



# Math Connects

2

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| STANDARDS  | PAGE REFERENCES   |
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| <p><b>Standard 1: Number and Computation</b></p>   |   |
| <p><b>Standard 1: Number and Computation – The student uses numerical and computational concepts and procedures in a variety of situations.</b></p>  |   |
| <p><b>Benchmark 1: Number Sense – The student demonstrates number sense for whole numbers, fractions, and money using concrete objects in a variety of situations.</b></p>   |   |
| <p>1. ■ knows, explains, and represents whole numbers from 0 through 1,000 using concrete objects (2.4.K1a) (\$).</p>  | <p><b>Student Edition:</b><br/>315-316, 319-320<br/><i>Chapter Review</i> 337-338<br/><i>Extra Practice</i> 321<br/><i>Mid-Chapter Check</i> 325<br/><b>Teacher Edition:</b><br/>CP 311; FMB 315A, 319A, 323A</p>   |
| <p>2. compares and orders:<br/>a. whole numbers from 0 through 1,000 using concrete objects (2.4.K1a) (\$);<br/>b. fractions greater than or equal to zero with like denominators (halves, fourths, thirds, eighths) using concrete objects (2.4.K1a,c).</p> | <p><b>Student Edition:</b><br/>33-34, 35-36, 329-330, 331-332<br/><i>Chapter Review</i> 48 #15-#18, 338<br/><i>Extra Practice</i> 37<br/><i>Spiral Review</i> 70 #19-#22<br/><i>Test Practice</i> 339-340<br/><b>Teacher Edition:</b><br/>CCL 13H(H), 309H(H); FMB 33A, 35A, 329A, 331A; 5MC 333A</p> |

| STANDARDS  | PAGE REFERENCES  |
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| <p>3. uses addition and subtraction to show equivalent representations for whole numbers from 0 through 100 (2.4.K1a-b), e.g., <math>8 - 5 = 2 + 1</math> or <math>20 + 40 = 70 - 10</math>.</p> | <p><b>Student Edition:</b><br/> 97-98, 103-104, 195-196<br/> <i>Chapter Review</i> 110, 204<br/> <i>Extra Practice</i> 99<br/> <i>Game Time</i> 100<br/> <i>Test Practice</i> 111<br/> <b>Teacher Edition:</b><br/> FMB 97A, 103A, 195A</p>  |
| <p>4. identifies and uses ordinal positions from first (1st) through twentieth (20th) (2.4.K1a).</p>   | <p><b>Student Edition:</b><br/> 33-34<br/> <i>Problem-Solving Strategy</i> 354 #2, 445-446<br/> <b>Teacher Edition:</b><br/> CCL 13G(LA); FMB 33A; MFF 12</p>  |
| <p>5. ▲ identifies coins, states their values, and determines the total value to \$1.00 of a mixed group of coins using pennies, nickels, dimes, quarters, and half-dollars (2.4.K1d) (\$).</p>  | <p><b>Student Edition:</b><br/> 208, 211-212, 215-216, 217-218, 223-226, 229-230<br/> <i>Chapter Project</i> 209<br/> <i>Chapter Review</i> 237-338<br/> <i>Extra Practice</i> 227<br/> <i>Game Time</i> 228<br/> <i>Mid-Chapter Check</i> 221<br/> <i>Problem-Solving Strategy</i> 219-220<br/> <i>Spiral Review</i> 356<br/> <i>Tech Link</i> 213-214<br/> <i>Test Practice</i> 239-240<br/> <b>Teacher Edition:</b><br/> CCL 207G(LA); FMB 211A, 215A, 217A, 223A, 229A; RW 207</p> |
| <p>6. counts a like combination of currency (\$1, \$5, \$10, \$20) to \$100 (2.4.K1d) (\$).</p>  | <p>With teacher guidance, the following pages can be used to help meet this standard.<br/> <b>Student Edition:</b><br/> <i>Problem-Solving Projects</i> P3-P7, P8</p>  |

| STANDARDS  | PAGE REFERENCES   |
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| <p><b>Benchmark 2: Number Systems and Their Properties – The student demonstrates an understanding of whole numbers with a special emphasis on place value and recognizes, uses, and explains the concepts of properties as they relate to whole numbers in a variety of situations.</b></p>   |   |
| <p>1. reads and writes (\$):</p> <p>a. whole numbers from 0 through 1,000 in numerical form, e.g., 942 is read as nine hundred forty-two and is written in numerical form as 942;</p> <p>b. whole numbers from 0 through 100 in words, e.g., 76 is read as seventy-six and is written in words as seventy-six.</p> <p>c. whole numbers from 0 through 1,000 in numerical form when presented in word form, e.g., nine hundred forty-six is read as nine hundred forty-six and is written as 946.</p> | <p><b>Student Edition:</b><br/> 27-28, 315-316, 323-324<br/> <i>Chapter Review</i> 47, 338<br/> <i>Extra Practice</i> 321<br/> <i>Mid-Chapter Check</i> 31<br/> <i>Problem Solving</i> 45-46<br/> <i>Spiral Review</i> 32, 450 #28, #29<br/> <i>Test Practice</i> 467 #2</p> <p><b>Teacher Edition:</b><br/> FMB 27A, 315A, 323A</p>  |
| <p>2. ▲ represents whole numbers from 0 through 1,000 using various groupings and place value models emphasizing 1s, 10s, and 100s; explains the groups; and states the value of the digit in ones place, tens place, and hundreds place (2.4.K1b) (\$), e.g., in 385, the 3 represents 3 hundreds, 30 tens, or 300 ones; the 8 represents 8 tens or 80 ones; and the 5 represents 5 ones.</p>   | <p><b>Student Edition:</b><br/> 21-22, 153-154, 310, 313-314, 315-316, 319-320<br/> <i>Chapter Review</i> 47, 337-338<br/> <i>Mid-Chapter Check</i> 31-32, 155, 325<br/> <i>Problem Solving</i> 335-336<br/> <i>Problem-Solving Investigation</i> 327<br/> <i>Tech Link</i> 23-24<br/> <i>Test Practice</i> 81 #3, 339</p> <p><b>Teacher Edition:</b><br/> BI 309A; CCL 309G(R), 309H(S); CT 309H;<br/> FMB 21A, 153A, 313A, 315A, 319A</p> |
| <p>3. counts subsets of whole numbers from 0 through 1,000 forwards and backwards (2.4.K1a) (\$), e.g., 311, 312, ..., 320; or 210, 209, ..., 204.</p>   | <p><b>Student Edition:</b><br/> 33-34, 331-332, 333-334<br/> <i>Chapter Review</i> 338<br/> <i>Test Practice</i> 49</p> <p><b>Teacher Edition:</b><br/> FMB 33A, 331A, 333A</p>   |

| STANDARDS  | PAGE REFERENCES  |
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| <p>4. ▲ identifies the place value of the digits in whole numbers from 0 through 1,000 (2.4.K1b) (\$).</p>   | <p><b>Student Edition:</b><br/> 21-22, 310, 313-314, 315-316, 319-320<br/> <i>Chapter Review</i> 47, 337<br/> <i>Extra Practice</i> 321<br/> <i>Game Time</i> 322<br/> <i>Mid-Chapter Check</i> 31-32, 325 #3, #4<br/> <i>Problem Solving</i> 335-336<br/> <i>Tech Link</i> 23<br/> <i>Test Practice</i> 81, 339</p> <p><b>Teacher Edition:</b><br/> A 320; BI 309A; CCL 309H(S); FMB 319A</p> |
| <p>5. identifies any whole number from 0 through 100 as even or odd (2.4.K1a).</p>   | <p><b>Student Edition:</b><br/> 43-44<br/> <i>Problem-Solving Projects</i> P16</p> <p><b>Teacher Edition:</b><br/> FMB 43A</p>   |
| <p>6. <b>uses the concepts</b> of these properties with whole numbers from 0 through 100 and demonstrates their meaning including the use of concrete objects (2.4.K1a) (\$):</p> <p>a. commutative property of addition, e.g., <math>5 + 6 = 6 + 5</math>;</p> <p>b. zero property of addition (additive identity), e.g., <math>4 + 0 = 4</math>;</p> <p>c. associative property of addition, e.g., <math>(3 + 2) + 4 = 3 + (2 + 4)</math>;</p> <p>d. symmetric property of equality applied to basic addition and subtraction facts, e.g., <math>10 = 2 + 8</math> is the same as <math>2 + 8 = 10</math> or <math>7 = 10 - 3</math> is the same as <math>10 - 3 = 7</math>.</p> | <p><b>Student Edition:</b><br/> 55-56, 73-74, 103-104, 165-166, 481-482<br/> <i>Chapter Review</i> 110<br/> <i>Problem Solving</i> 77, 169-170</p> <p><b>Teacher Edition:</b><br/> BI 51A; FMB 55A, 73A, 103A, 165A</p>  |
| <p><b>Benchmark 3: Estimation – The student uses computational estimation with whole numbers and money in a variety of situations.</b></p>   |  |
| <p>1. estimates whole number quantities from 0 through 1,000 and monetary amounts through \$50 using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology (2.4.Ka-b,d) (\$).</p>  | <p><b>Student Edition:</b><br/> 29-30, 163-164, 199-200, 309-310, 447-448, 459-460<br/> <i>Chapter Review</i> 47, 172, 204<br/> <i>Mid-Chapter Check</i> 31, 449<br/> <i>Problem-Solving Investigation</i> 233<br/> <i>Spiral Review</i> 32, 450</p> <p><b>Teacher Edition:</b><br/> CCL 13H(S), 435H(LA); FMB 29A, 163A, 199A, 447A, 459A</p>   |

| STANDARDS   | PAGE REFERENCES  |
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| <p>2. uses various estimation strategies to estimate whole number quantities from 0 through 1,000 (2.4.K1a) (\$).</p>   | <p><b>Student Edition:</b><br/>29-30, 163-164, 199-200, 309, 366 #14, 447-448<br/><i>Mid-Chapter Check</i> 31, 449<br/><i>Spiral Review</i> 32, 188, 326, 450</p> <p><b>Teacher Edition:</b><br/>CCL 13H(S); FMB 29A, 163A, 199A, 447A</p>   |
| <p><b>Benchmark 4: Computation – The student models, performs, and explains computation with whole numbers and money using concrete objects in a variety of situations.</b></p>           |  |
| <p>1. computes with efficiency and accuracy using various computational methods including mental math, paper and pencil, concrete objects, and appropriate technology (2.4.K1a) (\$).</p> | <p><b>Student Edition:</b><br/>51-52, 71-72, 73-74, 87-88, 89-90, 147-148, 157-158, 179-180, 191-192, 439-440, 451-452<br/><i>Chapter Review</i> 79, 203<br/><i>Game Time</i> 162, 194<br/><i>Mid-Chapter Check</i> 69<br/><i>Problem Solving</i> 77-78, 107-108, 201-202<br/><i>Problem-Solving Investigation</i> 75-76, 105-106<br/><i>Problem-Solving Strategy</i> 61-62, 93-94<br/><i>Tech Link</i> 59-60<br/><i>Test Practice</i> 81-82</p> <p><b>Teacher Edition:</b><br/>CCL 51G(S), 51H(A), 83G(SS); FMB 51A, 71A, 73A, 87A, 89A, 147A, 157A, 179A, 191A, 439A, 451A</p> |
| <p>2. <b>N</b> states and uses with efficiency and accuracy basic addition facts with sums from 0 through 20 and corresponding subtraction facts (2.4.K1a) (\$).</p>                      | <p><b>Student Edition:</b><br/>97-98, 101-102, 103-104, 195-196<br/><i>Game Time</i> 100</p> <p><b>Teacher Edition:</b><br/>FMB 97A, 101A, 103A, 195A</p>  |
| <p>3. skip counts by 2s, 5s, and 10s through 100 and skip counts by 3s through 36 (2.4.K1a).</p>  | <p><b>Student Edition:</b><br/>43-44, 333-334<br/><i>Concepts and Skills Bank</i> CS11<br/><i>Spiral Review</i> 356</p> <p><b>Teacher Edition:</b><br/>DI 43B; FMB 43A, 333A; T 43</p>   |

| STANDARDS  | PAGE REFERENCES  |
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| <p>4. uses repeated addition (multiplication) with whole numbers to find the sum when given the number of groups (ten or less) and given the same number of concrete objects in each group (twenty or less) (2.4.K1a) (\$), e.g., five classes of 15 students visit the zoo; <math>15 + 15 + 15 + 15 + 15 = 75</math>.</p>   | <p><b>Student Edition:</b><br/> 473-474, 475-476, 479-480, 481-482<br/> <i>Chapter Review</i> 495<br/> <i>Concepts and Skills Bank</i> CS11-CS12<br/> <i>Extra Practice</i> 483<br/> <i>Looking Ahead</i> LA5, LA6<br/> <i>Mid-Chapter Check</i> 485<br/> <i>Problem Solving</i> 494C<br/> <i>Problem-Solving Strategy</i> 477-478<br/> <i>Test Practice</i> 497-498</p> <p><b>Teacher Edition:</b><br/> CCL 469G(A); 469H(H); CP 471; FMB 473A, 475A, 479A, 481A</p>  |
| <p>5. uses repeated subtraction (division) with whole numbers when given the total number of concrete objects in each group to find the number of groups (2.4.K1a) (\$), e.g., there are 25 cookies. If each student gets 3 cookies, how many students get cookies? <math>25 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3</math> or 25 minus 3 eight times means eight students get 3 cookies each and there is 1 cookie left over.</p> | <p><b>Student Edition:</b><br/> 487-488, 489-490<br/> <i>Chapter Review</i> 496<br/> <i>Looking Ahead</i> LA3-LA4, LA5-LA6</p> <p><b>Teacher Edition:</b><br/> CP 471; CT 469H; FMB LA3A</p>   |
| <p>6. fair shares/measures out (divides) a total amount through 100 concrete objects into equal groups (2.4.K1a-b), e.g., fair sharing 48 eggs into four groups resulting in four groups of 12 eggs or measuring out 48 eggs with 12 eggs in each group resulting in four groups of 12 eggs.</p>   | <p><b>Student Edition:</b><br/> 487-488, 489-490<br/> <i>Chapter Review</i> 496<br/> <i>Looking Ahead</i> LA3-LA4, LA5-LA6</p> <p><b>Teacher Edition:</b><br/> CP 471; CT 469H; FMB LA3A</p>   |
| <p>7. ▲ N performs and explains these computational procedures:<br/> a. ■ adds and subtracts three-digit whole numbers with and without regrouping including the use of concrete objects (2.4.K1a-b),<br/> b. adds and subtracts monetary amounts through 99¢ using cent notation (<math>25¢ + 52¢</math>) and money models (2.4.K1a-b,d) (\$).</p>  | <p><b>Student Edition:</b><br/> 211-212, 215-216, 217-218, 223-226, 229-230, 231-232, 439-440, 441-442, 443-444, 451-452, 453-454, 457-458<br/> <i>Chapter Review</i> 237-238<br/> <i>Game Time</i> 228<br/> <i>Mid-Chapter Check</i> 221<br/> <i>Problem-Solving Investigation</i> 233-234<br/> <i>Problem-Solving Strategy</i> 219-220<br/> <i>Tech Link</i> 213-214<br/> <i>Test Practice</i> 239-240</p> <p><b>Teacher Edition:</b><br/> CP 209, 437; FMB 211A, 215A, 217A, 223A, 229A, 231A, 441A, 443A, 451A, 453A</p> |

| STANDARDS  | PAGE REFERENCES  |
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| 8. <b>▲N</b> identifies basic addition and subtraction fact families (facts with sums from 0 through 20 and corresponding subtraction facts) (2.4.K1a).  | <b>Student Edition:</b><br>103-104<br><i>Looking Ahead</i> LA5-LA6<br><b>Teacher Edition:</b><br>FMB 103A  |
| 9. reads and writes horizontally and vertically the same addition or subtraction expression e.g., 6 – 3 is the same as 6.<br>$\begin{array}{r} \phantom{6} \\ -3 \\ \hline \end{array}$  | <b>Student Edition:</b><br>439-440, 453-454, 457-458<br><i>Problem Solving</i> 463B<br><b>Teacher Edition:</b><br>FMB 457A   |
| <b>Standard 2: Algebra</b>   |  |
| <b>Standard 2: Algebra – The student uses algebraic concepts and procedures in a variety of situations.</b>  |  |
| <b>Benchmark 1: Patterns – The student recognizes, describes, extends, develops, and explains relationships in patterns using concrete objects in a variety of situations.</b>   |  |
| 1. uses concrete objects, drawings, and other representations to work with <b>types</b> of patterns (2.4.K1a):<br>a. repeating patterns, e.g., an AB pattern is like left-right, left-right, ...; an ABC pattern is like dog-horse-pig, dog-horse-pig, ...; an AAB pattern is like $\uparrow\uparrow\rightarrow$ , $\uparrow\uparrow\rightarrow$ , ...;<br>b. growing (extending) patterns, e.g., 7, 9, 11, ... where the rule could be add 2 or the odd numbers beginning with 7. | <b>Student Edition:</b><br>39-40, 43-44, 333-334<br><i>Mid-Chapter Check</i> 126 #20<br><i>Problem Solving</i> 201-202<br><i>Problem-Solving Projects</i> P15-P18<br><i>Problem-Solving Strategy</i> 255-256, 353-354<br><b>Teacher Edition:</b><br>CCL 13G(A), 341G(A); CT 341H; FMB 39A, 43A, 333A |

| STANDARDS   | PAGE REFERENCES   |
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| <p>2. uses the following <b>attributes</b> to generate patterns:</p> <p>a. counting numbers related to number theory (2.4.K1a), e.g., evens, odds, or skip counting by 3s, or 4s;</p> <p>b. whole numbers that increase or decrease (2.4.K1a) (\$), e.g., 11, 22, 33, ... or 98, 88, 78, ...;</p> <p>c. geometric shapes (2.4.K1f), e.g., <math>\Delta</math>-O-O, <math>\Delta</math>-O-O, ...;</p> <p>d. measurements (2.4.K1a), e.g., 1", 3", 5", ... or 5 lbs, 10 lbs, 15 lbs, ...;</p> <p>e. the calendar (2.4.K1a), e.g., Sunday, Monday, Tuesday, ...;</p> <p>f. money and time (2.4.K1a,d) (\$), e.g., \$5, \$10, \$15, ... or 1:15, 1:30, 1:45, ...;</p> <p>g. things related to daily life (2.4.K1a), e.g., seasons, temperature, or weather;</p> <p>h. things related to size, shape, color, texture, or movement (2.4.K1a), e.g., <math>\square\square\square\square, \square\square\square\square, \square\square\square\square, \dots</math>; or snapping fingers, clapping hands, or stomping feet or over, under, or behind using a bean bag toss (kinesthetic patterns).</p> | <p><b>Student Edition:</b><br/> 33-34, 39-40, 43-44, 72 #32, 242, 331-332, 333-334<br/> <i>Chapter Review</i> 47-48<br/> <i>Concepts and Skills Bank</i> CS11<br/> <i>Problem Solving</i> 202D<br/> <i>Problem-Solving Projects</i> P15-P18<br/> <i>Problem-Solving Strategy</i> 255-256, 353-354<br/> <i>Spiral Review</i> 70, 96, 156<br/> <i>Test Practice</i> 49</p> <p><b>Teacher Edition:</b><br/> CCL 13G(A); CT 341H; DI 211B; FMB 33A, 39A, 43A, 331A, 333A; I 39; 5MC 41A</p> |
| <p>3. <b>▲ ■</b> identifies and continues a pattern presented in various formats including numeric (list or table), visual (picture, table, or graph), verbal (oral description), kinesthetic (action), and written (2.4.K1a) (\$).</p>   | <p><b>Student Edition:</b><br/> 119-120, 121-122<br/> <i>Problem-Solving Investigation</i> 105-106, 397-398<br/> <i>Problem-Solving Strategy</i> 123-124, 287-288, 317-318, 445-446</p> <p><b>Teacher Edition:</b><br/> FMB 119A</p>  |
| <p>4. generates (2.4.K1a):<br/> repeating patterns, e.g., 1-2, 1-2, 1-2, ... where the elements repeat; growing (extending) patterns, e.g., 1, 4, 7, ... where the rule is add 3.</p>   | <p><b>Student Edition:</b><br/> 39-40, 43-44, 333-334<br/> <i>Mid-Chapter Check</i> 126 #20<br/> <i>Problem Solving</i> 201-202<br/> <i>Problem-Solving Projects</i> P15-P18<br/> <i>Problem-Solving Strategy</i> 255-256, 353-354</p> <p><b>Teacher Edition:</b><br/> CCL 13G(A), 341G(A); CT 341H; FMB 39A, 43A, 333A</p>   |

| STANDARDS  | PAGE REFERENCES  |
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| <b>Benchmark 2: Variables, Equations, and Inequalities – The student uses symbols and whole numbers to solve addition and subtraction equations using concrete objects in a variety of situations.</b>   |  |
| 1. explains and uses symbols to represent unknown whole number quantities from 0 through 100 (2.4.K1a).  | <b>Student Edition:</b><br>101-102<br><i>H.O.T. Problems</i> 90, 102<br><i>Problem-Solving Investigation</i> 105-106, 167-168<br><b>Teacher Edition:</b><br>FMB 101A   |
| 2. finds the sum or difference in one-step equations with: (\$) <ul style="list-style-type: none"> <li>a. whole numbers from 0 through 99 (2.4.K1a-b), e.g., <math>32 + 19 = \Delta</math> or <math>\Delta = 79 - 46</math>;</li> <li>b. up to two different coins (2.4.K1d), e.g., nickel + penny = <math>\Delta\phi</math>.</li> </ul> | <b>Student Edition:</b><br>101-102,<br>Finding the sum with up to four different coins 211-214, 215-216, 217-218<br><i>H.O.T. Problems</i> 90, 102<br><i>Problem-Solving Investigation</i> 105-106, 167-168<br><b>Teacher Edition:</b><br>FMB 101A; 5MC 215A |
| 3. finds unknown addend or subtrahend using basic addition and subtraction facts (fact family) (2.4.K1a) (\$), e.g., $12 = \Delta + 7$ or $12 - \Delta = 7$ .  | <b>Student Edition:</b><br>103-104<br><i>Chapter Review</i> 110<br><i>H.O.T. Problems</i> 56, 102<br><i>Problem-Solving Investigation</i> 105-106, 167-168<br><b>Teacher Edition:</b><br>FMB 103A  |
| 4. describes and compares two whole numbers from 0 through 1,000 using the terms: is equal to, is less than, is greater than (2.4.K1a-b) (\$).   | <b>Student Edition:</b><br>35-36, 329-330<br><b>Teacher Edition:</b><br>CCL 13H(H), 309H(H); FMB 35A, 329A   |

## STANDARDS

## PAGE REFERENCES

**Benchmark 3: Functions – The student recognizes and describes whole number relationships using concrete objects in a variety of situations.**

1. states mathematical relationships between whole numbers from 0 through 100 using various methods including mental math, paper and pencil, and concrete objects (2.4.K1a) (\$), e.g., every time a dog is added to the pack, 2 more ears are added to the total.

The teacher can meet this standard by using the concept of patterns to explain mathematical relationships of functions.

**Student Edition:**

39-40, 43-44

*Problem Solving* 44 #11-#12

Also see *Math Connects* 3 © 2009

**Student Edition:**

330-331

2. finds the values and determines the rule that involve addition or subtraction of whole numbers from 0 through 100 using a horizontal or vertical function table (input/output machine, T-table) (2.4.K1e), e.g., after looking at the function table, different students might respond that the rule is  $In + 2$  equals Out, the rule is  $N + 2$ , or the rule is plus 2.

With teacher assistance, the following page can be used to initiate this standard.

**Student Edition:**

40 #12

| In | Out |
|----|-----|
| 9  | 11  |
| 2  | 4   |
| 13 | 15  |
| 42 | 44  |
| 57 | 59  |
| 6  | ?   |
| 72 | ?   |
| N  | ?   |

3. generalizes numerical patterns using whole numbers from 0 through 100 with one operation (addition, subtraction) by stating the rule using words, e.g., if a set of numbers is 2, 4, 6, 8, 10, ...; the rule is add two.

**Student Edition:**

39-40, 43-44, 333-334

*Mid-Chapter Check* 126 #20

*Problem Solving* 201-202

*Problem-Solving Projects* P15-P18

*Problem-Solving Strategy* 255-256, 353-354

**Teacher Edition:**

CCL 13G(A), 341G(A); CT 341H; FMB 39A, 43A, 333A

| STANDARDS  | PAGE REFERENCES  |
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| <p><b>Benchmark 4: Models – The student uses mathematical models including concrete objects to represent, show, and communicate mathematical relationships in a variety of situations.</b></p>   |  |
| <p>1. knows, explains, and uses mathematical models to represent mathematical concepts, procedures, and relationships. Mathematical models include:</p> <p>a. process models (concrete objects, pictures, diagrams, number lines, unifix cubes, hundred charts, or measurement tools) to model computational procedures and mathematical relationships, to compare and order numerical quantities, and to represent fractional parts (1.1.K1-4, 1.2.K3, 1.2.K5-6, 1.3.K1-2, 1.4.K1-8, 2.1.K1, 2.2K1, 2.1K1a-b, 2.1K1d-h, 2.1.K3-4, 2.2.K2a, 2.2.K3-4, 2.3.K1, 3.2.K1-5, 3.3.K1, 3.4.K1-3, 4.2.K3-5) (\$);</p> <p>b. place value models (place value mats, hundred charts, or base ten blocks) to compare, order, and represent numerical quantities and to model computational procedures (1.1.K3, 1.2.K2, 1.2.K4, 1.3.K1, 1.4.K6-7, 1.4.K7a, 2.2.K2a, 2.2.K4) (\$);</p> <p>c. fraction models (fraction strips or pattern blocks) to compare, order, and represent numerical quantities (1.1.K2b) (\$);</p> <p>d. money models (base ten blocks or coins) to compare, order, and represent numerical quantities (1.1.K5-6, 1.3.K1, 1.4.K7b, 2.1.K1f, 2.2.K2b) (\$);</p> <p>e. function tables (input/output machines, T-tables) to model numerical relationships (2.3.K2) (\$);</p> | <p><b>Student Edition:</b><br/> 17-20, 21-22, 33-34, 35-36, 39-40, 43-44, 57-58, 87-88, 119-120, 127-128, 217-218, 223-226, 283-284, 293-294, 313-316, 319-320, 351-352, 359-360, 365-366, 381-382, 391-392, 417-418, 425-426<br/> <i>Chapter Review</i> 139-140<br/> <i>Concepts and Skills Bank</i> CS4<br/> <i>Game Time</i> 38<br/> <i>Mid-Chapter Check</i> 125-126<br/> <i>Problem-Solving Projects</i> P7-P10, P15-P18<br/> <i>Problem-Solving Strategy</i> 123-124<br/> <i>Test Practice</i> 49-50, 143-144, 239-240, 307-308</p> <p><b>Teacher Edition:</b><br/> CCL 13G, 13H, 113G, 113H, 119A, 279G, 341G;<br/> CP 115, 209, 281; CT 241H, 341H, 375H;<br/> FMB 17A, 21A, 33A, 43A, 57A, 87A, 127A, 315A, 365A, 391A, 417A, 425A; I 351</p> |

| STANDARDS   | PAGE REFERENCES  |
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| <p>Continued from cell above...</p> <p>1. knows, explains, and uses mathematical models to represent mathematical concepts, procedures, and relationships. Mathematical models include:</p> <p>f. two-dimensional geometric models (geoboards, dot paper, pattern blocks, tangrams, or attribute blocks) to model perimeter and properties of geometric shapes and three-dimensional geometric models (solids) and real-world objects to compare size and to model attributes of geometric shapes (2.1.K2c, 3.1.K1-6, 3.3.K2-3);</p> <p>g. two-dimensional geometric models (spinners), three-dimensional geometric models (number cubes), and process models (concrete objects) to model probability (4.1.K1-2) (\$);</p> <p>h. graphs using concrete objects, representational objects, or abstract representations, pictographs, frequency tables, horizontal and vertical bar graphs, Venn diagrams or other pictorial displays, and line plots to organize and display data (4.1.K2, 4.2.K1, 4.2.K2) (\$);</p> <p>i. Venn diagrams to sort data.</p> | <p><b>Student Edition:</b><br/> 17-20, 21-22, 33-34, 35-36, 39-40, 43-44, 57-58, 87-88, 119-120, 127-128, 217-218, 223-226, 283-284, 293-294, 313-316, 319-320, 351-352, 359-360, 365-366, 381-382, 391-392, 417-418, 425-426<br/> <i>Chapter Review</i> 139-140<br/> <i>Concepts and Skills Bank CS4</i><br/> <i>Game Time</i> 38<br/> <i>Mid-Chapter Check</i> 125-126<br/> <i>Problem-Solving Projects</i> P7-P10, P15-P18<br/> <i>Problem-Solving Strategy</i> 123-124<br/> <i>Test Practice</i> 49-50, 143-144, 239-240, 307-308</p> <p><b>Teacher Edition:</b><br/> CCL 13G, 13H, 113G, 113H, 119A, 279G, 341G; CP 115, 209, 281; CT 241H, 341H, 375H; FMB 17A, 21A, 33A, 43A, 57A, 87A, 127A, 315A, 365A, 391A, 417A, 425A; I 351</p> |
| <p>2. creates a mathematical model to show the relationship between two or more things, e.g., using pattern blocks, a whole (1) can be represented using a (1/1) or two (2/2) or three (3/3) or six (6/6).</p> <p>a hexagon (1/1) or<br/> two quadrilaterals (2/2) or<br/> three quadrilaterals (3/3) or<br/> six triangles (6/6)</p>   | <p>With teacher assistance, the following page can be used to help meet this standard.</p> <p><b>Student Edition:</b><br/> <i>Concepts and Skills Bank CS6</i></p>   |

| STANDARDS  | PAGE REFERENCES  |
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| <b>Standard 3: Geometry</b>  |  |
| <b>Standard 3: Geometry – The student uses geometric concepts and procedures in a variety of situations.</b>   |  |
| <b>Benchmark 1: Geometric Figures and Their Properties – The student recognizes geometric shapes and describes their properties using concrete objects in a variety of situations.</b>   |  |
| <p>1. recognizes and investigates properties of circles, squares, rectangles, triangles, and ellipses (ovals) (plane figures/two-dimensional shapes) using concrete objects, drawings, and appropriate technology (2.4.K1f).</p> | <p><b>Student Edition:</b><br/> 351-352, 357-358, 361-362<br/> <i>Chapter Review</i> 371-372<br/> <i>Problem-Solving Investigation</i> 363-364<br/> <i>Test Practice</i> 373-374</p> <p><b>Teacher Edition:</b><br/> CCL 341G(R), 341 H(S); CP 343; FMB 351A, 357A, 361A</p> |
| <p>2. ■ recognizes, draws, and describes circles, squares, rectangles, triangles, ellipses (ovals) (plane figures) (2.4.K1f).</p>  | <p><b>Student Edition:</b><br/> 351-352, 359-360<br/> <i>Chapter Review</i> 371-372<br/> <i>Problem-Solving Investigation</i> 363-364<br/> <i>Problem-Solving Projects</i> P7-P10, P15-P18</p> <p><b>Teacher Edition:</b><br/> CCL 341G(R), 341H(S)(H); CP 343; FMB 351A</p> |
| <p>3. recognizes cubes, rectangular prisms, cylinders, cones, and spheres (solids/three-dimensional figures) (2.4.K1f).</p>  | <p><b>Student Edition:</b><br/> 345-346, 360<br/> <i>Chapter Review</i> 371<br/> <i>Mid-Chapter Check</i> 355<br/> <i>Test Practice</i> 373-374</p> <p><b>Teacher Edition:</b><br/> CCL 341G(LA), 341H(S); CP 343; FMB 345A</p>  |
| <p>4. recognizes the square, triangle, rhombus, hexagon, parallelogram, and trapezoid from a pattern block set (2.4.K1f).</p>  | <p><b>Student Edition:</b><br/> 351-352<br/> <i>Chapter Review</i> 371-372<br/> <i>Problem-Solving Investigation</i> 363-364<br/> <i>Problem-Solving Projects</i> P7-P10</p> <p><b>Teacher Edition:</b><br/> CCL 341G(R), 341H(S); CP 343; FMB 351A</p>                      |

| STANDARDS   | PAGE REFERENCES  |
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| 5. compares geometric shapes (circles, squares, rectangles, triangles, ellipses) to one another (2.4.K1f).  | <b>Student Edition:</b><br><i>Chapter Review</i> 371<br><i>Looking Ahead</i> LA11-LA12<br><i>Mid-Chapter Check</i> 355<br><i>Problem-Solving Projects</i> P15-P18<br><b>Teacher Edition:</b><br>CP 343; FMB LA11A  |
| 6. recognizes whether a shape has a line of symmetry (2.4.K1f).   | <b>Student Edition:</b><br><i>Looking Ahead</i> LA13-LA14<br><b>Teacher Edition:</b><br>FMB LA13A  |
| <b>Benchmark 2: Measurement and Estimation – The student estimates and measures using standard and nonstandard units of measure with concrete objects in a variety of situations.</b>   |  |
| 1. uses whole number approximations (estimations) for length, weight, and volume using standard and nonstandard units of measure (2.4.K1a) (\$), e.g., the height of the classroom door is 14 chalkboard erasers laid end to end or 7 feet high or an apple weighs about 42 unifix cubes. | <b>Student Edition:</b><br>379-380, 381-382, 387-388, 391-392, 417-418, 423-426<br><i>Chapter Review</i> 431<br><i>Concepts and Skills Bank</i> CS7<br><i>Mid-Chapter Check</i> 419<br><i>Problem-Solving Projects</i> P7-P10<br><b>Teacher Edition:</b><br>CCL 375G(A)(LA), 375H(H); FMB 379A, 391A, 417A, 423A, 425A |
| 2. ▲ reads and tells time by five-minute intervals using analog and digital clocks (2.4.K1a).   | <b>Student Edition:</b><br>261-262<br><i>Extra Practice</i> 263<br><i>Game Time</i> 264<br><i>Test Practice</i> 277  |
| 3. selects and uses appropriate measurement tools and units of measure for length, weight, volume, and temperature for a given situation (2.4.K1a) (\$).  | <b>Student Edition:</b><br>245-246, 248-249, 265-268, 380-381, 387-388, 391-392, 393-394, 409-410, 411-412<br><i>Extra Practice</i> 415<br><i>Start Smart</i> 7-8<br><i>Tech Link</i> 269<br><b>Teacher Edition:</b><br>CCL 241G(S), 375G, 375H, 405G(S)(H); CP 243  |

| STANDARDS   | PAGE REFERENCES  |
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| <p>4. measures (2.4.K1a) (\$):</p> <ul style="list-style-type: none"> <li>a. ▲ length to the nearest inch or foot and to the nearest whole unit of a nonstandard unit;</li> <li>b. weight to the nearest nonstandard unit;</li> <li>c. volume to the nearest cup, pint, quart, or gallon;</li> <li>d. temperature to the nearest degree.</li> </ul> | <p><b>Student Edition:</b><br/> 245-246, 247-248, 265-268, 379-380, 381-382, 387-388, 409-410, 411-412, 421-422, 423-424<br/> <i>Chapter Review</i> 276-277, 433-434<br/> <i>Concepts and Skills Bank</i> CS7<br/> <i>Mid-Chapter Check</i> 257<br/> <i>Problem-Solving Strategy</i> 413-414<br/> <i>Start Smart</i> 7-8<br/> <i>Tech Link</i> 269<br/> <i>Test Practice</i> 277-278, 433-434</p> <p><b>Teacher Edition:</b><br/> CCL 375G(A)(LA), 375H(H); CP 243, 317, 407</p> |
| <p>5. states (2.4.K1a):</p> <ul style="list-style-type: none"> <li>a. the number of minutes in an hour,</li> <li>b. the number of days in each month.</li> </ul>  | <p><b>Student Edition:</b><br/> 249-250</p> <p><b>Teacher Edition:</b><br/> CT 51H, 83H, 113H, 175H, 207H</p>  |
| <p><b>Benchmark 3: Transformational Geometry – The student recognizes and shows one transformation on simple shapes and concrete objects in a variety of situations.</b></p>  |  |
| <p>1. knows and uses the cardinal points (north, south, east, west) (2.4.K1a).</p>  | <p>With teacher assistance, the following pages could be used to help meet this standard.</p> <p><b>Student Edition:</b><br/> 367-368<br/> <i>Chapter Review</i> 372 #17<br/> <i>Problem-Solving Projects</i> P6</p> <p><b>Teacher Edition:</b><br/> DI 387B; I 367</p>  |
| <p>2. recognizes that changing an object's position or orientation including whether the object is nearer or farther away does not change the name, size, or shape of the object (2.4.K1f).</p>   | <p><b>Student Edition:</b><br/> 361-362</p> <p><b>Teacher Edition:</b><br/> CCL 341G(R)(A); FMB 361A</p>   |
| <p>3. recognizes when a shape has undergone one transformation (flip/reflection, turn/rotation, slide/translation) (2.4.K1f).</p>   | <p><b>Student Edition:</b><br/> 361-362<br/> <i>Concepts and Skills Bank</i> CS6</p> <p><b>Teacher Edition:</b><br/> CCL 341G(R)(A); FMB 361A</p>  |

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| <b>Benchmark 4: Geometry From An Algebraic Perspective – The student identifies one or more points on a number line in a variety of situations.</b>   |  |
| 1. locates and plots whole numbers from 0 through 1,000 on a segment of a number line (horizontal/vertical) (2.4.K1a), e.g., using a segment of a number line from 800 to 820 to locate the whole number 805. | <b>Student Edition:</b><br>365-366<br><i>Chapter Review</i> 372 #15, #16   |
| 2. represents the distance between two whole numbers from 0 through 1,000 on a segment of a number line (2.4.K1a).  | <b>Student Edition:</b><br>365-366<br><i>Chapter Review</i> 372 #15, #16   |
| 3. uses a segment of a number line to model addition and subtraction using whole numbers from 0 through 1,000 (2.4.K1a), e.g., $333 + n = 349$ or $333 + 16 = n$ or $400 - n = 352$ or $400 - 48 = n$ .       | The following pages are limited to lower and more basic facts.<br><b>Student Edition:</b><br>57-60, 87-88  |
| <b>Standard 4: Data</b>   |  |
| <b>Standard 4: Data – The student uses concepts and procedures of data analysis in a variety of situations.</b>   |  |
| <b>Benchmark 1: Probability – The student applies the concepts of probability using concrete objects in a variety of situations.</b>  |  |
| 1. recognizes any outcome of a simple event in an experiment or simulation as impossible, possible, certain, likely, or unlikely (2.4.K1g) (\$).  | <b>Student Edition:</b><br>133-134<br><i>Chapter Review</i> 140<br><i>Problem-Solving Strategy</i> 317-318<br><b>Teacher Edition:</b><br>A 134; FMB 133A |
| 2. lists some of the possible outcomes of a simple event in an experiment or simulation including the use of concrete objects (2.4.K1g-h).  | <b>Student Edition:</b><br><i>Problem-Solving Investigation</i> 135-136<br><i>Problem-Solving Strategy</i> 317-318                                       |

| STANDARDS   | PAGE REFERENCES   |
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| <b>Benchmark 2: Statistics – The student collects, organizes, displays, and explains numerical (whole numbers) and non-numerical data sets including the use of concrete objects in a variety of situations.</b>  |   |
| <p>1. organizes, displays, and reads numerical (quantitative) and non-numerical (qualitative) data in a clear, organized, and accurate manner including a title, labels, categories, and whole number intervals using these data displays (2.4.K1h) (\$):</p> <ul style="list-style-type: none"> <li>a. ▲ graphs using concrete objects;</li> <li>b. ▲ pictographs with a whole symbol or picture representing one, two, or ten (no partial symbols or pictures);</li> <li>c. ▲ ■ frequency tables (tally marks);</li> <li>d. ▲ horizontal and vertical bar graphs;</li> <li>e. Venn diagrams or other pictorial displays, e.g., glyphs;</li> <li>f. line plots.</li> </ul> | <p><b>Student Edition:</b><br/> 113, 117-118, 119-120, 127-128<br/> <i>Chapter Review</i> 139-140<br/> <i>Concepts and Skills Bank</i> CS1-CS2, CS4-CS5<br/> <i>Problem Solving</i> 429-430<br/> <i>Problem-Solving Projects</i> P3-P4<br/> <i>Problem-Solving Strategy</i> 123-124, 445-446<br/> <i>Spiral Review</i> 326 #16, #17<br/> <i>Start Smart</i> 11-12<br/> <i>Tech Link</i> 269-270</p> <p><b>Teacher Edition:</b><br/> CCL 113G(H), 113H(Sc)(A); CP 115; FMB 117A, 119A, 123A, 127A</p>  |
| <p>2. collects data using different techniques (observations, interviews, or surveys) and explains the results (2.4.K1h) (\$).</p>  | <p><b>Student Edition:</b><br/> 117-118, 119-120, 127-128<br/> <i>Chapter Review</i> 140 #7-#9<br/> <i>Concepts and Skills Bank</i> CS1-CS5<br/> <i>Mid-Chapter Check</i> 125<br/> <i>Problem Solving</i> 192, 429<br/> <i>Problem-Solving Projects</i> P3, P5-P6<br/> <i>Problem-Solving Strategy</i> 123-124, 445-446<br/> <i>Spiral Review</i> 326 #16-#17<br/> <i>Start Smart</i> 11-12<br/> <i>Test Practice</i> 112 #9, 141-142, 174</p> <p><b>Teacher Edition:</b><br/> CCL 113G(H), 113H(Sc)(A); CP 115; FMC 117A, 119A, 123A, 127A</p> |
| <p>3. identifies the minimum (lowest) and maximum (highest) values in a whole number data set (2.4.K1a) (\$).</p>   | <p><b>Student Edition:</b><br/> 117-118, 119-120, 121-122, 127-128<br/> <i>Extra Practice</i> 131</p> <p><b>Teacher Edition:</b><br/> CP 115; DI 127B; FMB 117A, 119A; I 127</p>  |
| <p>4. finds the range for a data set using two-digit whole numbers (2.4.K1a) (\$).</p>  | <p>See <i>Math Connects 5</i> © 2009</p> <p><b>Student Edition:</b><br/> 285-288, 324</p>   |

| STANDARDS  | PAGE REFERENCES  |
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| <p>5. finds the mode (most) for a data set using concrete objects that include (2.4.K1a) (<b>\$</b>):</p> <p>a. quantitative/numerical data (whole numbers through 100);</p> <p>b. qualitative/non-numerical data (category that occurs most often).</p> | <p><b>Student Edition:</b><br/>117-118, 119-120, 121-122, 127-128<br/><i>Extra Practice</i> 131<br/><i>Test Practice</i> 141-142</p> <p><b>Teacher Edition:</b><br/>DI 127B; FMB 117A, 119A; I 127</p> |