to measurable attributes
- describe common and uncommon attributes in a set (all, some or none)



All triangles  
Some red  
No squares

- know how to measure with a ruler starting at the zero mark
- order objects according to height, weight and length
- know how to use a thermometer
- estimate standard and nonstandard measurements of length, weight and capacity
- describe and compare qualitative change (e.g., student grows taller)
- recognize, name, compare, and sort two and three dimensional shapes and objects
- model two dimensional shapes by drawing or building
- use template or free-hand to draw



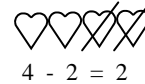
- describe relative positions in space and apply ideas about relative position (e.g., above/below)
- identify and describe objects that are the same shape (similar)
- recognize and describe shapes that have lines of symmetry (e.g., hearts, butterflies, triangles, rectangles)
- recognize and explain geometric shapes, patterns and structures in the environment (e.g., play "I Spy" using attributes of shapes)

## MONEY & TIME

- know values of US currency (pennies, nickels, dimes and quarters)
- count mixed coins up to a dollar using pennies, nickels and dimes
- read and write time to the hour and half hour in both digital and analog

## APPLYING MATH, PROBLEM-SOLVING, GRAPHING

- create and read tables and graphs using symbols
- create and solve word problems using patterns and number properties
- create and solve number models using objects and pictures



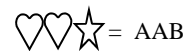
- use tally marks to collect and record data
- create and read pictographs and bar graphs using one to one correspondence
- draw conclusions and answer questions using data from pictographs and bar graphs
- make reasonable estimates of quantity
- predict the probability of an event as being likely, unlikely or impossible (e.g., choosing a red crayon from a bag of green crayons)

## DECIMALS, FRACTIONS, PERCENTAGES

- describe and identify parts of a whole using  $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{4}$
- divide a whole into halves and fourths

## PATTERNS, FUNCTIONS, ALGEBRA

- recognize, and work with patterns, such as sequences of sounds, motions, shapes or simple numeric patterns
- match letters to describe given patterns



- solve real life word problems using patterns (e.g., lining up for recess by patterns)