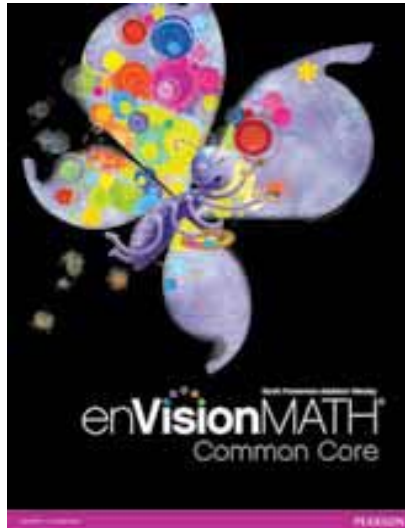


## A Correlation of

en**VISION**MATH™  
Common Core ©2012  
Scott Foresman-Addison Wesley



to the

# West Virginia Mathematics Criteria

## Grade 1

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**GENERIC EVALUATION CRITERIA**  
**2013-2016 – Off Cycle Year Adoption**  
**Grade 1 Mathematics**

R-E-S-P-O-N-S-E			CRITERIA	NOTES
Yes	No	N/A		
X			<b>I. INTER-ETHNIC</b> The instructional material meets the requirements of inter-ethnic: concepts, content and illustrations, as set by West Virginia Board of Education Policy (Adopted December 1970).	
X			<b>II. EQUAL OPPORTUNITY</b> The instructional material meets the requirements of equal opportunity: concept, content, illustration, heritage, roles contributions, experiences and achievements of males and females in American and other cultures, as set by West Virginia Board of Education Policy (Adopted May 1975).	
X			<b>III. FORMAT</b> The resource is available as an option for adoption in an interactive electronic format.	

**INSTRUCTIONAL MATERIALS ADOPTION: 21<sup>st</sup> CENTURY LEARNING EVALUATION CRITERIA**  
**GENERAL EVALUATION CRITERIA**  
**2013-2016 – Off Cycle Year Adoption**  
**Grade 1 Mathematics**

**INSTRUCTIONAL MATERIALS ADOPTION: GENERAL EVALUATION CRITERIA**

The general evaluation criteria apply to each grade level and are to be evaluated for each grade level unless otherwise specified. These criteria consist of information critical to the development of all grade levels. In reading the general evaluation criteria and subsequent specific grade level criteria, **e.g. means “examples of” and i.e. means that “each of” those items must be addressed.** Eighty percent of the general criteria must be met with I (In-depth) or A (Adequate) in order to be recommended.

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<b>For student mastery of content standards and objectives, the instructional materials will provide students with the opportunity to apply:</b>														
<b>A. MATHEMATICAL PRACTICES</b>														
<p><i>enVisionMATH Common Core</i> is built on a foundation of problem-based instruction that has sense-making at its heart. Each topic includes at least one <i>problem-solving lesson</i> in which students focus on honing their sense-making and problem-solving skills. The problem-solving lessons in Grades K–2 present to students a process that begins with making sense of the problem. <i>Read and Understand</i>, the first phase of the process, has students ask themselves, <i>What am I trying to find?</i> and <i>What do I know?</i>, questions that will help identify the givens and constraints of the problem.</p> <p>In the second phase, <i>Plan and Solve</i>, students decide on a solution plan. In the final phase,</p>	<p><b>1. Make sense of problems and persevere in solving them.</b></p> <ul style="list-style-type: none"> <li>• Explain to themselves the meaning of a problem and looking for entry points to its solution.</li> <li>• Analyze givens, constraints, relationships, and goals</li> <li>• Make conjectures about the form and meaning of the solution attempt.</li> <li>• Plan a solution pathway rather than simply jumping into a solution.</li> <li>• Consider analogous problems and try special cases and simpler forms of insight into its solution.</li> <li>• Monitor and evaluate their progress and change course if necessary.</li> <li>• Transform algebraic expressions or change the viewing window on their graphing calculator to get information.</li> <li>• Explain correspondences between equations, verbal descriptions, tables, and graphs.</li> <li>• Draw diagrams of important features and relationships, graph data, and search for regularity or trends.</li> <li>• Use concrete objects or pictures to help conceptualize and solve a problem.</li> </ul>													

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<p><i>Look Back and Check</i>, students verify that their work is reasonable and reflects the information given.</p> <p>Each lesson begins with <i>Problem-Based Interactive Learning</i>, an activity in which students interact with their peers and teachers to make sense of and decide on a workable solution for a real-world situation. Another feature of each lesson is the set of problem-solving exercises in which students persevere by applying different skills and strategies to solve problems.</p> <p><b>SE/TE:</b> Topic 1: 14, 22, 30, 31-34; Topic 2: 52, 60, 64, 72, 80, 81-84; Topic 3: 94, 98, 102, 107-110; Topic 4: 117, 137, 140, 144, 148, 152, 153-156; Topic 5: 166, 174, 175-178, 182, 186, 190, 194; Topic 6: 208, 216, 220, 229-232; Topic 7: 242, 250, 254, 258, 259-262; Topic 8: 272, 280, 284, 288, 289-292; Topic 9: 302, 306, 310, 314, 315-318; Topic 10: 340, 345-348; Topic 11: 358, 375-378; Topic 12: 388, 392, 401-404; Topic 13: 418, 422, 426, 427-430; Topic 14: 456, 460, 461-464; Topic 15: 475-478, 490, 494, 498, 507-510; Topic 16: 524, 529-532</p> <p><b>TE:</b> Topic 5: 161B; Topic 7: 258A; Topic 8: 267A; Topic 10: 344A; Topic 14: 456A; Topic 15: 478A; Topic 16: 532A</p>	<ul style="list-style-type: none"> <li>• Check their answers to problems using a different method.</li> <li>• Ask themselves, "Does this make sense?"</li> <li>• Understand the approaches of others to solving complex problems and identify correspondences between approaches.</li> </ul>							

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<p><b>enVisionMATH Common Core</b> provides scaffolded instruction to help students develop both quantitative and abstract reasoning. In the <i>Visual Learning Bridge</i>, students can see how to represent a given situation numerically or algebraically. They will have opportunities later in the lesson to reason abstractly as they endeavor to represent situations symbolically.</p> <p>Reasonableness exercises remind students to compare their work to the original situation. In the <i>Do You Understand?</i> part of the Guided Practice, students gain experiences with quantitative reasoning as they consider the meaning of different parts of an expression or equation.</p> <p>Reasoning problems throughout the exercise sets focus students' attention on the structure or meaning of an operation, for example, rather than merely the solution.</p> <p><b>SE/TE:</b> Topic 2: 41, 45, 49, 65, 72, 76, 77, 80; Topic 3: 99, 103; Topic 4: 125, 136, 141, 145, 149; Topic 5: 167, 198; Topic 6: 205, 209, 225; Topic 8: 285; Topic 9: 299; Topic 10: 337, 341; Topic 11: 370, 378; Topic 12: 389, 393, 400, 401; Topic 13: 419, 423; Topic 14: 440, 444, 464; Topic 15: 483, 494, 503; Topic 16: 524, 532</p>	<p>2. <b>Reason abstractly and quantitatively.</b></p> <ul style="list-style-type: none"> <li>• Make sense of quantities and their relationships in problem situations.</li> <li>• Bring two complementary abilities to bear on problems involving quantitative relationships: <ul style="list-style-type: none"> <li>○ Decontextualize (abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents and</li> <li>○ Contextualize (pause as needed during the manipulation process in order to probe into the referents for the symbols involved).</li> </ul> </li> <li>• Use quantitative reasoning that entails creating a coherent representation of the problem at hand, considering the units involved, and attending to the meaning of quantities, not just how to compute them</li> <li>• Know and flexibly use different properties of operations and objects.</li> </ul>										

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<p><b>TE:</b> Topic 1: 6A, 10A, 18A; Topic 2: 44A; Topic 3: 89B, 98A; Topic 4: 115B, 120A, 140A; Topic 5: 161B, 178A; Topic 6: 203B; Topic 7: 237A, 246A; Topic 8: 272A; Topic 9: 297A, 302A, 310A, 314A; Topic 10: 323B; Topic 11: 353B, 366A; Topic 12: 383A; Topic 13: 413B; Topic 15: 486A, 490A; Topic 16: 515B</p>	<p>(Continued)</p> <p><b>2. Reason abstractly and quantitatively.</b></p> <ul style="list-style-type: none"> <li>• Make sense of quantities and their relationships in problem situations.</li> <li>• Bring two complementary abilities to bear on problems involving quantitative relationships: <ul style="list-style-type: none"> <li>○ Decontextualize (abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents and</li> <li>○ Contextualize (pause as needed during the manipulation process in order to probe into the referents for the symbols involved).</li> </ul> </li> <li>• Use quantitative reasoning that entails creating a coherent representation of the problem at hand, considering the units involved, and attending to the meaning of quantities, not just how to compute them</li> <li>• Know and flexibly use different properties of operations and objects.</li> </ul>											

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<p>Consistent with a focus on reasoning and sense-making is a focus on critical reasoning – argumentation and critique of arguments. In Pearson’s <b>enVisionMATH Common Core</b>, the <i>Problem-Based Interactive Learning</i> affords students opportunities to share with classmates their thinking about problems, their solution methods, and their reasoning about the solutions. Many exercises found throughout the program specifically call for students to use reasoning and to justify or explain their solutions.</p> <p><b>SE/TE:</b> Topic 1: 19; Topic 3: 99; Topic 5: 163, 171, 179, 187, 191; Topic 7: 243, 247; Topic 9: 314; Topic 11: 378; Topic 12: 389, 408; Topic 14: 461; Topic 15: 471, 507; Topic 16: 517</p> <p><b>TE:</b> Topic 5: 163A, 171A, 187A; Topic 15: 469B</p>	<p>3. <b>Construct viable arguments and critique the reasoning of others.</b></p> <ul style="list-style-type: none"> <li>• Understand and use stated assumptions, definitions, and previously established results in constructing arguments.</li> <li>• Make conjectures and build a logical progression of statements to explore the truth of their conjectures.</li> <li>• Analyze situations by breaking them into cases</li> <li>• Recognize and use counterexamples.</li> <li>• Justify their conclusions, communicate them to others, and respond to the arguments of others.</li> <li>• Reason inductively about data, making plausible arguments that take into account the context from which the data arose.</li> <li>• Compare the effectiveness of plausible arguments.</li> <li>• Distinguish correct logic or reasoning from that which is flawed and, if there is a flaw, explain what it is <ul style="list-style-type: none"> <li>○ Elementary students construct arguments using concrete referents such as objects, drawings, diagrams, and actions.</li> <li>○ Later students learn to determine domains to which an argument applies.</li> </ul> </li> <li>• Listen or read the arguments of others, decide whether they make sense, and ask useful question to clarify or improve arguments.</li> </ul>							



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<p>Students in Pearson’s <i>enVisionMATH Common Core</i> are introduced to mathematical modeling in the early grades. They first use manipulatives and drawings and then equations to model addition and subtraction situations. In later grades, students expand their modeling skills to include representations such as tables and graphs, as well as equations.</p> <p><b>SE/TE:</b> Topic 1: 18, 22, 23, 30; Topic 2: 53, 56, 57; Topic 3: 99, 107; Topic 4: 124, 132, 144, 155; Topic 5: 163, 167, 170, 171, 174, 191, 198; Topic 6: 208, 216, 225, 232; Topic 7: 243, 246, 247, 251, 259; Topic 8: 273, 289, 292; Topic 9: 314, 310, 315; Topic 10: 328; Topic 11: 355, 358, 359, 366, 378; Topic 12: 400; Topic 13: 427, 430; Topic 14: 449, 453, 457; Topic 15: 477; Topic 16: 525, 528</p> <p><b>TE:</b> Topic 1: 22A, 26A; Topic 2: 39B, 60A, 72A; Topic 3: 94A; Topic 4: 136A; Topic 5: 166A, 170A, 174A; Topic 7: 242A, 262A; Topic 8: 292A; Topic 9: 297B, 318A; Topic 10: 340A; Topic 13: 430A; Topic 14: 435B, 452A, 460A; Topic 16: 524A, 528A</p>	<p>4. <b>Model with mathematics.</b></p> <ul style="list-style-type: none"> <li>• Apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. <ul style="list-style-type: none"> <li>○ In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community.</li> <li>○ By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another.</li> </ul> </li> <li>• Make assumptions and approximations to simplify a complicated situation, realizing that these may need revision later.</li> <li>• Identify important quantities in a practical situation</li> <li>• Map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas.</li> <li>• Analyze those relationships mathematically to draw conclusions.</li> <li>• Interpret their mathematical results in the context of the situation.</li> <li>• Reflect on whether the results make sense, possibly improving the model if it has not served its purpose.</li> </ul>												

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<p>Students become fluent in the use of a wide assortment of tools ranging from physical objects, including manipulatives, rulers, protractors, and even pencil and paper, to digital tools, such as eTools, calculators, and computers. As students become more familiar with the tools available to them, they are able to begin making decisions about which tools are most helpful in a particular situation.</p> <p><b>SE/TE:</b> Topic 1: 3, 10, 14, 15, 31, 33, 34; Topic 2: 44, 48, 52, 56, 60, 64, 76; Topic 3: 91, 94, 95, 102, 106; Topic 4: 120, 121, 129, 132, 133, 136, 148, 153; Topic 5: 166, 182, 186; Topic 6: 213, 217, 220, 221, 224, 229, 231; Topic 7: 239, 242, 243, 255, 261; Topic 8: 272, 277, 280, 284, 288; Topic 9: 303; Topic 10: 325, 333, 336, 345; Topic 11: 362, 371, 374; Topic 12: 397; Topic 14: 440, 444; Topic 15: 474, 475, 482, 486, 498, 502, 506</p> <p><b>TE:</b> Topic 1: 34A; Topic 2: 52A; Topic 3: 89B, 106A; Topic 4: 115B, 132A, 156A; Topic 6: 208A, 212A, 216A; Topic 8: 276A, 284A, 288A; Topic 10: 348A; Topic 11: 362A; Topic 12: 392A, 408A; Topic 13: 413B, 418A, 422A; Topic 14: 464A</p>	<p>5. <b>Use appropriate tools strategically.</b></p> <ul style="list-style-type: none"> <li>• Consider available tools when solving a mathematical problem. (these tools might include pencil and paper, concrete models, a ruler, protractor, calculator, spreadsheet, computer algebra system, a statistical package, or dynamic geometry software.</li> <li>• Are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. <ul style="list-style-type: none"> <li>○ High school students analyze graphs of functions and solutions generated using a graphing calculator</li> </ul> </li> <li>• Detect possible errors by using estimations and other mathematical knowledge.</li> <li>• Know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data.</li> <li>• Identify relevant mathematical resources and use them to pose or solve problems.</li> <li>• Use technological tools to explore and deepen their understanding of concepts.</li> </ul>										

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<p>Students are expected to use mathematical terms and symbols with precision. Key terms and concepts are highlighted in each lesson. The <i>Problem-Based Interactive Learning</i> activity provides repeated opportunities for children to use precise language to explain their solution paths while solving problems.</p> <p>In the <i>Do You Understand?</i> feature, students revisit these key terms or concepts and provide explicit definitions or explanations. Students are reminded to use appropriate units of measure in their solutions as well as in labels for diagrams, graphs, and other kinds of displays.</p> <p><b>SE/TE:</b> Topic 1: 6, 7, 10, 18, 26, Topic 2: 44, 48, 55, 68, 84; Topic 3: 106; Topic 4: 120, 124, 128, 140, 152; Topic 5: 175, 177, 178, 194; Topic 6: 212; Topic 7: 246, 258; Topic 8: 269, 276; Topic 9: 302, 306, 307, 318; Topic 10: 332, 340, 344, 348; Topic 11: 363; Topic 12: 392, 396, 404, 405; Topic 13: 418, 422, 426; Topic 14: 437, 445, 456, 461; Topic 15: 482, 490, 491, 495, 506, 510; Topic 16: 520, 521, 529, 532</p> <p><b>TE:</b> Topic 1: 1B, 1D; Topic 2: 39A, 39D; Topic 3: 89D; Topic 4: 115D; Topic 5: 161D; Topic 6: 203D; Topic 7: 237D; Topic 8: 267B, 267D; Topic 9: 297D; Topic 10:</p>	<p>6. <b>Attend to precision.</b></p> <ul style="list-style-type: none"> <li>• Try to communicate precisely to others.</li> <li>• Try to use clear definitions in discussion with others and in their own reasoning.</li> <li>• State the meaning of the symbols they choose, including using the equal sign consistently and appropriately.</li> <li>• Specify units of measure and label axes to clarify the correspondence with quantities in a problem.</li> <li>• Calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. <ul style="list-style-type: none"> <li>○ In the elementary grades, students give carefully formulated explanations to each other.</li> <li>○ In high school, students have learned to examine claims and make explicit use of definitions.</li> </ul> </li> </ul>											

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323B, 323D; Topic 11: 335D; Topic 12: 383D, 388A, 396A; Topic 13: 413D, 426A; Topic 14: 435D; Topic 15: 469A, 469D, 474A; Topic 16: 515D	(Continued)										
	<p>6. <b>Attend to precision.</b></p> <ul style="list-style-type: none"> <li>• Try to communicate precisely to others.</li> <li>• Try to use clear definitions in discussion with others and in their own reasoning.</li> <li>• State the meaning of the symbols they choose, including using the equal sign consistently and appropriately.</li> <li>• Specify units of measure and label axes to clarify the correspondence with quantities in a problem.</li> <li>• Calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. <ul style="list-style-type: none"> <li>○ In the elementary grades, students give carefully formulated explanations to each other.</li> <li>○ In high school, students have learned to examine claims and make explicit use of definitions.</li> </ul> </li> </ul>										

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<p>Students are encouraged to look for structure as they develop solution plans. In the <i>Look for a Pattern</i> problem-solving lessons, children in the early years develop a sense of patterning with visual and physical objects. As students mature in their mathematical thinking, they look for structure in numerical operations by focusing on place value and properties of operations. This focus on looking for and recognizing structure enables students to draw from patterns as they formalize their thinking about the structure of operations.</p> <p><b>SE/TE:</b> Topic 1: 27; Topic 2: 69, 73; Topic 4: 141, 142, 143, 144; Topic 5: 171, 179, 183, 187; Topic 7: 250; Topic 11: 367; Topic 14: 452; Topic 15: 474, 479, 486, 487, 499, 502; Topic 16: 520</p> <p><b>TE:</b> Topic 1: 1A, 1D, 30A; Topic 2: 39B, 39D, 48A, 76A, 80A; Topic 3: 89D, 110A; Topic 4: 115B, 115D, 144A, 148A, 152A; Topic 5: 161D, 182A, 186A, 190A, 194A, 198A; Topic 6: 203D, 220A; Topic 7: 237B, 237D, 254A; Topic 8: 267D; Topic 9: 297D, 306A; Topic 10: 332A; Topic 11: 353B, 353D, 374A, 374B; Topic 12: 383D, 400A, 404A; Topic 13: 413D; Topic 14: 435D; Topic 15: 469D, 494A, 498A, 502A, 506A, 510A; Topic 16: 515D, 520A</p>	<p>7. <b>Look for and make use of structure.</b></p> <ul style="list-style-type: none"> <li>• Look closely to discern a pattern or structure. <ul style="list-style-type: none"> <li>○ Young students might notice that three and seven more is the same amount as seven and three more or they may sort a collection of shapes according to how many sides the shapes have.</li> <li>○ Later, students will see <math>7 \times 8</math> equals the well remembered <math>7 \times 5 - 7 \times 3</math>, in preparation for the distributive property.</li> <li>○ In the expression <math>x^2 + 9x + 14</math>, older students can see the 14 as <math>2 \times 7</math> and the 9 as <math>2 + 7</math>. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems.</li> </ul> </li> <li>• Step back for an overview and can shift perspective.</li> <li>• See complicated things, such as some algebraic expressions, as single objects or composed of several objects.</li> </ul>							

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<p>Students are prompted to look for repetition in computations to help them develop shortcuts and become more efficient problem solvers. Students are reminded to think about problems they have encountered previously that may share features or processes. They are encouraged to draw on the solution plan developed for such problems, and as their mathematical thinking matures, to look for and apply generalizations to similar situations. The <i>Problem-Based Interactive Learning</i> activities offer students opportunities to look for regularity in the way operations behave.</p> <p><b>SE/TE:</b> Topic 1: 4-6, 11; Topic 2: 61; Topic 3: 99; Topic 4: 121, 122, 123; Topic 7: 248-249, 256-258, 262; Topic 8: 281, 292; Topic 11: 377, 422; Topic 15: 507, 508, 509, 510; Topic 16: 528A, 528B</p> <p><b>TE:</b> Topic 1: 11A; Topic 3: 89B, 102A, 102B; Topic 4: 124A-124B, Topic 11: 358A, 388A; Topic 15: 507A, 510A, 510B; Topic 16: 525, 526, 527, 528</p>	<p>8. <b>Look for and express regularity in repeated reasoning.</b></p> <ul style="list-style-type: none"> <li>• Notice if calculations are repeated.</li> <li>• Look both for general methods and for shortcuts. <ul style="list-style-type: none"> <li>○ Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeated decimal.</li> <li>○ Middle school students might abstract the equation <math>(y-2)/(x-1)=1</math> by paying attention to the calculation of slope as they repeatedly check whether the points are on the line through (1,2) with a slope 3.</li> <li>○ Noticing the regularity in the way terms cancel when expanding <math>(x-1)(x+1)(x^2+1)</math> and <math>(x-1)(x^3+x^2+x+1)</math> might lead high school students to the general formula for the sum of a geometric series.</li> </ul> </li> <li>• Maintain oversight of the process of solving a problem, while attending to the details.</li> <li>• Continually evaluate the reasonableness of intermediate results.</li> </ul>												

# **SPECIFIC EVALUATION CRITERIA**

## **2013-2016 – Off Cycle Year Adoption**

### **Grade 1 Mathematics**

In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of and composing and decomposing geometric shapes.

1. Students develop strategies for adding and subtracting whole numbers based on their prior work with small numbers. They use a variety of models, including discrete objects and length-based models (e.g., cubes connected to form lengths), to model add-to, take-from, put-together, take-apart and compare situations to develop meaning for the operations of addition and subtraction and to develop strategies to solve arithmetic problems with these operations. Students understand connections between counting and addition and subtraction (e.g., adding two is the same as counting on two). They use properties of addition to add whole numbers and to create and use increasingly sophisticated strategies based on these properties (e.g., “making tens”) to solve addition and subtraction problems within 20. By comparing a variety of solution strategies, children build their understanding of the relationship between addition and subtraction.

2. Students develop, discuss and use efficient, accurate and generalizable methods to add within 100 and subtract multiples of 10. They compare whole numbers (at least to 100) to develop understanding of and solve problems involving their relative sizes. They think of whole numbers between 10 and 100 in terms of tens and ones (especially recognizing the numbers 11 to 19 as composed of a ten and some ones). Through activities that build number sense, they understand the order of the counting numbers and their relative magnitudes.

3. Students develop an understanding of the meaning and processes of measurement, including underlying concepts such as iterating (the mental activity of building up the length of an object with equal-sized units) and the transitivity principle for indirect measurement.<sup>1</sup>

4. Students compose and decompose plane or solid figures (e.g., put two triangles together to make a quadrilateral) and build understanding of part-whole relationships as well as the properties of the original and composite shapes. As they combine shapes, they recognize them from different perspectives and orientations, describe their geometric attributes and determine how they are alike and different, to develop the background for measurement and for initial understandings of properties such as congruence and symmetry.

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For student mastery of content standards and objectives, the instructional materials will provide students with the opportunity to											
A. Operations & Algebraic Thinking											
Represent and solve problems involving addition and subtraction.											
<p><b>SE/TE:</b> Topic 1: 3-6, 7-10, 11-14, 15-18, 19-22, 23-26, 31-34; Topic 2: 53-56, 57-60, 61-64, 65-68, 69-72, 81-84; Topic 4: 137-140, 153-156; Topic 5: 163-166, 167-170, 171-174, 175-178; Topic 6: 205-208, 209-212, 229-232</p> <p><b>TE:</b> Topic 1: 3A, 6A-6B, 7A, 10A-10B, 11A, 14A-14B, 15A, 18A-18B, 19A, 22A-22B, 23A, 26A-26B, 31A, 34A-34B; Topic 2: 53A, 56A-56B, 57A, 60A-60B, 61A, 64A-64B, 65A, 68A-68B, 69A, 72A-72B, 81A, 84A-84B; Topic 4: 137A, 140A-140B, 153A, 156A-156B; Topic 5: 163A, 166A-166B, 167A, 170A-170B, 171A, 174A-174B, 175A, 178A-178B; Topic 6: 205A, 208A-208C, 209A, 212A-212B, 229A, 232A-232B</p>	<p>1. use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart and comparing, with unknowns in all positions, e.g., by using objects, drawings and equations with a symbol for the unknown number to represent the problem.</p>										



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<b>SE/TE:</b> Topic 5: 191-194, 195-198  <b>TE:</b> Topic 5: 191A, 194A-194B, 195A, 198A-198B	2. solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings and equations with a symbol for the unknown number to represent the problem.										
	<b>Understand and apply properties of operations and the relationship between addition and subtraction.</b>										
<b>SE/TE:</b> Topic 1: 27-30; Topic 4: 117-120; Topic 5: 179-182, 183-186, 187-190, 191-194, 195-198  <b>TE:</b> Topic 1: 27A, 30A-30B; Topic 4: 117A, 120A-120B; Topic 5: 179A, 182A-182B, 183A, 186A-186B, 187A, 190A-190B, 191A, 194A-194B, 195A, 198A-198B	3. apply properties of operations as strategies to add and subtract. <i>Examples: If <math>8 + 3 = 11</math> is known, then <math>3 + 8 = 11</math> is also known. (Commutative Property of Addition.) To add <math>2 + 6 + 4</math>, the second two numbers can be added to make a ten, so <math>2 + 6 + 4 = 2 + 10 = 12</math>. (Associative Property of Addition.) (Students need not use formal terms for these properties.)</i>										
<b>SE/TE:</b> Topic 2: 41-44, 45-48, 49-52, 53-56, 57-60, 65-68, 69-72; Topic 3: 103-106; Topic 4: 141-144, 145-148, 149-152; Topic 6: 213-216, 217-220, 221-224, 225-228  <b>TE:</b> Topic 2: 41A, 44A-44B, 45A, 48A-48B, 49A, 52A-52B, 53A, 56A-56B, 57A, 60A-60B, 65A, 68A-68B, 69A, 72A-72B; Topic 3: 103A, 106A-106B; Topic 4: 141A, 144A-144B, 145A, 148A-148B, 149A, 152A-152B; Topic 6: 213A, 216A-216B, 217A, 220A-220B, 221A, 224A-224B, 225A, 228A-228B	4. understand subtraction as an unknown-addend problem. <i>For example, subtract <math>10 - 8</math> by finding the number that makes 10 when added to 8.</i>										

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	<b>Add and subtract within 20.</b>										
<p><b>SE/TE:</b> Topic 3: 91-94, 95-98, Topic 4: 117-120, 137-140</p> <p><b>TE:</b> Topic 3: 91A, 94A-94B, 95A, 98A-98B; Topic 4: 117A, 120A-120B, 137A, 140A-140B</p>	5. relate counting to addition and subtraction (e.g., by counting on 2 to add 2).										
<p><b>SE/TE:</b> Topic 2: 41-44, 45-48, 49-52, 53-56, 61-64, 65-68, 69-72, 73-76; Topic 3: 99-102, 103-106, 107-110, 117-120, 121-124, 125-128, 129-132, 133-136, 137-140, 145-148, 149-152, 153-156; Topic 5: 163-166, 167-170, 171-174, 179-182, 183-186, 187-190; Topic 6: 205-208, 209-212, 213-216, 217-220, 221-224, 225-228</p> <p><b>TE:</b> Topic 2: 41A, 44A-44B, 45A, 48A-48B, 49A, 52A-52B, 53A, 56A-56B, 61A, 64A-64B, 65A, 68A-68B, 69A, 72A-72B, 73A, 76A-76B; Topic 3: 99A, 102A-102B, 103A, 106A-106B, 107A, 110A-110B, 117A, 120A-120B, 121A, 124A-124B, 125A, 128A-128B, 129A, 132A-132B, 133A, 136A-136B, 137A, 140A-140B, 145A, 148A-148B, 149A, 152A-152B, 153A, 156A-156B; Topic 5: 163A, 166A-166B, 167A, 170A-170B, 171A, 174A-174B, 179A, 182A-182B, 183A, 186A-186B, 187A, 190A-190B; Topic 6: 205A, 208A-208B, 209A, 212A-212B, 213A, 216A-216B, 217A, 220A-220B, 221A, 224A-224B, 225A, 228A-228B</p>	6. add and subtract within 20, demonstrating fluency for addition and subtraction within 10 and use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$ ); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$ ); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$ , one knows $12 - 8 = 4$ ); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$ ).										

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	<b>Work with addition and subtraction equations.</b>										
<p><b>SE/TE:</b> Topic 1: 19-22, 31-34, 35-36; Topic 2: 77-80; Topic 4: 117-120</p> <p><b>TE:</b> Topic 1: 19A, 22A-22B, 31A, 34A-34B; Topic 2: 77A, 80A-80B; Topic 4: 117A, 120A-120B</p>	<p>7. understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. <i>For example, which of the following equations are true and which are false? <math>6 = 6</math>, <math>7 = 8 - 1</math>, <math>5 + 2 = 2 + 5</math>, <math>4 + 1 = 5 + 2</math>.</i></p>										
<p><b>SE/TE:</b> Topic 1: 19-22; Topic 2: 61-64, 77-80; Topic 3: 103-106; Topic 4: 121-124, 125-128, 129-132, 133-136, 141-144, 145-148, 149-152; Topic 5: 163-166, 167-170, 171-174, 179-182, 183-186, 187-190; Topic 6: 205-208, 209-212, 217-220, 221-224, 225-228</p> <p><b>TE:</b> Topic 1: 19A, 22A-22B; Topic 2: 61A, 64A-64B, 77A, 80A-80B; Topic 3: 103A, 106A-106B; Topic 4: 121A, 124A-124B, 125A, 128A-128B, 129A, 132A-132B, 133A, 136A-136B, 141A, 144A-144B, 145A, 148A-148B, 149A, 152A-152B; Topic 5: 163A, 166A-166B, 167A, 170A-170B, 171A, 174A-174B, 179A, 182A-182B, 183A, 186A-186B, 187A, 190A-190B; Topic 6: 205A, 208A-208B, 209A, 212A-212B, 217A, 220A-220B, 221A, 224A-224B, 225A, 228A-228B</p>	<p>8. determine the unknown whole number in an addition or subtraction equation relating three whole numbers. <i>For example, determine the unknown number that makes the equation true in each of the equations <math>8 + ? = 11</math>, <math>5 = ? - 3</math>, <math>6 + 6 = ?</math>.</i></p>										

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	<b>B. Number &amp; Operations in Base Ten</b> <b>Extend the counting sequence.</b>										
<p><b>SE/TE:</b> Topic 7: 243-246, 251-254, 255-258, 259-262; Topic 9: 315-318</p> <p><b>TE:</b> Topic 7: 243A, 246A-246B, 251A, 254A-254B, 255A, 258A-258B, 259A, 262A-262B; Topic 9: 315A, 318A-318B</p>	1. count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.										
	<b>Understand place value.</b>										
<p><b>SE/TE:</b> Topic 7: 243-246, 269-272, 273-276, 277-280, 281-284, 285-288, 289-292; Topic 9: 303-306</p> <p><b>TE:</b> Topic 7: 243A, 246A-246B, 269A, 272A-272B, 273A, 276A-276B, 277A, 280A-280B, 281A, 284A-284B, 285A, 288A-288B, 289A, 292A-292B, Topic 9: 303A, 306A-306B</p> <p><b>a. SE/TE:</b> Topic 7: 239-242, 255-258; Topic 8: 269-272, 277-280, 281-284, 285-288, 289-292</p> <p><b>TE:</b> Topic 7: 239A, 242A-242B, 255A, 258A-258B; Topic 8: 269A, 272A-272B, 277A, 280A-280B, 281A, 284A-284B, 285A, 288A-288B, 289A, 292A-292B</p> <p><b>b. SE/TE:</b> Topic 7: 239-242</p> <p><b>TE:</b> Topic 7: 239A, 242A-242B, 243A</p>	2. understand the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:										
	<p>a. 10 can be thought of as a bundle of ten ones — called a “ten.”</p> <p>b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight or nine ones.</p>										

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<p><b>c. SE/TE:</b> Topic 7: 247-250; Topic 8: 273-276, 277-280, 285-288, 289-292 <b>TE:</b> Topic 7: 247A, 250A-250B; Topic 8: 273A, 276A-276B, 277A, 280A-280B, 285A, 288A-288B, 289A, 292A-292B</p>	(Continued)										
<p><b>SE/TE:</b> Topic 9: 307-310, 311-314 <b>TE:</b> Topic 9: 307A, 310A-310B, 311A, 314A-314B</p>	<p>3. compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols <math>&gt;</math>, <math>=</math>, and <math>&lt;</math>.</p>										
	<b>Use place value understanding and properties of operation to add and subtract.</b>										
<p><b>SE/TE:</b> Topic 9: 299-302, 303-306; Topic 10: 325-328, 329-332, 333-336, 337-340, 341-344, 345-348 <b>TE:</b> Topic 9: 299A, 302A-302B, 303A, 306A-306B; Topic 10: 325A, 328A-328B, 329A, 332A-332B, 333A, 336A-336B, 337A, 340A-340B, 341A, 344A-344B, 345A, 348A-348B</p>	<p>4. add within 100, including adding a two-digit number and a one-digit number and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used and understand that in adding two-digit numbers, one adds tens and tens, ones and ones and sometimes it is necessary to compose a ten.</p>										
<p><b>SE/TE:</b> Topic 9: 299-302; Topic 10: 329-332, 333-336, 337-340; Topic 11: 359-362, 363-366, 367-370 <b>TE:</b> Topic 9: 299A, 302A-302B; Topic 10: 329A, 332A-332B, 333A, 336A-336B, 337A, 340A-340B; Topic 11: 359A, 362A-362B, 363A, 366A-366B, 367A, 370A-370B</p>	<p>5. given a two-digit number, mentally find 10 more or 10 less than the number, without having to count and explain the reasoning used.</p>										

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<p><b>SE/TE:</b> Topic 11: 355-358, 359-362, 363-366, 367-370, 371-374, 375-378</p> <p><b>TE:</b> Topic 11: 355A, 358A-358B, 359A, 362A-362B, 363A, 366A-366B, 367A, 370A-370B, 371A, 374A-374B, 375A, 378A-378B</p>	<p>6. subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences) using concrete models or drawings and strategies based on place value, properties of operations and/or the relationship between addition and subtraction and relate the strategy to a written method and explain the reasoning used.</p>										
	<p><b>C. Measurement &amp; Data</b> Measure lengths indirectly and by iterating length units.</p>										
<p><b>SE/TE:</b> Topic 12: 385-388, 389-392</p> <p><b>TE:</b> Topic 12: 385A, 388A-388B, 389A, 392A-392B</p>	<p>1. order three objects by length and compare the lengths of two objects indirectly by using a third object.</p>										
<p><b>SE/TE:</b> Topic 12: 393-396, 397-400, 401-404, 405-408</p> <p><b>TE:</b> Topic 12: 393A, 396A-396B, 397A, 400A-400B, 401A, 404A-404B, 405A, 408A-408B</p>	<p>2. express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end and understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.</p>										
	<p><b>Tell and Write Time</b></p>										
<p><b>SE/TE:</b> Topic 13: 415-418, 419-422, 423-426, 427-430</p> <p><b>TE:</b> Topic 13: 415A, 418A-418B, 419A, 422A-422B, 423A, 426A-426B, 427A, 430A-430B</p>	<p>3. tell and write time in hours and half-hours using analog and digital clocks.</p>										

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	<b>Represent and interpret data.</b>										
<p><b>SE/TE:</b> Topic 14: 437-440, 441-444, 445-448, 449-452, 453-456, 457-460, 461-464</p> <p><b>TE:</b> Topic 14: 437A, 440A-440B, 441A, 444A-444B, 445A, 448A-448B, 449A, 452A-452B, 453A, 456A-456B, 457A, 460A-460B, 461A, 464A-464B</p>	4. organize, represent, interpret data with up to three categories, ask and answer questions about the total number of data points, how many in each category and how many more or less are in one category than in another.										
	<b>D. Geometry</b> <b>Reason with Shapes and Their Attributes</b>										
<p><b>SE/TE:</b> Topic 15: 471-474, 479-482, 491-494, 495-498, 499-502, 507-510</p> <p><b>TE:</b> Topic 15: 471A, 474A-474B, 479A, 482A-482B, 491A, 494A-494B, 495A, 498A-498B, 499A, 502A-502B, 507A, 510A-510B</p>	1. distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size), build and draw shapes to possess defining attributes.										
<p><b>SE/TE:</b> Topic 15: 475-478, 483-486, 487-490, 503-506</p> <p><b>TE:</b> Topic 15: 475A, 478A-478B, 483A, 486A-486B, 487A, 490A-490B, 503A, 506A-506B</p>	2. compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones and right circular cylinders) to create a composite shape and compose new shapes from the composite shape. (Students do not need to learn formal names such as "right rectangular prism.")										
<p><b>SE/TE:</b> Topic 16: 517-520, 521-524, 525-528, 529-532</p> <p><b>TE:</b> Topic 16: 517A, 520A-520B, 521A, 524A-524B, 525A, 528A-528B, 529A, 532A-532B</p>	3. partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths and quarters and use the phrases half of, fourth of and quarter of, describe the whole as two of, or four of the shares and understand for these examples that decomposing into more equal shares creates smaller shares.										