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| Lesson Overview: | |
|  | Place value to millions, including naming numbers and exponents |
|  | Place value to hundred thousands, including naming numbers and one more or one less |
|  | Place value to hundreds, including naming numbers and identifying missing number in series |

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| For ALL Students: |
| * Look for ways to have all students responding to all questions, such as on mini white boards, by working in partners or on paper |

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| Related Common Core State Standards: |
| **6th Grade: Expressions and Equations:**  **6.EE.1.** Write and evaluate numerical expressions involving whole-number  exponents. |
| **5th Grade: Number and Operations in Base Ten:**  **5.NBT.2.** Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the  placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. |
| **4th Grade: Number and Operations in Base Ten:**  **4.NBT.2.** Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form.  **4.NBT.3.** Use place value understanding to round multi-digit whole numbers to any place. |
| **3rd Grade: Numbers and Operations in Base Ten:**  **3.NBT.1.** Use place value understanding to round whole numbers to the nearest 10 or 100. |
| **2nd Grade: Numbers and Operations in Base Ten:**  **2.NBT.1.** Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:  **a.** 100 can be thought of as a bundle of ten tens — called a “hundred.”  **b.** The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to  one, two, three, four, five, six, seven, eight, or nine hundreds (and 0  tens and 0 ones).  **2.NBT.3.** Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. |

Common Core State Standards  
Authors: National Governors Association Center for Best Practices, Council of Chief State School Officers  
Title: Common Core State Standards (insert specific content area if you are using only one)  
Publisher: National Governors Association Center for Best Practices, Council of Chief State School Officers, Washington D.C. - Copyright Date: 2010

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| DesCartes Statements: |  |
| RIT 221-230:   * Rounds whole numbers to the nearest million * Writes equivalent forms of whole numbers using place value (numbers 100 or greater) (e.g., 253 = 2 hundreds, 5 tens, and 3 ones) |  |
| RIT 211-220:   * Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred , thousand and ten thousand * Writes whole numbers in standard and expanded form through the hundred thousands |  |
| RIT 201-210:   * Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place * Identifies the numeral and written name for whole numbers over 100,000 * Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten, hundred, thousand, and hundred thousand * Writes equivalent forms of whole numbers using place value (e.g., 54 = 4 tens and 14 ones) * Identifies the place value and value of each digit in whole numbers through the billions * Writes whole numbers in standard and expanded form through the hundred thousands * Writes whole numbers using place value terms and vice versa | **Students:** |
| RIT 191-200   * Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place * Identifies the numeral and written name for whole numbers 10,000 to 100,000 * Identifies the numeral and written name for whole numbers over 100,000 * Rounds 2- and 3- digit whole numbers to the nearest ten * Rounds 3-digit whole numbers to the nearest hundred * Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34) * Identifies the place value and value of each digit in whole numbers through the thousands and hundred thousands * Writes whole numbers in standard and expanded form through the hundreds and through the thousands | **Students:** |
| RIT 181-190   * Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa) * Identifies the numeral and written name for whole numbers to 1000 to 9999 (e.g., 3456 is three thousand, four hundred fifty-six, and vice versa) * Identifies the numeral and written name for whole numbers 10,000 to 100,000 * Rounds 2- and 3- digit whole numbers to the nearest ten * Rounds 3-digit whole numbers to the nearest hundred * Identifies whole numbers under 100 given place value terms (e.g., 3 tens and 4 ones = 34) * Identifies the place value and value of each digit in whole numbers through the tens place, hundreds place and thousands place * Identifies the place value and value of each digit in whole numbers through the hundred thousands | **Students:** |
| RIT 171-180   * Identifies the numerical and written name for whole numbers 21 to 100 (e.g., 62 is sixty-two, and vice versa) * Identifies the numeral and written name for whole numbers 101 to 999 (e.g., 342 is three hundred forty-two, and vice versa) * Identifies missing numbers in a series through 100 * Identifies the place value and value of each digit in whole numbers through the tens place | **Students:** |
| RIT 161-170   * Identifies missing numbers in a series through 100 * Writes whole numbers in standard and expanded form through the tens | **Students:** |

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| Higher-Level Lesson & Activity:  (One class period) | | Resources:   * Solid color objects such as blocks, balls, or candies * Level 3 Pattern Puzzles |
| -  Prepare the Puzzles   * Print or copy the pages of pattern copies * Cut along the black lines on each puzzle. Keep the pieces from each puzzle in baggies or paper clipped together   a  Play the Game   * Working with individual students or in small groups, demonstrate patterns using colored blocks, candies or other solid-colored objects. Start a pattern and have students complete it. Repeat with other patterns, each more than once as time allows and based on students’ need. * Assign students to complete the pattern puzzles individually or with a partner. |  |
| Means of Assessment:   * Observation * Accuracy of puzzle completion |
| Mid-Level Lesson & Activity:  (One class period) | | Resources:   * Solid color objects such as blocks, balls, or candies * Level 2 Pattern Puzzles |
| a  Same as Above  Using Patterns AAAB, ABC, ABCD, ABAC  a  Same as Above |  |
| Means of Assessment:   * Same as above |

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| Lower-Level Lesson & Activity:  (One class period) | | Resources:   * Solid color objects such as blocks, balls, or candies * Level 1 Pattern Puzzles |
| -  Same as Above  Using Patterns AB, AAB, AABC  a  Same as Above |  |
| Means of Assessment:   * Same as above |