

MATHEMATICS

Number Sense

| Grade K | Grade 1 | Grade 2 |
|--|---|---|
| <p>1. Students understand the relationship between numbers and quantities, i.e., that a set of objects has the same number of objects in different situations, regardless of its position or arrangement.</p> <p>k.1.1 compare two or more sets (up to 10 objects in each group), and identify which set is equal to, more than, or less than the other</p> <p>k.1.2 count, recognize, represent, name and order numbers (to 30) using objects</p> <p>k.1.3 know that the larger numbers describe sets with more objects in them than smaller numbers</p> | <p>1. Students understand and use numbers up to 100.</p> <p>1.1.1 count, read and write whole numbers to 100</p> <p>1.1.2 compare and order whole numbers to 100 using the symbols for less than, equal to, or greater than (<, =, >)</p> <p>1.1.3 represent equivalent forms of the same number through the use of physical models, diagrams and number expressions (to 20) (e.g., 8 can be represented as $4 + 4$, $5 + 3$, $2 + 2 + 2$, $10 - 2$, $11 - 3$)</p> <p>1.1.4 count and group objects into ones and tens (e.g., 3 groups of ten and 4 more is 34 or $30 + 4$)</p> <p>1.1.5 identify and know the value of coins (penny, nickel, dime) and show different combinations of coins that equal the same value</p> <p>1.1.6 compare two groups of objects (up to 20 objects in each group) and identify which group has more or less in it and count how many more are in one group</p> <p>1.1.7 combine groups of objects up to a total of 20 objects and write the correct addition equation</p> <p>1.1.8 separate up to 20 objects into two groups and write the correct subtraction equation</p> | <p>1. Students understand the relationship among numbers, quantities and place value in whole numbers up to 1000.</p> <p>2.1.1 count, read, write whole numbers to 1,000 and identify the place value for each digit</p> <p>2.1.2 use words, models and expanded form to represent numbers (to 1,000)</p> <p>2.1.3 order and compare whole numbers up to 1,000 using the symbols <, =, ></p> |

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| <p>2. Students understand and describe simple addition and subtraction situations.</p> <p>k.2.1 use concrete objects to determine the answers to addition and subtraction problems (for two numbers each less than 10)</p> | <p>1.1.9 identify wholes, halves, quarters, and thirds by using concrete objects in simple situations</p> <p>2. Students demonstrate the meaning of addition and subtraction and use these operations to solve problems.</p> <p>1.2.1 know the addition facts (sums to 20) and the corresponding subtraction facts, and commit them to memory</p> <p>1.2.2 use the inverse relationship between addition and subtraction to solve problems</p> <p>1.2.3 identify one more than, one less than, ten more than, ten less than a given number</p> <p>1.2.4 count by 2s, 5s and 10s with numbers to 100</p> <p>1.2.5 show the meaning of addition (putting together, increasing) and subtraction (taking away, comparing, finding the difference)</p> <p>1.2.6 solve addition and subtraction problems with one- and two-digit numbers (e.g., $5 + 58 = \underline{\quad}$)</p> <p>1.2.7 find the sum of three one-digit numbers</p> | <p>2. Students estimate, calculate and solve problems involving addition and subtraction of two- and three-digit numbers.</p> <p>2.2.1 understand and use the inverse relationship between addition and subtraction, sums and differences up to 18 (e.g., an opposite number sentence for $8 + 6 = 14$ is $14 - 6 = 8$) to solve problems and check solutions</p> <p>2.2.2 find the sum or difference of two whole numbers up to three digits long, using regrouping and renaming</p> <p>2.2.3 use mental arithmetic to find the sum or difference of two 2-digit numbers</p> |

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| <p>3. Students use estimation strategies in computation and problem solving that involve numbers that use the ones and tens places.</p> <p>k.3.1 recognize when an estimate is reasonable</p> | <p>3. Students use estimation strategies in computation and problem solving that involve numbers that use the ones, tens, and hundreds places.</p> <p>1.3.1 make reasonable estimates when comparing larger or smaller numbers</p> | <p>3. Students model and solve simple problems involving multiplication and division.</p> <p>2.3.1 use repeated addition, arrays, counting by multiples to do multiplication</p> <p>2.3.2 use repeated subtraction, equal sharing and forming equal groups to do division with remainders</p> <p>2.3.3 know the multiplication tables of 0s, 1s, 2s, 3s, 4s, 5s and 10s (to “times 10”) and commit to memory</p> <p>4. Students understand that fractions and decimals can refer to parts of a set and parts of a whole.</p> <p>2.4.1 recognize, name and compare unit fractions up to $\frac{1}{12}$</p> <p>2.4.2 recognize fractions of a whole and parts of a group (e.g., $\frac{1}{4}$th of a pie, $\frac{2}{3}$rd of 15 balls)</p> <p>2.4.3 know that when all fractional parts are included, such as four-fourths, the result is equal to the whole and to one</p> |

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| | | <p>5. Students model and solve problems by representing, adding and subtracting amounts of money.</p> <p>2.5.1 solve problems using combinations of coins and bills</p> <p>2.5.2 know and use the decimal notation and the dollar and cents symbols for money</p> <p>6. Students use estimation strategies in computation and problem solving that involve numbers that use the ones, tens, hundreds and thousands places.</p> <p>2.6.1 recognize when an estimate is reasonable in measurements (e.g., closest inch, estimation of volume)</p> |