

Palo Alto Curriculum Standards for Mathematics, K-5th
Excerpted Standards from Numbers Sense/Operations/Algebra & Functions

Gr.	District Mathematics Standards	Progress Report
K	<p>NS2a. Use concrete objects to determine the answers to addition and subtraction problems (for number combinations up to 10)</p> <p>NS2B. Know number combinations (basic facts) and complements ($2 + __ = 5$) up to 5</p>	<p>Demonstrates fluency with number combinations of to 5 (e.g., $2 + 3 = 5$)</p> <p>Demonstrates fluency with number complements up to 5 ($2 + __ = 5$)</p> <p>Uses concrete objects to determine the answers to addition and subtraction problems (for number combinations up to 10)</p>
1	<p>NS2a. Demonstrate fluency with basic number combinations for addition (sums to 10) and the corresponding subtraction facts.</p> <p>NS2f. Solve addition and subtraction problems with a one- and two-digit number</p> <p>NS2g. Find the sum of three one-digit numbers</p> <p>NS3a. Recognize and make reasonable estimates when comparing larger or smaller quantities.</p> <p>AF1. Students use number sentences with operational symbols and expressions to solve problems.</p>	<p>Demonstrates fluency with basic number combinations for addition facts (sums to 10)</p> <p>Demonstrates fluency with basic number combinations for subtraction facts (up to 10)</p> <p>Recognizes and makes reasonable estimates when comparing larger and smaller quantities</p> <p>Creates and solves story problems and justifies answers using pictures, diagrams, words, and/or number sentences.</p>
2	<p>NS2a. Know the addition facts (sums to 20) and the corresponding subtraction facts and commit them to memory</p> <p>NS2c. Use mental arithmetic to find the sum or difference of two two-digit numbers</p> <p>NS2d. Use a variety of strategies to add and subtract two-digit numbers with and without regrouping</p> <p>NS3c. Know the multiplication tables of 2s, 5s, and 10s (to times 10) and commit them to memory</p>	<p>Knows addition facts (sums to 20)</p> <p>Knows subtraction facts (up to 20)</p> <p>Uses mental arithmetic to find the sum or difference of two two-digit numbers (e.g., $37+23$; $46-21$)</p> <p>Uses a variety of strategies to add – and subtract – two-digit numbers with and without regrouping</p> <p>Creates models and solves simple problems involving multiplication and division</p>
3	<p>NS3a. Find the sum or difference of two whole numbers between 0 and 10,000 with or without regrouping</p> <p>NS3c. Memorize to automaticity the multiplication table for numbers between 1 and 10</p> <p>AF1e. Students recognize and use the commutative and associative properties of multiplication</p>	<p>Knows the addition facts (sums to 20) and the corresponding subtraction facts</p> <p>Finds the sum or difference of two whole numbers between 0 and 10,000 with or without regrouping</p> <p>Memorizes the multiplication table for numbers between 1 and 10</p> <p>Understands and uses the inverse relationship between multiplication and division</p>

<p>4</p>	<p>NS2 Students extend their use and understanding of whole numbers to the addition and subtraction of decimals NS3a. Know multiplication facts to 12 x 12, and the corresponding division facts NS3d. Demonstrate and understanding of, and the ability to use standard algorithms for addition and subtraction of multiple digit numbers NS3e. Demonstrate an understanding of, and the ability to use a variety of strategies for solving problems involving multiplying a multi-digit number by a two-digit number; and NS3f Demonstrate an understanding of, and the ability to use a variety of strategies for solving problems involving dividing a multi-digit number by a one-digit number</p>	<p>Knows addition and subtraction facts to 20 Adds and subtracts 4-digit numbers with and without regrouping Knows multiplication facts to 12 x 12 Knows division facts up to $144 \div 12$ Multiplies a multi-digit number by a two-digit number Divides a multi-digit number by a one-digit number</p>
<p>5</p>	<p>NS1. Students understand the relative magnitude of numbers and compute with very large (e.g., millions) and very small (e.g., thousandths) numbers. NS1d. Recognize a variety of ways to decompose and combine numbers, including factors, and use that understanding in solving problems NS1F. Demonstrate proficiency with long division with multi-digit divisors NS3b. Understand the concepts and perform addition, subtraction, and simple multiplication of fractions and decimals. AF1h. Identify properties such as the commutative, associative, and distributive properties and use them to compute with whole numbers.</p>	<p>Knows basic (x, \div) facts to 12; (+, -) to 20 Solves multi-digit addition and subtraction problems of whole numbers and decimals Solves multi-digit multiplication problems Demonstrates proficiency with long division with whole numbers with multi-digit divisors Composes and decomposes numbers, including factors to solve problems Understands the concepts and performs addition and subtraction of fractions Understands the concepts and performs simple multiplication of fractions</p>