

A Correlation of

enVisionmath[®]2.0

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To the

**Archdiocese of Cincinnati
2012 Graded Course of Study (G.C.S.)
for Mathematics
Grade 4**

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A Correlation of **enVisionmath2.0, ©2016** to the
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| <p style="text-align: center;">Archdiocese of Cincinnati Six Principles for School Mathematics</p> | <p style="text-align: center;">enVisionmath2.0 Grade 4</p> |
|---|---|
| <p>Equity. Excellence in mathematics education requires equity – high expectations and strong support for all students.</p> <p>Achieving equity requires a significant allocation of human and material resources in schools and classrooms. Instructional tools, curriculum materials, special supplemental programs and the skillful use of community resources undoubtedly play important roles. An even more important component is the professional development of teachers. Teachers need help to understand the strengths and needs of students who come from diverse linguistic and cultural background who have specific disabilities or who possess a special talent and interest in mathematics. To accommodate differences among students effectively and sensitively, teachers also need to understand and confront their own beliefs and biases.</p> | <p>The enVisionmath2.0 program plays a significant role in enhancing the equity of the student experience. Students at every level of development have unique needs that are addressed, encouraged and met throughout the learning experience. Each topic and lesson include application problems that allow students to bring their real-world experiences into the classroom. This is evident in the “Math and Science Project” at the beginning of each lesson, as well as the real-world application problems found throughout the materials. Students are continually assessed for necessary interventions which result in follow-up additional help or advanced activities. The strengths and needs of English Language Learners are also attended to throughout each topic. Support for teachers is strong throughout the program as well. Savvas provides professional development videos and services to help teachers develop into even stronger educators. Savvasrealize.com and SavvasPD.com are two of the resources teachers can use in addition to the Teacher’s Edition of the text.</p> <p>For specific examples, please see: SE: Topic 1: 1, 23-28, 29-34; Topic 9: 461, 477-482, 507-512, 525-530; Topic 13: 671, 685-690, 703-708, 715-720; Topic 16: 815, 827-832, 845-850 TE: Topic 1: 1, 23A-28, 29A-34; Topic 9: 461, 477A-482, 507A-512, 525A-530; Topic 13: 671, 685A-690, 703A-708, 715A-720; Topic 16: 815, 827A-832, 845A-850</p> |

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| <p>Curriculum. A curriculum is more than a collection of activities; it must be coherent, focused on important mathematics and well articulated across the grades.</p> <p>A school mathematics curriculum is a strong determinant of what students have an opportunity to learn and what they do learn. In a coherent curriculum, mathematical ideas are linked to and build on one another so that students’ understanding and knowledge deepens and their ability to apply mathematics expands. An effective mathematics curriculum focuses on important mathematics – mathematics that will prepare students for continued study and for solving problems in a variety of school, home and work settings. A well-articulated curriculum challenges students to learn increasingly more sophisticated mathematical ideas as they continue their studies.</p> | <p>enVisionmath2.0 is strategically designed to develop a complete individual mathematical experience for each student. From Kindergarten to Grade 8, students learn at developmentally appropriate levels and paces. They build upon previous knowledge and mathematical skills to eventually have a complete understanding of each topic. As the activities, discussions, technology, practice, assessments, and interventions are all woven together into a complete experience, enVisionmath2.0 students become fully equipped to engage the world of mathematics and apply each concept in real-world contexts. A snapshot of the design can be seen in the Lesson Overview of each lesson in the Teacher’s Edition of the text. Focus, Coherence, and Rigor are all highlighted and explain the objective of the lesson, essential understanding, knowledge from previous grades, and the emphasis of the lesson.</p> <p>For specific examples, please see: SE: Topic 5: 253-258, 271-276, 289-294; Topic 10: 561-566, 567-572; Topic 15: 771-776, 789-794</p> <p>TE: Topic 5: 253A-258, 271A-276, 289A-294; Topic 10: 561A-566, 567A-572; Topic 15: 771A-776, 789A-794</p> |

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| <p>Teaching. Effective mathematics teaching requires understanding what students know and need to learn and then challenging and supporting them to learn it well.</p> <p>To be effective, teachers must know and understand deeply the mathematics they are teaching and be able to draw on that knowledge with flexibility in their teaching tasks. They need to understand and be committed to their students as learners of mathematics and as human beings and be skillful in choosing from and using a variety of pedagogical and assessment strategies (National Commission on Teaching and America’s Future 1996). In addition, effective teaching requires reflection and continual efforts to seek improvement. Teachers must have frequent and ample opportunities and resources to enhance and refresh their knowledge.</p> | <p>enVisionmath2.0 supports teachers in their desire to teach students in the most effective way possible. Each Teacher’s Edition includes explanations, examples, and creative ideas on how to engage students in the mathematical topics. Each lesson overview includes explanations of the Focus, Coherence, and Rigor in each lesson as a way to enhance ongoing professional development. Teachers are guided through each lesson and given direction on new ways to present the content, guide student discussion, and identify common errors that may need to be addressed. Savvasrealize.com and SavvasPD.com include an endless library of teaching tools, professional development videos, evidence-bases teaching strategies, and instructional guides for helping students toward long-term success.</p> <p>For specific examples, please see: SE: Topic 4: 213-218, 225-230; Topic 8: 411-416, 435-440; Topic 14: 733-738, 745-750</p> <p>TE: Topic 4: 213A-218, 225A-230; Topic 8: 411A-416, 435A-440; Topic 14: 733A-738, 745A-750</p> |

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| <p>Learning. Students must learn mathematics with understanding, actively building new knowledge from experience and prior knowledge.</p> <p>The kinds of experiences teachers provide clearly play a major role in determining the extent and quality of students' learning. Students' understanding of mathematical ideas can be built throughout their school years if they actively engage in tasks and experiences designed to deepen and connect their knowledge. Learning with understanding can be further enhanced by classroom interactions, as students propose mathematical ideas and conjectures, learn to evaluate their own thinking and that of others and develop mathematical reasoning skills. Classroom discourse and social interaction can be used to promote the recognition of connections among ideas and the reorganization of knowledge. By having students talk about their informal strategies, teachers can help them become aware of, and build on, their implicit informal knowledge. Moreover, in such settings, procedural fluency and conceptual understanding can be developed through problem solving reasoning and argumentation.</p> | <p>Students are given a multitude of opportunities to experience mathematics and build upon their prior knowledge as they work through the enVisionmath2.0 curriculum. Each lesson is full of engaging, challenging, and instructional activities that aid in student learning. Each lesson in the Teacher's Edition begins with an overview of the design of each lesson (Focus, Coherence, and Rigor). Students are introduced to a specific problem which illustrates the topic of the lesson, and they engage in discussion as they explore the information. Students learn visually from colorful pictures and mathematical models that illustrate the concepts. Students engage in interactive activities both with their peers and with digital interactives. Finally, students exhibit their understanding of the topic as they complete homework and practice assignments.</p> <p>For specific examples, please see: SE: Topic 3: 113-118, 143-148; Topic 9: 465-470, 501-506; Topic 13: 685-690, 709-714</p> <p>TE: Topic 3: 113A-118, 143A-148; Topic 9: 465A-470, 501A-506; Topic 13: 685A-690, 709A-714</p> |

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| <p>Assessment. Assessment should support the learning of important mathematics and furnish useful information to both teachers and students.</p> <p>The Assessment Standards for School Mathematics (NCTM, 1995) presented six standards about exemplary mathematics assessment. They addressed how assessment should – reflect the mathematics that students should know and be able to do; enhance mathematics learning; promote equity; be an open process; promote valid inference; be a coherent process.</p> | <p>Throughout the enVisionmath2.0 program, students are assessed in a number of ways to track their progress and enhance their learning experience. Students are informally assessed in real-time as class discussions and activities engage students in the learning process. Each lesson includes a section entitled, “Assess and Differentiate.” Students are assigned an intervention activity, which indicates whether a student has grasped the concept of the lesson. The result allows teachers to spend additional time with students who may need more instruction as well as provide on-level and advanced activities for students who are ready to expand their understanding of the topic. The Student Edition also includes two pages of homework and practice at the end of each lesson. In addition to daily formative assessments during each lesson, students are also formally assessed through diagnostic assessments at the beginning of the year and each topic. Summative assessments measure the mastery each student achieves at the end of each topic, after a group of topics, and at the end of the academic year.</p> <p>For specific examples, please see: SE: Topic 2: 53-58, 71-76; Topic Assessment: 87-88; Topic Performance Assessment: 89-90; Topic 7: 369-374, 393-398; Topic Assessment: 403-404; Topic Performance Assessment: 405-406; Topic 12: 627-632, 651-656; Topic Assessment: 667-668; Topic Performance Assessment: 669-670</p> <p>TE: Topic 2: 53A-58, 71A-76; Topic Assessment: 87-88; Topic Performance Assessment: 89-90; Topic 7: 369A-374, 393A-398; Topic Assessment: 403-404; Topic Performance Assessment: 405-406; Topic 12: 627A-632, 651A-656; Topic Assessment: 667-668; Topic Performance Assessment: 669-670; Cumulative/Benchmark Assessment Topics 1-12: 670B</p> |

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| <p>Technology. Technology is essential in teaching and learning mathematics; it influences the mathematics that is taught and enhances students' learning.</p> <p>Electronic technologies – calculators and computers – are essential tools for teaching, learning and doing mathematics. They furnish visual images of mathematical ideas, they facilitate organizing and analyzing data and they compute efficiently and accurately. They can support investigation by students in every area of mathematics, including geometry, statistics, algebra, measurement and number. When technological tools are available, students can focus on decision making, reflection, reasoning and problem solving.</p> | <p>enVisionmath2.0 integrates multiple opportunities for students and teachers to utilize technology as an enhancement to the learning and teaching experience. This program includes both online access and CD-ROM materials that provide an interactive technical enhancement to the learning experience. Each topic includes digital opportunities such as Visual Learning Animation Plus, Convince Me!, Animated Glossary, Practice Buddy, Math Tools and Math Games, and more. All of these activities and learning tools can be found at Savvasrealize.com as well as links embedded within the eTexts (student edition online). Teachers also benefit from the technology within the program. Savvasrealize.com offers flexibility in planning, teaching, learning and progress monitoring. It is easy to navigate, assign resources, search, customize, plan, assess, and analyze data.</p> <p>For specific examples, please see: SE: Topic 1: 11-16, 23-28; Topic 5: 265-270, 295-300; Topic 8: 411-416, 435-440; Topic 12: 627-632, 639-644; Topic 16: 833-838, 839-844</p> <p>TE: Topic 1: 11A-16, 23A-28; Topic 5: 265A-270, 295A-300; Topic 8: 411A-416, 435A-440; Topic 12: 627A-632, 639A-644; Topic 16: 833A-838, 839A-844</p> |

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| Archdiocese of Cincinnati Math Instructional Critical Areas Grade 4 | enVisionmath2.0 Grade 4 |
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| <p>STANDARD 1 – BASIC FACTS AND ALGEBRAIC THINKING (1st Quarter - 30 days (E.I.T) CCS 4.O.A CCS 4.NBT)</p> <p>Students extend their understanding of the place value system to count, read and write whole numbers up to 1,000,000 and decimals to two places. They order and compare whole numbers using the correct symbols for greater than and less than. They are able to use and describe models for multiplication in problem-solving situations using recall. Students are able to generate an understanding of algebraic rules and are able to write formulas and equations. They are able to recognize and apply the relationships among the four operations. Students extend the concept of fractions to mixed numbers, learning how fractions are related to whole numbers. Students extend their skills with decimals and how they relate to fractions.</p> | <p>enVisionmath2.0 is strategically designed to maximize the student learning experience. Grade 4 devotes the entirety of Topic 1 (5 days) to expand understanding of the place value system. Topics 2-5 (37 days in total) explore and solidify how to use place value and properties of operation to perform multi-digit arithmetic. This includes building fluency in addition and subtraction of multi-digit whole numbers (Topic 2, 6 days), using strategies and properties to multiply by 1-digit numbers (Topic 3, 10 days), using strategies and properties to multiply by 2-digit numbers (Topic 4, 11 days), and using strategies and properties to divide by 1-digit numbers (Topic 5, 10 days). Then, in Topic 6 (5 days), students practice their understanding of the four operations with multi-digit numbers by using the operations to solve real-world and mathematical problems, including comparison situations and multi-step problems with whole numbers. Later in the academic year, students extend the concept of relating fractions, mixed numbers, and decimals in Topic 8 (7 days): <i>Extend Understanding of Fraction Equivalence and Ordering</i>, and Topic 12 (6 days): <i>Understand and Compare Decimals</i>.</p> <p>For a visual representation of the pacing guide and wheel, please see Appendix A. This is also available in the Teacher’s Edition Program Overview for Grade 4. On page 6, you will see a clear representation of the pacing wheel and how each of the standard clusters are represented throughout the curriculum. On page 23A of the Program Overview, the program pacing is listed by topic, content, and number of days each topic is covered. The pacing wheel is also accessible in each of the Grade 4 Teacher’s Editions (Vol. 1 and 2, page F4).</p> |

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| <p>STANDARD 2 – MULTIPLICATION OPERATIONS AND BASE TEN (1st & 2nd Quarter 14 days (E.I.T.) CCS 4NBT, 21 Days (E.I.T) CCS 4NBT) Students learn to multiply multi-digit numbers with fluency. They extend their understanding of the place value system and can apply it fluently. Students understand the special roles of 0 and 1 in multiplication and division. They can use models to represent division as an inverse of multiplication. Students determine the appropriateness of estimates versus exact answers.</p> | <p>enVisionmath2.0 enhances student fluency in multiplication of multi-digit numbers in Topics 3 (10 days): <i>Use Strategies and Properties to Multiply by 1-Digit Numbers</i>, and Topic 4 (11 days): <i>Use Strategies and Properties to Multiply by 2-Digit Numbers</i>. Students use strategies such as rounding, multiplying by multiples of 10, 100, and 1000, using the distributive property, using arrays, and other mental math strategies to deepen their understanding of multiplication. In Topic 5 (10 days): <i>Use Strategies and Properties to Divide by 1-Digit Numbers</i>, students learn strategies such as estimation, sharing, and using partial quotients to build fluency with division. enVisionmath2.0 integrates estimation into each topic that focus on using the four operations to solve problems. Examples of estimation can be found on the following pages in both the Student and Teacher editions: Topic 2: 53-58; Topic 3: 101-106; Topic 4: 183-188, 189-194; Topic 5: 259-264, 265-270</p> <p>For a visual representation of the pacing guide and wheel, please see Appendix A. This is also available in the Teacher’s Edition Program Overview for Grade 4. On page 6, you will see a clear representation of the pacing wheel and how each of the standard clusters are represented throughout the curriculum. On page 23A of the Program Overview, the program pacing is listed by topic, content, and number of days each topic is covered. The pacing wheel is also accessible in each of the Grade 4 Teacher’s Editions (Vol. 1 and 2, page F4).</p> |

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| <p>STANDARD 3 – FRACTIONS AND DECIMALS (2nd and 3rd Quarters) 23 Days (E.I.T) CCS 4NF 30 Days (E.I.T) CCS 4NF) Students learn to apply and extend previous understanding of numbers to the system of rational numbers. They explain why a fraction is equivalent to another fraction using visual fraction models. They can compare two fractions with different numerators and denominators by creating common denominators or numerators. They learn to apply and extend previous understandings of multiplication to multiply a fraction by a whole number. Students understand decimal notation for fractions and compare decimal fractions.</p> | <p>Grade 4 extends students’ understanding of rational numbers in Topic 8 (7 days): <i>Extend Understanding of Fraction Equivalence and Ordering</i>. Students use area models, number lines, and generate equivalent fractions using multiplication and division. They also use benchmark fractions to compare and further understand the size of different fractions. Topic 9 (11 days): <i>Understand Addition and Subtraction of Fractions</i> helps students to use common denominators to perform both addition and subtraction with fractional problems. Topic 10 (6 days): <i>Extend Multiplication Concepts to Fractions</i> begins with students using models to represent unit fractions and also includes using models and symbols to multiply fractions and mixed numbers by whole numbers. Students again expand their understanding of fractions to decimals in Topic 12 (6 days): <i>Understand and Compare Decimals</i>.</p> <p>For a visual representation of the pacing guide and wheel, please see Appendix A. This is also available in the Teacher’s Edition Program Overview for Grade 4. On page 6, you will see a clear representation of the pacing wheel and how each of the standard clusters are represented throughout the curriculum. On page 23A of the Program Overview, the program pacing is listed by topic, content, and number of days each topic is covered. The pacing wheel is also accessible in each of the Grade 4 Teacher’s Editions (Vol. 1 and 2, page F4).</p> |

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| <p>STANDARD 4 – MEASUREMENT AND DATA (3rd and 4th Quarters 14 days (E.I.T.) CCS 4MO, 15 days (E.I.T) CCS 4MO) Students learn to solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. Students learn how to apply the area and perimeter formulas for rectangles and how to construct a line plot to display a data set of measurements in fractions by using the given information. Students learn to measure angles in whole numbers using protractors.</p> | <p>enVisionmath2.0 devotes Topic 13 (7 days): <i>Measurement: Find Equivalence in Units of Measure</i> to building understanding and fluency in converting units of both customary and metric measurements. Length, capacity, weight, and mass are all covered in this topic. Students also use fractions to apply to formulas to solve perimeter and area problems. In Topic 15 (6 days): <i>Geometric Measurement: Understand Concepts of Angles and Angle Measurement</i>, students learn about angles and ways to draw, measure, and solve problems about angle measurements.</p> <p>For a visual representation of the pacing guide and wheel, please see Appendix A. This is also available in the Teacher’s Edition Program Overview for Grade 4. On page 6, you will see a clear representation of the pacing wheel and how each of the standard clusters are represented throughout the curriculum. On page 23A of the Program Overview, the program pacing is listed by topic, content, and number of days each topic is covered. The pacing wheel is also accessible in each of the Grade 4 Teacher’s Editions (Vol. 1 and 2, page F4).</p> |

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| <p>STANDARD 5 – GEOMETRY (4th Quarter 29 days (E.I.T) CCS 4G)</p> <p>Students learn to draw and identify lines and angles and classify shapes by properties of their lines and angles. They identify, describe and draw such concepts as acute angle and parallel lines. They describe shapes and objects, including special quadrilaterals such as rhombuses and trapezoids. Students identify congruent quadrilaterals and explain their reasoning using specific geometric terms. Students draw lines of symmetry for various polygons and they construct cubes and prisms developing their ability to work in three dimensions.</p> | <p>Students apply their understanding of lines and angles in Topic 16 (6 days): <i>Lines, Angles, and Shapes</i>. Students draw and identify perpendicular, parallel, and intersecting lines, classify triangles by line segments and angles, and classify quadrilaterals by lines and angles. Students also explore symmetry by drawing lines of symmetry and identifying symmetric figures.</p> <p>For a visual representation of the pacing guide and wheel, please see Appendix A. This is also available in the Teacher’s Edition Program Overview for Grade 4. On page 6, you will see a clear representation of the pacing wheel and how each of the standard clusters are represented throughout the curriculum. On page 23A of the Program Overview, the program pacing is listed by topic, content, and number of days each topic is covered. The pacing wheel is also accessible in each of the Grade 4 Teacher’s Editions (Vol. 1 and 2, page F4).</p> |

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| Archdiocese of Cincinnati Mathematical Standards Grade 4 | enVisionmath2.0 Grade 4 |
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| Mathematical Practices | |
| 1. Make sense of problems and persevere in solving them. | <p>This standard is met throughout enVisionmath2.0 Grade 4, for examples please see:</p> <p>SE: F21; Topic 1: 32; Topic 2: 60, 70; Topic 3: 152; Topic 4: 232; Topic 5: 284; Topic 6: 334; Topic 7: 394; Topic 8: 429, 435; Topic 9: 484; Topic 10: 578; Topic 11: 598; Topic 12: 651; Topic 13: 704; Topic 14: 740, 746; Topic 15: 806; Topic 16: 846</p> <p>TE: F21-F21A; Topic 1: 32; Topic 2: 60, 70; Topic 3: 152; Topic 4: 232; Topic 5: 284; Topic 6: 334; Topic 7: 394; Topic 8: 429, 435; Topic 9: 484; Topic 10: 578; Topic 11: 598; Topic 12: 651; Topic 13: 704; Topic 14: 740, 746; Topic 15: 806; Topic 16: 846</p> |
| 2. Reason abstractly and quantitatively. | <p>This standard is met throughout enVisionmath2.0 Grade 4, for examples please see:</p> <p>SE: F22; Topic 1: 7-8; Topic 2: 78-80; Topic 3: 154; Topic 4: 172-174; Topic 5: 302-304, 308; Topic 6: 329; Topic 7: 376-377; Topic 8: 423; Topic 9: 514, 520; Topic 10: 544; Topic 11: 592; Topic 12: 652; Topic 13: 720; Topic 14: 746; Topic 15: 777, 795; Topic 16: 834</p> <p>TE: F22-F22A; Topic 1: 7-8; Topic 2: 78-80; Topic 3: 154; Topic 4: 172-174; Topic 5: 302-304, 308; Topic 6: 329; Topic 7: 376-377; Topic 8: 423A-423; Topic 9: 514, 520; Topic 10: 544; Topic 11: 592; Topic 12: 652; Topic 13: 720; Topic 14: 746; Topic 15: 777A-777, 795A-795; Topic 16: 834</p> |
| 3. Construct viable arguments and critique the reasoning of others. | <p>This standard is met throughout enVisionmath2.0 Grade 4, for examples please see:</p> <p>SE: F23; Topic 1: 33-34; Topic 2: 70; Topic 3: 132, 136; Topic 4: 192; Topic 5: 296-297; Topic 6: 334; Topic 7: 370; Topic 8: 442, 447; Topic 9: 502; Topic 10: 562; Topic 11: 598; Topic 12: 640; Topic 13: 711; Topic 14: 734; Topic 15: 784, 788; Topic 16: 851</p> |

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| (Continued) 3. Construct viable arguments and critique the reasoning of others. | TE: F23-F23A; Topic 1: 33-34; Topic 2: 70; Topic 3: 132, 136; Topic 4: 192; Topic 5: 296-297; Topic 6: 334; Topic 7: 370; Topic 8: 442, 447; Topic 9: 502; Topic 10: 562; Topic 11: 598; Topic 12: 640; Topic 13: 711; Topic 14: 734; Topic 15: 784, 788; Topic 16: 851 |
| 4. Model with mathematics. | This standard is met throughout enVisionmath2.0 Grade 4 , for examples please see: SE: F24; Topic 1: 17, 22; Topic 2: 80; Topic 3: 150-152; Topic 4: 208; Topic 5: 307, 309-310; Topic 6: 346; Topic 8: 430; Topic 9: 526-528, 529; Topic 10: 573; Topic 11: 592; Topic 12: 628; Topic 13: 718, 720; Topic 15: 806; Topic 16: 846, 850 TE: F24-F24A; Topic 1: 17A-17, 22; Topic 2: 80; Topic 3: 150-152; Topic 4: 208; Topic 5: 307, 309-310; Topic 6: 346; Topic 8: 430; Topic 9: 526-528, 529; Topic 10: 573A-573; Topic 11: 592; Topic 12: 628; Topic 13: 718, 720; Topic 15: 806; Topic 16: 846, 850 |
| 5. Use appropriate tools strategically. | This standard is met throughout enVisionmath2.0 Grade 4 , for examples please see: SE: F25; Topic 1: 8, 23; Topic 2: 76; Topic 3: 119; Topic 4: 177; Topic 5: 277-278; Topic 6: 327; Topic 7: 375; Topic 8: 450; Topic 9: 465-466, 471-472; Topic 10: 567; Topic 11: 603; Topic 12: 642, 645; Topic 13: 697; Topic 14: 738; Topic 15: 789; Topic 16: 839 TE: F25-F25A; Topic 1: 8, 27-28; Topic 2: 76; Topic 3: 119; Topic 4: 177; Topic 5: 277-278; Topic 6: 327; Topic 7: 375; Topic 8: 450; Topic 9: 465-466, 471-472; 10: 567; Topic 11: 603; Topic 12: 642, 645; Topic 13: 697; Topic 14: 738; Topic 15: 789, Topic 16: 839 |

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| 6. Attend to precision. | <p>This standard is met throughout enVisionmath2.0 Grade 4, for examples please see:</p> <p>SE: F26; Topic 1: 5; Topic 2: 52, 54; Topic 3: 143, 149; Topic 4: 226, 234; Topic 5: 310; Topic 6: 354; Topic 7: 388; Topic 8: 429; Topic 10: 573, 578; Topic 11: 597; Topic 12: 660; Topic 13: 715-718; Topic 14: 746; Topic 15: 790-791; Topic 16: 828</p> <p>TE: F26-F26A; Topic 1: 5A-5; Topic 2: 52, 54; Topic 3: 143A-143, 149; Topic 4: 226, 234; Topic 5: 310; Topic 6: 354; Topic 7: 388; Topic 8: 429; Topic 10: 573, 578; Topic 11: 597A-597; Topic 12: 660; Topic 13: 715A-718; Topic 14: 746; Topic 15: 790-791; Topic 16: 828</p> |
| 7. Look for and make use of structure. | <p>This standard is met throughout enVisionmath2.0 Grade 4, for examples please see:</p> <p>SE: F27; Topic 1: 6, 18; Topic 2: 49; Topic 3: 127; Topic 4: 171; Topic 6: 340; Topic 8: 418; Topic 9: 490, 514; Topic 10: 551, 563; Topic 11: 591; Topic 12: 658-660, 661; Topic 13: 679; Topic 14: 752-754; Topic 15: 790, 795; Topic 16: 840</p> <p>TE: F27-F27A; Topic 1: 6, 18; Topic 2: 49; Topic 3: 127; Topic 4: 171A-171; Topic 6: 340; Topic 8: 418; Topic 9: 490, 514; Topic 10: 551, 563; Topic 11: 591A-591; Topic 12: 658-660, 661; Topic 13: 679A-679; Topic 14: 752-754; Topic 15: 790, 795A-795; Topic 16: 840</p> |
| 8. Look for and express regularity in repeated reasoning. | <p>This standard is met throughout enVisionmath2.0 Grade 4, for examples please see:</p> <p>SE: F28; Topic 1: 11; Topic 2: 71; Topic 3: 138; Topic 4: 196, 225; Topic 5: 312; Topic 7: 381-383, 387-388; Topic 8: 435; Topic 9: 501; Topic 10: 550; Topic 11: 603; Topic 12: 651-652; Topic 13: 680-681, 692; Topic 14: 734; Topic 15: 784, 788; Topic 16: 838</p> |

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| (Continued) 8. Look for and express regularity in repeated reasoning. | TE: F28-F28A; Topic 1: 11A-11; Topic 2: 71A-71; Topic 3: 138; Topic 4: 196, 225A-225; Topic 5: 312; Topic 7: 381A-383, 387-388; Topic 8: 435A-435; Topic 9: 501; Topic 10: 550; Topic 11: 603A-603; Topic 12: 651A-652; Topic 13: 680-681, 692; Topic 14: 734; Topic 15: 784, 788; Topic 16: 838 |
| STANDARD 1 – BASIC FACTS AND ALGEBRAIC THINKING | |
| M.4.1.1 Use and describe various models for multiplication in problem-solving situations and demonstrate recall of basic multiplication and related division facts with ease. | SE: Topic 3: 95-100, 101-106, 113-118, 119-124, 125-130, 149-154; Reteaching: 157-160, Sets A-H; Topic 4: 177-182, 195-200, 201-206, 207-212, 213-218, 219-224, 225-230, 231-236; Reteaching: 239-242, Sets A-J TE: Topic 3: 95A-100, 101A-106, 113A-118, 119A-124, 125A-130, 149A-154; Reteaching: 157-160, Sets A-H; Topic 4: 177A-182, 195A-200, 201A-206, 207A-212, 213A-218, 219A-224, 225A-230, 231A-236; Reteaching: 239-242, Sets A-J |
| M.4.1.2 Generate algebraic rules and use all four operations to describe patterns, including non-numeric growing or repeating patterns. | SE: Topic 14: 733-738, 739-744, 745-750, 751-756 Reteaching: 759-760, Sets A-D TE: Topic 14: 733A-738, 739A-744, 745A-750, 751A-756 Reteaching: 759-760, Sets A-D |
| M.4.1.3 Describe mathematics relationships using expressions, equations and visual representations. | SE: Topic 14: 733-738, 739-744, 745-750, 751-756 Reteaching: 759-760, Sets A-D TE: Topic 14: 733A-738, 739A-744, 745A-750, 751A-756 Reteaching: 759-760, Sets A-D |
| M.4.1.4 Recognize and write algebraic expressions for functions with two operations. | SE: Topic 14: 733-738, 739-744, 745-750, 751-756 Reteaching: 759-760, Sets A-D TE: Topic 14: 733A-738, 739A-744, 745A-750, 751A-756 Reteaching: 759-760, Sets A-D |

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| M.4.1.5 Use and represent numbers through millions in various contexts including estimation of relative sizes of amounts of distance. | <p>SE: Topic 1: 5-10, 11-16, 17-22, 29-34; Reteaching: 37-38, Sets A-C, E</p> <p>TE: Topic 1: 5A-10, 11A-16, 17A-22, 29A-34; Reteaching: 37-38, Sets A-C, E</p> |
| M.4.1.6 Estimate and describe reasonable estimates; determine an appropriate estimate versus an exact answer. | <p>SE: Topic 2: 53-58; Reteaching: 85-86, Sets B, D-E; Topic 3: 101-106; Reteaching: 157-160, Sets B, F-G; Topic 4: 183-188, 189-194; Reteaching: 240-242, Sets C-D, I; Topic 5: 259-264, 265-270; Reteaching: 315-318, Sets B, F-G; Topic 9: 501-506; Reteaching: 534, Set D</p> <p>TE: SE: Topic 2: 53A-58; Reteaching: 85-86, Sets B, D-E; Topic 3: 101A-106; Reteaching: 157-160, Sets B, F-G; Topic 4: 183A-188, 189A-194; Reteaching: 240-242, Sets C-D, I; Topic 5: 259A-264, 265A-270; Reteaching: 315-318, Sets B, F-G; Topic 9: 501A-506; Reteaching: 534, Set D</p> |
| M.4.1.7 Solve multi-step word problems posed with whole numbers and having whole numbers answers using the four operations including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the answer using mental computation and estimation strategies including rounding. | <p>SE: Topic 2: 53-58, 59-64, 65-70, 77-82; Reteaching: 85-86, Sets B-D, F; Topic 3: 101-106, 131-136, 137-142, 143-148, 149-154; Reteaching: 157-160, Sets B, F-G; Topic 4: 171-176, 183-188, 195-200, 207-212, 213-218, 219-224, 225-230, 231-236; Reteaching: 239-242, Sets A, C, E, G-J; Topic 5: 277-282, 283-288, 289-294, 307-312; Reteaching: 316-318, Sets D-E, H; Topic 6: 339-344, 345-350, 351-356; Reteaching: 359-360, Sets C-E</p> <p>TE: Topic 2: 53A-58, 59A-64, 65A-70, 77A-82; Reteaching: 85-86, Sets B-D, F; Topic 3: 101A-106, 131A-136, 137A-142, 143A-148, 149A-154; Reteaching: 157-160, Sets B, F-G; Topic 4: 171A-176, 183A-188, 195A-200, 207A-212, 213A-218, 219A-224, 225A-230, 231A-236; Reteaching: 239-242, Sets A, C, E, G-J; Topic 5: 277A-282, 283A-288, 289A-294, 307A-312; Reteaching: 316-318, Sets D-E, H; Topic 6: 339A-344, 345A-350, 351A-356; Reteaching: 359-360, Sets C-E</p> |

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| STANDARD 2 OPERATIONS AND BASE TEN | |
| <p>M.4.2.1 Add, subtract, multiply and divide multi-digit whole numbers through four digits fluently, demonstrating understanding of the standard algorithms and checking for reasonableness of results including solving real-world problems.</p> | <p>SE: Topic 2: 47-52, 53-58, 59-64, 65-70, 71-76, 77-82; Reteaching: 85-85, Sets A-F; Topic 3: 95-100, 101-106, 107-112, 113-118, 119-124, 124-130, 131-136, 137-142, 143-148, 149-154; Reteaching: 157-160, Sets A-H; Topic 4: 171-176, 177-182, 183-188, 189-194, 195-200, 201-206, 207-212, 213-218, 219-224, 225-230, 231-236; Reteaching: 239-242, Sets A-J; Topic 5: 253-258, 259-264, 265-270, 271-276, 277-282, 283-288, 289-294, 295-300, 301-306, 307-312; Reteaching: 315-318, Sets A-H; Topic 6: 327-332, 333-338, 339-344, 345-350, 351-356; Reteaching: 359-360, Sets A-E; Topic 7: 381-386; Reteaching: 401, Set C; Topic 13: 709-714, 715-720; Reteaching: 724, Sets C-D</p> <p>TE: Topic 2: 47A-52, 53A-58, 59A-64, 65A-70, 71A-76, 77A-82; Reteaching: 85-85, Sets A-F; Topic 3: 95A-100, 101A-106, 107A-112, 113A-118, 119A-124, 124A-130, 131A-136, 137A-142, 143A-148, 149A-154; Reteaching: 157-160, Sets A-H; Topic 4: 171A-176, 177A-182, 183A-188, 189A-194, 195A-200, 201A-206, 207A-212, 213A-218, 219A-224, 225A-230, 231A-236; Reteaching: 239-242, Sets A-J; Topic 5: 253A-258, 259A-264, 265A-270, 271A-276, 277A-282, 283A-288, 289A-294, 295A-300, 301A-306, 307A-312; Reteaching: 315-318, Sets A-H; Topic 6: 327A-332, 333A-338, 339A-344, 345A-350, 351A-356; Reteaching: 359-360, Sets A-E; Topic 7: 381A-386; Reteaching: 401, Set C; Topic 13: 709A-714, 715-720; Reteaching: 724, Sets C-D</p> |
| <p>M.4.2.2 Use models to represent division as the inverse of multiplication, as partitioning and as successive subtraction.</p> | <p>SE: Topic 5: 253-258, 259-264, 265-270, 271-276, 277-282, 283-288, 289-294, 295-300, 301-306, 307-312; Reteaching: 315-318, Sets A-H; Topic 6: 333-338, 339-344, 345-350, 351-356; Reteaching: 359-360, Sets B-E</p> <p>TE: Topic 5: 253A-258, 259A-264, 265A-270, 271A-276, 277A-282, 283A-288, 289A-294, 295A-300, 301A-306, 307A-312; Reteaching: 315-318, Sets A-H; Topic 6: 333A-338, 339A-344, 345A-350, 351A-356; Reteaching: 359-360, Sets B-E</p> |

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| M.4.2.3 Estimate and describe reasonable estimates; determine the appropriateness of an estimate versus an exact answer. | <p>SE: Topic 2: 53-58; Reteaching: 85-86, Sets B, D-E; Topic 3: 101-106; Reteaching: 157-160, Sets B, F-G; Topic 4: 183-188, 189-194; Reteaching: 240-242, Sets C-D, I; Topic 5: 259-264, 265-270; Reteaching: 315-318, Sets B, F-G; Topic 9: 501-506; Reteaching: 534, Set D</p> <p>TE: SE: Topic 2: 53A-58; Reteaching: 85-86, Sets B, D-E; Topic 3: 101A-106; Reteaching: 157-160, Sets B, F-G; Topic 4: 183A-188, 189A-194; Reteaching: 240-242, Sets C-D, I; Topic 5: 259A-264, 265A-270; Reteaching: 315-318, Sets B, F-G; Topic 9: 501A-506; Reteaching: 534, Set D</p> |
| M.4.2.4 Read, write, and round multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers using $<$, $=$, and $>$ symbols to record the results of comparisons. | <p>SE: Topic 1: 5-10, 11-16, 17-22, 23-28, 29-34; Reteaching: 37-38, Sets A-E</p> <p>TE: Topic 1: 5A-10, 11A-16, 17A-22, 23A-28, 29A-34; Reteaching: 37-38, Sets A-E</p> |
| STANDARD 3 – FRACTIONS AND DECIMALS | |
| M.4.3.1 Compare, order and estimate fraction and decimal amounts in real-world problems. | <p>SE: Topic 8: 435-440, 441-446, 447-452; Reteaching: 456, Sets C-D; Topic 12: 639-644, 657-662; Reteaching: 665-666, Sets C, F</p> <p>TE: Topic 8: 435A-440, 441A-446, 447A-452; Reteaching: 456, Sets C-D; Topic 12: 639A-644, 657A-662; Reteaching: 665-666, Sets C, F</p> |
| M.4.3.2 Generate and explain why a fraction is equivalent to another fraction by using visual models and simplify fractions. | <p>SE: Topic 8: 411-416, 417-422, 423-428, 429-434, 435-440, 441-446, 447-452; Reteaching: 455-456, Sets A-D; Topic 11: 597-602; Reteaching: 617, Set B</p> <p>TE: Topic 8: 411A-416, 417A-422, 423A-428, 429A-434, 435A-440, 441A-446, 447A-452; Reteaching: 455-456, Sets A-D; Topic 11: 597A-602; Reteaching: 617, Set B</p> |

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| M.4.3.3 Determine factors and multiples for a whole number in the range of 1-100. | SE: Topic 7: 369-374, 375-380, 381-386, 387-392, 393-398; Reteaching: 401-402, Sets A-E TE: Topic 7: 369A-374, 375A-380, 381A-386, 387A-392, 393A-398; Reteaching: 401-402, Sets A-E |
| M.4.3.4 Use decimals through the thousandths (hundredths) place to name numbers between whole numbers. | SE: Topic 12: 639-644, 657-662; Reteaching: 665-666, Sets C, F TE: Topic 12: 639A-644, 657A-662; Reteaching: 665-666, Sets C, F |
| M.4.3.5 Describe decimals as an extension of the base ten number system. | SE: Topic 12: 627-632, 633-638, 639-644, 645-650, 651-656, 657-662; Reteaching: 665-666, Sets A-F TE: Topic 12: 627A-632, 633A-638, 639A-644, 645A-650, 651A-656, 657A-662; Reteaching: 665-666, Sets A-F |
| M.4.3.6 Relate equivalent fractions and decimals with and without models including location on a number line. | SE: Topic 12: 645-650; Reteaching: 666, Set D TE: Topic 12: 645A-650; Reteaching: 666, Set D |
| M.4.3.7 Compare and order decimals and estimate fractions and decimal amounts in real-world problems. | SE: Topic 12: 639-644, 657-662; Reteaching: 665-666, Sets C, F TE: Topic 12: 639A-644, 657A-662; Reteaching: 665-666, Sets C, F |
| M.4.3.8 Relate halves, fourths, tenths and hundredths to decimals and percents. | SE: Topic 12: 627-632, 633-638; Reteaching: 665, Sets A-B TE: Topic 12: 627A-632, 633A-638; Reteaching: 665, Sets A-B |

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| M.4.3.9 Add, subtract, and multiply fractions and mixed numbers with like denominators. | <p>SE: Topic 9: 477-482, 489-494, 507-512, 513-518, 519-524, 525-530; Reteaching: 533-534, Sets A-B, E-F; Topic 10: 543-548, 549-554, 555-560, 561-566, 567-572, 573-578; Reteaching: 581-582, Sets A-F; Topic 11: 603-608; Reteaching: 618, Set C; Topic 13: 679-684, 685-690, 691-696, 703-708, 709-714; Reteaching: 723-724, Sets A-C</p> <p>TE: Topic 9: 477A-482, 489A-494, 507A-512, 513A-518, 519A-524, 525A-530; Reteaching: 533-534, Sets A-B, E-F; Topic 10: 543A-548, 549A-554, 555A-560, 561A-566, 567A-572, 573A-578; Reteaching: 581-582, Sets A-F; Topic 11: 603A-608; Reteaching: 618, Set C; Topic 13: 679A-684, 685A-690, 691A-696, 703A-708, 709A-714; Reteaching: 723-724, Sets A-C</p> |
| STANDARD 4 – MEASUREMENT/DATA | |
| M.4.4.1 Compare relative sizes of measurement units within one system of units and record measurement equivalents in a two-column table (i.e. 4 feet or 48 inches). | <p>SE: Topic 13: 679-684, 685-690, 691-696, 697-702, 703-708; Reteaching: 723, Sets A-B</p> <p>TE: Topic 13: 679A-684, 685A-690, 691A-696, 697A-702, 703A-708; Reteaching: 723, Sets A-B</p> |
| M.4.4.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects and money. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. | <p>SE: Topic 10: 567-572, 573-578; Reteaching: 582, Sets E-F; Topic 12: 639-644, 651-656, 657-662; Reteaching: 665-666, Sets C, E-F; Topic 13: 679-684, 685-690, 691-696, 697-702, 703-708, 709-714, 715-720; Reteaching: 723-724, Sets A-D</p> <p>TE: Topic 10: 567A-572, 573A-578; Reteaching: 582, Sets E-F; Topic 12: 639A-644, 651A-656, 657A-662; Reteaching: 665-666, Sets C, E-F; Topic 13: 679A-684, 685A-690, 691A-696, 697A-702, 703A-708, 709A-714, 715A-720; Reteaching: 723-724, Sets A-D</p> |
| M.4.4.3 Describe and determine area as the number of same-sized units that cover a region in the plane, recognizing that a unit is the standard unit for measuring area. | <p>SE: Topic 13: 709-714; Reteaching: 724, Set C</p> <p>TE: Topic 13: 709A-714; Reteaching: 724, Set C</p> |

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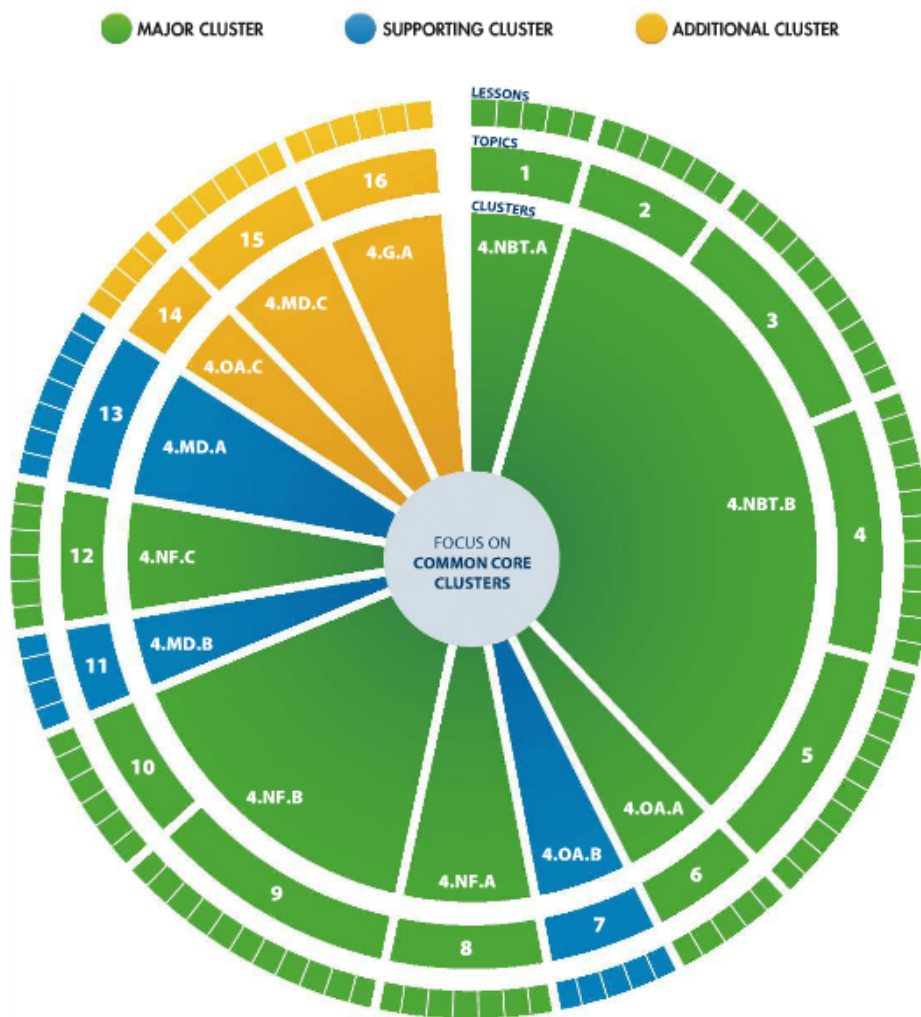
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| M.4.4.4 Solve problems involving addition and subtraction of fractions by using information presented in line plots. | SE: Topic 11: 591-596, 597-602, 603-608, 609-614; Reteaching: 617-618, Sets A-D TE: Topic 11: 591A-596, 597A-602, 603A-608, 609A-614; Reteaching: 617-618, Sets A-D |
| M.4.4.5 Recognize angles as geometric shapes that are formed by a common shared endpoint and understand concepts of angle measurement. | SE: Topic 15: 771-776; Reteaching: 809, Set A TE: Topic 15: 771A-776; Reteaching: 809, Set A |
| M.4.4.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure. | SE: Topic 15: 789-794, 801-806; Reteaching: 810, Sets D, F TE: Topic 15: 789A-794, 801A-806; Reteaching: 810, Sets D, F |
| M.4.4.7 Apply the area and perimeter formulas for rectangles for real-world mathematics problems. | SE: Topic 13: 709-714, 715-720; Reteaching: 724, Sets C-D TE: Topic 13: 709A-714, 715A-720; Reteaching: 724, Sets C-D |
| STANDARD 5 – GEOMETRY | |
| M.4.5.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse) and perpendicular and parallel lines. Identify these in two-dimensional figures. | SE: Topic 15: 771-776; Reteaching: 809, Set A; Topic 16: 821-826; Reteaching: 859, Set A TE: Topic 15: 771A-776; Reteaching: 809, Set A; Topic 16: 821A-826; Reteaching: 859, Set A |
| M.4.5.2 Classify angles of two-dimensional shapes using benchmarks (45°, 90°, 180° and 360°). | SE: Topic 15: 783-788, 789-794, 801-806; Reteaching: Sets B-C; Topic 16: 827-832, 833-838; Reteaching: 859, Sets B-C TE: Topic 15: 783A-788, 789A-794, 801A-806; Reteaching: Sets B-C; Topic 16: 827A-832, 833A-838; Reteaching: 859, Sets B-C |

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| M.4.5.3 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines or the presence or absence of angles of a specified size. Recognize right triangles as a category and identify right triangles. | <p>SE: Topic 16: 827-832, 833-838, 851-856; Reteaching: 859-860, Sets B-C, F</p> <p>TE: Topic 16: 827A-832, 833A-838, 851A-856; Reteaching: 859-860, Sets B-C, F</p> |
| M.4.5.4 Identify and describe the results of translations, reflections and rotations of 45, 90, 180, 270 and 360 degrees including figures with line and rotational symmetry. | <p>For related content, please see: SE: Topic 16: 839-844, 845-850; Reteaching: 860, Sets D-E</p> <p>TE: Topic 16: 839A-844, 845A-850; Reteaching: 860, Sets D-E</p> |
| M.4.5.5 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry. | <p>SE: Topic 16: 839-844, 845-850; Reteaching: 860, Sets D-E</p> <p>TE: Topic 16: 839A-844, 845A-850; Reteaching: 860, Sets D-E</p> |
| M.4.5.6 Identify and build a three-dimensional object from a two-dimensional representation of that object and vice versa. | <p>For supporting content, please see: SE: Topic 13: 709-714</p> <p>TE: Topic 13: 709A-714</p> |

Appendix A
Pacing Wheel and Pacing Guide

GRADE 4 CONTENTS



COMMON CORE DOMAINS

4.OA OPERATIONS AND ALGEBRAIC THINKING
4.NBT NUMBER AND OPERATIONS IN BASE TEN
4.NF NUMBER AND OPERATIONS—FRACTIONS

4.MD MEASUREMENT AND DATA
4.G GEOMETRY

GRADE 4 PACING GUIDE

A Program Paced for Success

The pacing below assumes 1 lesson per day. Additional time may be spent on review, remediation, fluency practice, differentiation, and assessment as needed.

● Major Cluster ● Supporting Cluster ● Additional Cluster

| VOLUME 1 | | |
|--------------|--|-----------------|
| TOPIC 1 | Generalize Place Value Understanding | 5 DAYS |
| TOPIC 2 | Fluently Add and Subtract Multi-Digit Whole Numbers | 6 DAYS |
| TOPIC 3 | Use Strategies and Properties to Multiply by 1-Digit Numbers | 10 DAYS |
| TOPIC 4 | Use Strategies and Properties to Multiply by 2-Digit Numbers | 11 DAYS |
| TOPIC 5 | Use Strategies and Properties to Divide by 1-Digit Numbers | 10 DAYS |
| TOPIC 6 | Use Operations with Whole Numbers to Solve Problems | 5 DAYS |
| TOPIC 7 | Factors and Multiples | 5 DAYS |
| VOLUME 2 | | |
| TOPIC 8 | Extend Understanding of Fraction Equivalence and Ordering | 7 DAYS |
| TOPIC 9 | Understand Addition and Subtraction of Fractions | 11 DAYS |
| TOPIC 10 | Extend Multiplication Concepts to Fractions | 6 DAYS |
| TOPIC 11 | Represent and Interpret Data on Line Plots | 4 DAYS |
| TOPIC 12 | Understand and Compare Decimals | 6 DAYS |
| TOPIC 13 | Measurement: Find Equivalence in Units of Measure | 7 DAYS |
| TOPIC 14 | Algebra: Generate and Analyze Patterns | 4 DAYS |
| TOPIC 15 | Geometric Measurement: Understand Concepts of Angles and Angle Measurement | 6 DAYS |
| TOPIC 16 | Lines, Angles, and Shapes | 6 DAYS |
| TOTAL | | 109 DAYS |

STEP UP LESSONS are an additional 10 days.