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STANDARDS	PAGE REFERENCES
<p>Algebraic Reasoning: Patterns And Functions – Patterns and functional relationships can be represented and analyzed using a variety of strategies, tools and technologies. How do patterns and functions help us describe data and physical phenomena and solve a variety of problems?</p>	
<p>Students should...</p>	
<p>1.1 Understand and describe patterns and functional relationships.</p>	
<p>a. Create and describe patterns using different objects and symbols.</p>	<p>Student Edition: <i>Algebra Number Patterns</i> 17-19 <i>Big Idea</i> 330 <i>Identify and Extend Geometric Patterns</i> 478-481 <i>Patterns</i> 7 <i>Problem-Solving Investigation</i> 32-33, 228-229 <i>Problem-Solving Strategy</i> 212-213, 383</p> <p>Teacher Edition: A 330G; As 481; ATS 213, 229; DI 17B, 212B, 478B; I 17, 228, 382, 478; IC 330; P 7; Pr 19, 213; T 17-18, 32, 212, 228, 478-479; WIM 330</p>

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<p>Continued from cell above.</p> <p>a. Create and describe patterns using different objects and symbols.</p>	<p>Continued from cell above.</p> <p>Impact Mathematics Grade 3</p> <p>Student Edition:</p> <p><i>Function Tables</i> 19-20</p> <p><i>Make a Friendship Bracelet</i> 12</p> <p><i>Patterns in Multiplication</i> 13</p> <p><i>Planning a Classroom Party</i> 24</p> <p>Teacher Guide:</p> <p>A T20; I T19, T69; MFB T12; PBA T14D; PCP T24; R T18, T20; UO T14</p>
<p>1.2</p> <p>Represent and analyze quantitative relationships in a variety of ways.</p>	
<p>a. Identify mathematical relationships as equations.</p>	<p>Student Edition:</p> <p><i>Algebra: Addition Properties</i> 69-71</p> <p><i>Divide by 5</i> 270-271</p> <p><i>Make Function Tables</i> 356-359</p> <p><i>Multiply by 0 and 1</i> 186</p> <p><i>Multiply by 6</i> 206-207</p> <p><i>Multiply by 9</i> 222-223</p> <p><i>Problem-Solving Investigation</i> 320-321</p> <p><i>Start Smart</i> 6-7</p> <p>Teacher Edition:</p> <p>APK 6-7; ATS 223; EF 276B; GT 206B; R 70, 186; T 69-70, 206-207, 214-215, 270-271, 356-357; WIM 7</p> <p>Impact Mathematics Grade 3</p> <p>Student Edition:</p> <p>18</p> <p><i>Division: Repeated Subtraction</i> 37-38</p> <p><i>Multiplication: Repeated Addition</i> 27-28</p> <p>Teacher Guide:</p> <p>A T18, T28, T38; I T37</p>

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<p>1.3 Use operations, properties and algebraic symbols to determine equivalence and solve problems.</p>	
<p>a. Represent quantities that have the same value with an equal sign.</p>	<p>Student Edition: <i>Algebra: Addition Properties</i> 69-71 <i>Equivalent Fractions</i> 570-571 <i>Expressions and Number Sentences</i> 338-340 <i>Model Equivalent Fractions</i> 572-573 <i>Multiply by 7</i> 214-215 <i>Problem-Solving Investigation</i> 320-321 <i>Start Smart</i> 6</p> <p>Teacher Edition: APK 6; ATS 219; BL 218B; ELL 276B; PSP 338B; R 214; SP 70; T 338-339, 571, 572-573</p> <p>Impact Mathematics Grade 3</p> <p>Student Edition: 22 <i>Division: Repeated Subtraction</i> 37-38 <i>Equivalent Fractions</i> 79-80</p> <p>Teacher Guide: A T22, T38, T80; I T21, T37, T79</p>

STANDARDS	PAGE REFERENCES
<p>Numerical and Proportional Reasoning – Quantitative relationships can be expressed numerically in multiple ways in order to make connections and simplify calculations using a variety of strategies, tools and technologies.</p> <p>How are quantitative relationships represented by numbers?</p>	
<p>Students should...</p>	
<p>2.1 Understand that a variety of numerical representations can be used to describe quantitative relationships.</p>	
<p>a. Represent numbers in expanded and regrouped forms in the base ten place value system.</p>	<p>Student Edition: <i>Add Greater Numbers</i> 96-97 <i>Add Three-Digit Numbers</i> 90-91 <i>Place Value through 1,000</i> 24-25 <i>Place Value through 10,000</i> 28-29 <i>Two-Digit Addition</i> 78-79 <i>Subtract Across Zeros</i> 138-139 <i>Subtract Three-Digit Numbers with Regrouping</i> 126-127</p> <p>Teacher Edition: As 27, 91; BL 138B; DI 24B; I 78; R 24, 28; SP 24; T 24-25, 28-29, 90, 96-97, 126, 138-139</p> <p>Impact Mathematics Grade 3 Student Edition: <i>Multiplication: Repeated Addition</i> 27-28 <i>Multiply Two-Digit Numbers</i> 31 <i>Use Base-Ten Blocks to Multiply</i> 29-30</p> <p>Teacher Guide: A T30; I T27, T29, T31; R T28</p>
<p>b. Recognize that a fraction with the same numerator and denominator represents the whole object or an entire set.</p>	<p>Student Edition: <i>Practice and Problem Solving</i> 563 #7</p> <p>Teacher Edition: T 561</p> <p>Impact Mathematics Grade 3 Student Edition: <i>Performance-Based Assessment</i> A29-A30</p> <p>Teacher Guide: I T69; PBA T78D</p>

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<p>c. Use fractions to measure and to represent points on a ruler or number line.</p>	<p>Student Edition: <i>Length to the Nearest Half Inch</i> 375-377 <i>Locate Fractions on a Number Line</i> 584-587 <i>Study Guide and Review</i> 594</p> <p>Teacher Edition: As 587; ATS 376, 585; BL 584B; I 584; SP 584; T 375-376, 584-585</p> <p>Impact Mathematics Grade 3</p> <p>Student Edition: 80, 84</p> <p>Teacher Guide: A T80, T84; I T83</p>
<p>2.2 Use numbers and their properties to compute flexibly and fluently, and to reasonably estimate measures and quantities.</p>	
<p>a. Use strategies that involve place value patterns and algebraic properties to estimate, add and subtract.</p>	<p>Student Edition: <i>Estimate Differences</i> 114-115 <i>Estimate Sums</i> 74-75 <i>Lesson-by-Lesson Review</i> 145-146 <i>Problem-Solving Skill</i> 72-73 <i>Subtract Across Zeros</i> 138-139 <i>Two-Digit Addition</i> 78-79</p> <p>Teacher Edition: As 73; I 78, 138; T 72-73, 74-75, 78-79, 114-115, 138-140</p> <p>Impact Mathematics Grade 3</p> <p>Student Edition: <i>Division: Repeated Subtraction</i> 37-38 <i>Functions Tables</i> 19-20 <i>Planning a Classroom Party</i> 24</p> <p>Teacher Guide: A T20, T38; I T19; PCP T24; R T20, T84</p>

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<p>b. Approximate solutions to problems involving computation through the use of efficient methods.</p>	<p>Student Edition: <i>Estimate Differences</i> 114-115 <i>Estimate Products</i> 640-642 <i>Estimate Sums</i> 74-75 <i>Measure Area</i> 396-397 <i>Practice-Solving Skill</i> 72-73</p> <p>Teacher Edition: As 73, 397; ATS 73, 641; I 640; T 74-75, 114-115</p> <p>Impact Mathematics Grade 3</p> <p>Student Edition: <i>Designing an Outside Space</i> 56 <i>Exploring Area</i> 51-52</p> <p>Teacher Guide: A T52; DOS T56; I T51</p>
<p>c. Solve multiplication and division problems using rectangular arrays, number patterns, skip counting and repeated addends.</p>	<p>Student Edition: <i>Arrays and Multiplication</i> 158-161 <i>Lesson-by-Lesson Review</i> 285-288 <i>Multiply by 2</i> 162-163 <i>Multiply by 4</i> 168 <i>Multiply by 5</i> 174-175 <i>Model Division</i> 267-268 <i>Relate Division to Subtraction</i> 253-255</p> <p>Teacher Edition: ATS 169, 175, 254; DI 159B; EF 162B; ELL 162B; ETL 268; P 161, 255; T 158-159, 162-163, 168</p> <p>Impact Mathematics Grade 3</p> <p>Student Edition: <i>Meaning of Multiplication</i> 3-4 <i>Mental Multiplication</i> 21-22 <i>Multiplication Tables</i> 17-18 <i>Rectangles and Rows</i> 7-8 <i>Skip Counting, Multiples and Facts</i> 5-6</p> <p>Teacher Guide: A T4, T6, T8, T18, T22; I T3, T7, T17, T21; R T4, T8, T22</p>

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<p>d. Compare fractions, identify equivalent fractions, add and subtract fractions with like and unlike denominators using models and pictures.</p>	<p>Student Edition: <i>Compare and Order Fractions</i> 580-583 <i>Equivalent Fractions</i> 570-571 <i>Model Equivalent Fractions</i> 572-575</p> <p>Teacher Edition: As 574, 583; DI 572B; I 570, 580; T 571-573, 581</p> <p>Impact Mathematics Grade 3</p> <p>Student Edition: <i>Constructing Rules to Compare Fractions</i> 81-82 <i>Equivalent Fractions</i> 79-80 <i>Fractions and Money</i> 73-74 <i>Make a Fraction Web</i> 86 <i>More About Comparing Fractions</i> 83-84</p> <p>Teacher Guide: A T74, T80, T82, T84; I T73, T79, T81, T83; MFW T86; R T74, T80, T82</p>
<p>Geometry and Measurement – Shapes and structures can be analyzed, visualized, measured and transformed using a variety of strategies, tools and technologies.</p> <p>How do geometric relationships and measurements help us to solve problems and make sense of our world?</p>	<p>Students should...</p>
	<p>3.1 Use properties and characteristics of two- and three-dimensional shapes and geometric theorems to describe relationships, communicate ideas and solve problems.</p>
	<p>a. Classify and compare polygons and solids using various attributes.</p> <p>Student Edition: <i>Concepts and Skills</i> R74 <i>Identify Congruent Figures</i> 484-485 <i>Symmetry</i> 488-491</p> <p>Teacher Edition: As 485; ATS 489; DI 484B; SP 484; T 484-485, 488-489</p> <p>Impact Mathematics Grade 3</p> <p>Student Edition: <i>Congruent Figures</i> 59-60 <i>Exploring Area</i> 51-52</p> <p>Teacher Guide: A T52, T60; I T51, T59; R T60</p>

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3.2 Use spatial reasoning, location and geometric relationships to solve problems.	
a. Represent location on simple maps.	Student Edition: <i>Ordered Pairs</i> 494-497 <i>Problem-Solving in Art</i> 498-499 <i>Project 2</i> P4-P5 <i>Study Guide and Review</i> 506 Teacher Edition: D2 P5; EA 499; Sc 464H; T 494-495 Impact Mathematics Grade 3 Student Edition: <i>Designing an Outside Space</i> 56 Teacher Guide: DOS T56
3.3 Develop and apply units, systems, formulas and appropriate tools to estimate and measure.	
a. Plan events and make schedules.	Student Edition: <i>Project 3</i> P6-P7 <i>Projects: Day 2</i> P3 Teacher Edition: D1 P6; D2 P2

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<p>b. Determine and use different tools and units appropriate for specific measurement tasks.</p>	<p>Student Edition: <i>Chapter Test</i> 417 <i>Game Time</i> 390 <i>Measure Area</i> 398-400 <i>Measure Temperature</i> 408-410 <i>Metric Units of Length</i> 386-388 <i>Problem-Solving in Science</i> 404-405 <i>Problem-Solving Investigation</i> 402-403</p> <p>Teacher Edition: ATS 388, 399, 409; CP 370; EA 405; GT 390; I 408; R 370I; RWM 405; Sc 370J; T 386-387, 398-399, 402</p> <p>Impact Mathematics Grade 3</p> <p>Student Edition: <i>Measuring and Estimating Perimeter</i> 47-48 <i>Measuring with Customary Units</i> 91-92 <i>Measuring with Metric Units</i> 93-94 <i>Measuring with Non-Standard Units</i> 89-90</p> <p>Teacher Guide: A T48, T90, T92, T94; I T89, T91, T93, T103</p>
	<p>Working with Data: Probability and Statistics – Data can be analyzed to make informed decisions using a variety of strategies, tools and technologies.</p> <p>How can collecting, organizing and displaying data help us analyze information and make reasonable predictions and informed decisions?</p>
	<p>Students should...</p>
	<p>4.1 Collect, organize and display data using appropriate statistical and graphical methods.</p>
<p>a. Design surveys for the collection of data and justify conclusions drawn from the data.</p>	<p>Student Edition: <i>Explore</i> 513-514 <i>Project: Day 1</i> P6, P8</p> <p>Teacher Edition: BL 536B; CP 510; D1 P6, P8; DI 515B, 528B; EF 536B; I 526, 528; Sc 510H, SS 510H</p> <p>Impact Mathematics Grade 3</p> <p>Student Edition: <i>Design a Survey and Graph</i> 108</p> <p>Teacher Guide: DSAG T108; I T103</p>

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<p>4.2 Analyze data sets to form hypotheses and make predictions.</p>	
<p>a. Analyze data to identify a typical element or event.</p>	<p>Student Edition: <i>Bar Graphs</i> 528-531 <i>Interpret Bar Graphs</i> 532-534 <i>Interpret Pictographs</i> 518-520 <i>Line Plots</i> 536-538 <i>Project: Day 5 P7</i></p> <p>Teacher Edition: ATS 529, 533; CP 510; EF 536B; GT 518B, 532B; He 510H; SS 510H; T 528-529, 532-533, 536-537</p> <p>Impact Mathematics Grade 3</p> <p>Student Edition: <i>Design a Survey and Graph</i> 108 <i>Graphs: What Can You Interpret?</i> 105-106</p> <p>Teacher Guide: A T106; DSAG 108; I T103, T105</p>
<p>4.3 Understand and apply basic concepts of probability.</p>	
<p>a. Use samples and simulations to determine probability, and to make and test predictions.</p>	<p>Student Edition: <i>Chapter Test</i> 553 <i>Identify Probability</i> 542-544</p> <p>Teacher Edition: A 510G; As 545; ATS 543; DI 542B; ELL 546B; He 510H; I 542; T 542-543</p> <p>Impact Mathematics Grade 3</p> <p>Student Edition: <i>Exploring Possible Outcomes</i> 99-100 <i>Making Predictions</i> 101-102</p> <p>Teacher Guide: A T100, T102; I T99, T101; R T102</p>