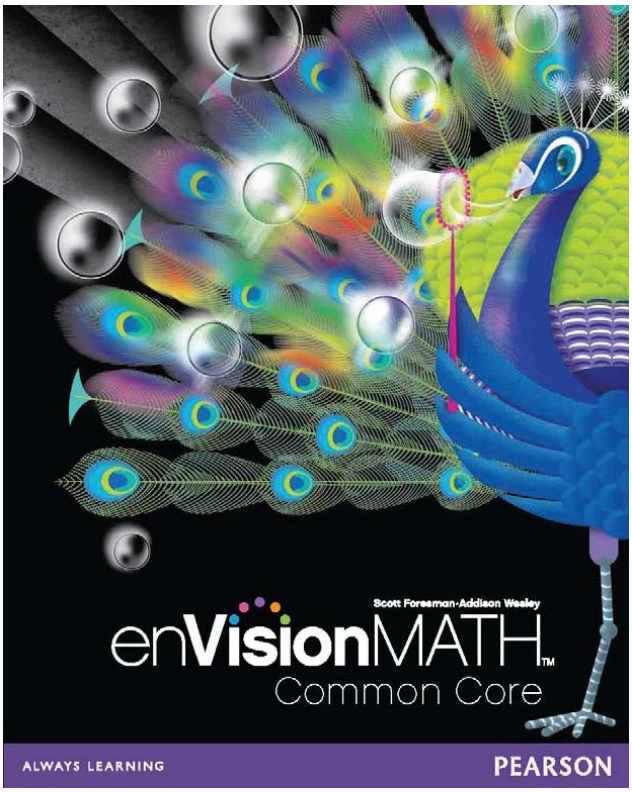
A Correlation of

Scott Foresman·Addison Wesley
enVisionMATH™
Common Core

©2012



to the

Common Core State Standards for Mathematics

Grade 5

Introduction

This document demonstrates how ***enVisionMATH Common Core*** ©2012 aligns to the Common Core State Standards for Mathematics, Grade 5. Correlation page references are to the Teacher's Edition. Lessons in the Teacher's Edition include facsimile pages of the Student Edition.

enVisionMATH Common Core was written specifically to address the Common Core State Standards and is based on critical foundational research and proven classroom results. It is organized and color-coded by the Common Core Domains, so teaching is highly focused, manageable, and coherent. ***enVisionMATH Common Core*** teaches all of the standards for mathematical content within a powerful concept-development skeleton grounded on big ideas of mathematics and related essential understandings.

The straightforward 4-Part lesson structure communicates daily to teachers both the Standards for Mathematical Content and Standards for Mathematical Practice that need to be developed with students and the conceptual underpinnings that need to be understood.

enVisionMATH Common Core provides deep conceptual development and understanding through daily Problem-Based Interactive Learning as a core part of instruction. This daily Interactive Learning is then connected with Visual Learning.

The ***enVisionMATH Common Core*** Student Edition presents content in more visual ways. Page layouts are clean, open, predictable, and easy-to-use. All art is functional, promoting understanding or providing data needed for problems. Visual models are consistent and, whenever possible, the visual and physical models remain the same across lessons to make teaching and learning easier.

The ***enVisionMATH Common Core*** Teacher's Edition provides an instructional plan for each lesson that reflects the work that highly effective teachers do in the classroom. The Teacher's Edition is visually appealing, easily connecting information (e.g. questions) to its point of use in the text. Teaching is grounded on rich questions and classroom conversations.

Assessment in ***enVisionMATH Common Core*** is an integral part of instruction, not an interruption. Both skills and understanding are assessed on a daily basis. Daily formative assessment leads to data-driven differentiated instruction, as well as information for interpreting results (diagnosis) and intervention tasks.

Table of Contents

Common Core State Standards for Mathematics Mathematical Practices	**enVisionMATH *Common Core* Grade 5**
1. Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.	***enVisionMATH Common Core*** is built on a foundation of problem-based instruction that has sense-making at its heart. Each topic includes at least one *problem-solving lesson* in which students focus on honing their sense-making and problem-solving skills. Each lesson begins with *Problem-Based Interactive Learning,* 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. **SE / TE:** Topic 1: 10, 18-21; Topic 2: 32, 33, 38, 44-45, 47, 50-53; Topic 3: 69, 77, 79, 82-83; Topic 4: 96-97, 108, 110A-111; Topic 5: 125, 127, 136-137; Topic 6: 147, 154, 157, 160-161; Topic 7: 182-185; Topic 8: 209, 211, 212-213; Topic 9: 225, 226-227, 240-243; Topic 10: 261, 266-267; Topic 11: 277, 287, 292-293, 295, 298-299; Topic 12: 312-313, 322-323; Topic 13: 333, 343, 344-345; Topic 14: 357, 362-363; Topic 15: 382-383; Topic 16: 394, 398-399, 404-405 **TE:** Topic 1: 8B, 12B, 16B; Topic 2: 46B, 50B; Topic 4: 96B; Topic 5: 126B; Topic 9: 238B; Topic 10: 260B, 264B; Topic 11: 288B; Topic 13: 332B, 342B, 344B; Topic 14: 360B; Topic 16: 389B

Common Core State Standards for Mathematics Mathematical Practices	**enVisionMATH *Common Core* Grade 5**
2. Reason abstractly and quantitatively. Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to 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 the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.	***enVisionMATH Common Core*** provides scaffolded instruction to help students develop both quantitative and abstract reasoning. In the *Visual Learning Bridge,* 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. Reasonableness exercises remind students to compare their work to the original situation. In the *Do You Understand?* part of the Guided Practice, students gain experiences with quantitative reasoning as they consider the meaning of different parts of an expression or equation. Reasoning problems throughout the exercise sets focus students' attention on the structure or meaning of an operation, for example, rather than merely the solution. **SE / TE:** Topic 1: 7, 16, 17; Topic 2: 32, 34, 47, 48; Topic 3: 65, 66, 68, 69, 71; Topic 4: 92, 93, 99, 104; Topic 5: 120, 124, 126, 130, 137; Topic 6: 150, 151, 154; Topic 7: 176, 181; Topic 8: 200, 201, 208, 211; Topic 9: 223, 225, 227, 229, 231, 233, 235, 236, 239; Topic 10: 253, 260, 262; Topic 11: 276, 277, 278, 280, 281, 284, 289, 290, 295; Topic 12: 309, 311, 315, 320, 321; Topic 13: 332, 333, 335; Topic 14: 354; Topic 15: 373; Topic 16: 397, 400, 402, 403 **TE:** Topic 1: 2G, 6B, 12B, 16B, 18B; Topic 2: 27B, 30B, 44B, 46B, 48B, 50B; Topic 3: 64B, 66B, 68B, 78B ; Topic 4: 89B, 94B, 102B, 106B; Topic 5: 117A, 122B, 126B, 134B; Topic 8: 206B; Topic 10: 260B, 262B; Topic 11: 280B, 282B; Topic 12: 310B, 312B, 314B; Topic 13: 332B, 336B, 338B; Topic 14: 351B, 256B

Common Core State Standards for Mathematics Mathematical Practices	**enVisionMATH *Common Core* Grade 5**
3. Construct viable arguments and critique the reasoning of others. Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.	Consistent with a focus on reasoning and sense-making is a focus on critical reasoning – argumentation and critique of arguments. In Pearson's *enVisionMATH Common Core,* the *Problem-Based Interactive Learning* 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. *Writing to Explain* exercises in Grades 3–6 help students develop foundational critical reasoning skills by having them construct explanations for processes. The ability to articulate a clear explanation for a process is a stepping stone to critical analysis and reasoning of both the student's own processes and those of others. **SE / TE:** Topic 1: 7, 13; Topic 2: 38, 42, 47, 48; Topic 3: 68, 72, 79, 83; Topic 4: 94, 100, 103, 104, 108; Topic 5: 123, 130, 133; Topic 6: 147, 157, 159, 160; Topic 7: 173, 177, 181; Topic 8: 201, 208; Topic 9: 223, 225, 228, 231, 232, 237, 239; Topic 10: 253; Topic 11: 278, 279, 281, 285, 287, 296; Topic 12: 308, 315; Topic 13: 337, 338; Topic 14: 355, 356, 359, 360, 361; Topic 15: 375, 377, 379; Topic 16: 395, 396 **TE:** Topic 1: 6B, 8A, 12B; Topic 2: 46B, 48B; Topic 3: 68B, 72B; Topic 4: 102B; Topic 8: 200B; Topic 10: 260B, Topic 12: 314B; Topic 13: 338B, 342B; Topic 15: 369B, 382B

Common Core State Standards for Mathematics Mathematical Practices	**enVisionMATH *Common Core* Grade 5**
4. Model with mathematics. Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. 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. 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. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.	Students in Pearson's enVisionMATH Common Core are introduced to mathematical modeling in the early grades. They first use manipulatives and drawings and then equations to model addition and subtraction situations. The *Visual Learning Bridge* often presents real world situations and students are shown how these can be modeled mathematically. In later grades, students expand their modeling skills to include representations such as tables and graphs, as well as equations. **SE / TE:** Topic 1: 13, 15; Topic 2: 33, 41, 42, 45; Topic 3: 67, 76; Topic 4: 95, 97, 104; Topic 5: 124, 130, 135; Topic 7: 171, 173, 184; Topic 8: 210, 211; Topic 9: 242; Topic 10: 257, 266; Topic 11: 276, 277, 295, 311; Topic 12: 314, 317, 323; Topic 13: 335, 345; Topic 14: 357; Topic 15: 383; Topic 16: 399, 405 **TE:** Topic 1: 12B, 14B; Topic 2: 27A, Topic 2: 40B; Topic 3: 66B; Topic 4: 102B, 110B; Topic 8: 194B, 204B; Topic 9: 224B, 232B, 234B, 236B, 240B; Topic 10: 256B; Topic 12: 314B; Topic 15: 382B

Common Core State Standards for Mathematics Mathematical Practices	**enVisionMATH *Common Core* Grade 5**
5. Use appropriate tools strategically. Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students 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. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.	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. **SE / TE:** Topic 2: 42; Topic 3: 81, 83; Topic 4: 111; Topic 5: 137; Topic 6: 153; Topic 7: 171; Topic 8: 209; Topic 9: 231; Topic 11: 279, 280, 286, 287, 280, 291, 297, 299; Topic 12: 323; Topic 13: 335, 339; Topic 14: 355, 357, 359; Topic 15: 373; Topic 16: 399 **TE:** Topic 2: 40B; Topic 3: 61B, 74B, 80B, 82B; Topic 4: 98B; Topic 5: 124B; Topic 8: 191B, 204B; Topic 9: 222B, 230B; Topic 10: 252B, 254B; Topic 11: 273B, 278B; 286B, 292B, 294B; Topic 13: 329A, 334B, 340B; Topic 14: 351B, 354B, 358B; Topic 15: 369B, 372B, 376B

Common Core State Standards for Mathematics Mathematical Practices	**enVisionMATH *Common Core* Grade 5**
6. Attend to precision. Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.	Students are expected to use mathematical terms and symbols with precision. Key terms and concepts are highlighted in each lesson. The *Problem-Based Interactive Learning* activity provides repeated opportunities for children to use precise language to explain their solution paths while solving problems. In the *Do You Understand?* feature, students revisit these key terms or concepts and provide explicit definitions or explanations. In Grades 3–6, the Writing to Explain and *Think About the Structure* exercises require students to use precise language to provide clear explanations of terms, concepts, or processes. 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. **SE / TE:** Topic 1: 7; Topic 2: 32, 35, 45, 49, 51; Topic 3: 71, 76, 77; Topic 4: 100, 104, 107, 108; Topic 5: 121, 136; Topic 6: 159; Topic 7: 173, 177, 184; Topic 8: 200; Topic 9: 226, 239, 241; Topic 10: 253; Topic 11: 293, 298; Topic 12: 322; Topic 13: 337, 341; Topic 14: 355; Topic 15: 375, 378; Topic 16: 392, 397, 398 **TE:** Topic 1: 2J, 6B, 14B; Topic 2: 27D, 34B, 48B, 50B; Topic 3: 61B, 61D; Topic 4: 89D; Topic 5: 117D, 132B; Topic 8: 191D, 196B, 202B; Topic 9: 219D; Topic 10: 249D, 266D; Topic 11: 273D; Topic 12: 305D; Topic 13: 329D; Topic 15: 369D; Topic 16: 389D

Common Core State Standards for Mathematics Mathematical Practices	**enVisionMATH *Common Core* Grade 5**
7. Look for and make use of structure. Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, 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. Later, students will see 7 × 8 equals the well remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression x2 + 9x + 14, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. 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. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see 5 – 3(x – y)2 as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.	Students are encouraged to look for structure as they develop solution plans. In the *Look for a Pattern* 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. **SE / TE:** Topic 1: 10, 19; Topic 2: 39, 42, 47, 49; Topic 3: 67, 75, 76, 81; Topic 4: 93, 95, 100, 104, 108; Topic 5: 121, 122, 123, 127, 130; Topic 6: 147, 149, 151, 154, 161; Topic 7: 177, 179, 181; Topic 8: 201, 211; Topic 9: 242; Topic 10: 254, 264; Topic 11: 279, 281, 294, 299; Topic 12: 315; Topic 13: 337, 338, 339; Topic 14: 360; Topic 15: 373, 377; Topic 16: 395, 404 **TE:** Topic 1: 2J, 6B, 12B, 14B; Topic 2: 27D, 48B, 50B; Topic 3: 61D, 68B, 70B, 72B, 80B; Topic 4: 89A, 89D; Topic 5: 117A, 117D, 120B, 126B; Topic 8: 191A, 191D, 200B, 208B; Topic 9: 219B, 219D; Topic 10: 249D, 254B; Topic 11: 273B, 273D, 290B, 286B; Topic 12: 305D; Topic 13: 329D; Topic 14: 351D; Topic 15: 369D, 374B, 378B, 382B; Topic 16: 389A, 389D

Common Core State Standards for Mathematics Mathematical Practices	**enVisionMATH *Common Core* Grade 5**
8. Look for and express regularity in repeated reasoning. Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. 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 repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x2 + x + 1)$, and $(x – 1)(x3 + x2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.	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 *Problem-Based Interactive Learning* activities offer students opportunities to look for regularity in the way operations behave. **SE / TE:** Topic 1: 6, 8, 9, 13, 19, 20; Topic 2: 32; Topic 3: 66, 69, 71, 73, 78; Topic 4: 100, 101, 111; Topic 5: 121, 125, 133; Topic 6: 146, 147, 155, 161; Topic 7: 175, 180; Topic 8: 209, 210; Topic 9: 222, 225, 228, 231, 234; Topic 10: 255, 267; Topic 11: 284, 291, 294, 297; Topic 12: 311, 313; Topic 13: 343, 345; Topic 15: 373, 380, 383; Topic 16: 394, 401 **TE:** Topic 1: 12B, 14B, 16B; Topic 2: 34B, 50B; Topic 3: 68B, 72B, 80B; Topic 10: 254B; Topic 12: 308B; Topic 13: 342B; Topic 15: 380B, 382B

Common Core State Standards for Mathematics Grade 5	enVisionMATH Common Core Grade 5
Operations and Algebraic Thinking	
Write and interpret numerical expressions.	
1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. [5.OA.1]	**SE / TE:** Topic 3:72-73; Topic 8: 196-199, 200-201, 202-203 **TE:** Topic 3: 72A-72B, 73A-73B; Topic 8: 196A-196B, 199A-199B, 200A-200B, 201A-201B, 202A-202B, 203A-203B
2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. [5.OA.2]	**SE / TE:** Topic 3: 82-83; Topic 4: 110-111; Topic 8: 194-195, 210-211, 212-213 **TE:** Topic 3: 82A-82B, 83A-83B; Topic 4: 110A-110B, 111A-111B; Topic 8: 194A-194B, 195A-195B, 210A-210B, 211A-211B, 212A-212B, 213A-213B
Analyze patterns and relationships.	
3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. [5.OA.3]	**SE / TE:** Topic 8: 204-205, 206-207, 208-209 **TE:** Topic 8: 204A-204B, 205A-205B, 206A-206B, 207A-207B, 208A-208B, 209A-209B
Number and Operations in Base Ten	
Understand the place value system.	
1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. [5.NBT.1]	**SE / TE:** Topic 1: 8-11, 12-13; Topic 6: 160-161, 146-147; Topic 7: 170-171 **TE:** Topic 1: 8A-8B, 11A-11B, 12A-12B, 13A-13B; Topic 6: 160A-160B, 161A-161B, 146A-146B, 147A-147B; Topic 7: 170A-170B, 171A-171B
2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. [5.NBT.2]	**SE / TE:** Topic 3: 66-67, 70-71; Topic 6: 146-147, 170-171 **TE:** Topic 3: 66A-66B, 67A-67B, 70A-70B, 71A-71B; Topic 6: 146A-146B, 147A-147B, 170A-170B, 171A-171B
3. Read, write, and compare decimals to thousandths. [5.NBT.3]	**SE / TE:** Topic 1: 18-19 **TE:** Topic 1: 18A-18B, 19A-19B

Common Core State Standards for Mathematics Grade 5	**enVisionMATH Common Core Grade 5**
a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000). [5.NBT.3.a]	**SE / TE:** Topic 1: 8-11, 12-13, 14-15 **TE:** Topic 1: 8A-8B, 11A-11B, 12A-12B, 13A-13B, 14A-14B, 15A-15B
b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. [5.NBT.3.b]	**SE / TE:** Topic 1: 16-17 **TE:** Topic 1: 16A-16B, 17A-17B
4. Use place value understanding to round decimals to any place. [5.NBT.4]	**SE / TE:** Topic 2: 34-35 **TE:** Topic 2: 34A-34B, 35A-35B
Perform operations with multi-digit whole numbers and with decimals to hundredths.	
5. Fluently multiply multi-digit whole numbers using the standard algorithm. [5.NBT.5]	**SE / TE:** Topic 3: 68-69, 72-73, 74-77, 78-79, 80-81, 82-83 **TE:** Topic 3: 68A-68B, 69A-69B, 72A-72B, 73A-73B, 74A-74B, 77A-77B, 78A-78B, 79A-79B, 80A-80B, 81A-81B, 82A-82B, 83A-83B
6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. [5.NBT.6]	**SE / TE:** Topic 3: 64-65; Topic 4: 92-93, 94-95, 96-97, 98-101, 102-104, 106-109, 110-111; Topic 5: 120-121, 122-123, 124-125, 126-127, 128-131, 132-133, 134-135, 136-137 **TE:** Topic 3: 64A-64B, 65A-65B; Topic 4: 92A-92B, 93A-93B, 94A-94B, 95A-95B, 96A-96B, 97A-97B, 98A-98B, 101A-101B, 102A-102B, 104A-104B, 106A-106B, 109A-109B, 110A-110A, 111A-111B; Topic 5: 120A-120B, 121A-121B, 122A-122B, 123A-123B, 124A-124B, 125A-125B, 126A-126B, 127A-127B, 128A-128B, 131A-131B, 132A-132B, 133A-133B, 134A-134B, 135A-135B, 136A-136B, 137A-137B

SE = Student Edition TE = Teacher Edition

Common Core State Standards for Mathematics Grade 5	enVisionMATH Common Core Grade 5
7. Add, subtract, multiply, and divide decimals to hundredths, 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. [5.NBT.7]	**SE / TE:** Topic 2: 30-33, 36-39, 40-43, 44-45, 46-47, 48-49, 50-51; Topic 6: 146-147, 148-149, 150-151, 152-155, 156-157, 158-159, 160-161; Topic 7: 170-171, 172-173, 174-175, 176-177, 178-179, 180-181, 182-184 **TE:** Topic 2: 30A-30B, 33A-33B, 36A-36B, 39A-39B, 40A-40B, 43A-43B, 44A-44B, 45A-45B, 46A-46B, 47A-47B, 48A-48B, 49A-49B, 50A-50B, 51A-51B; Topic 6: 146A-146B, 147A-147B, 148A-148B, 149A-149B, 150A-150B, 151A-151B, 152A-152B, 155A-155B, 156A-156B, 157A-157B, 158A-158B, 159A-159B, 160A-160B, 161A161B; Topic 7: 170A-170B, 171A-171B, 172A-172B, 173A-173B, 174A-174B, 175A-175B, 176A-176B, 177A-177B, 178A-178B, 179A-179B, 180A-180B, 181A-181B, 182A-182B, 184A-184B
Number and Operations—Fractions	
Use equivalent fractions as a strategy to add and subtract fractions.	
1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. [5.NF.1]	**SE / TE:** Topic 9: 222-223, 224-225, 228-229, 230-231, 232-233, 234-235, 236-237, 238-239, 240-243; Topic 10: 252-253, 254-255, 256-259, 260-261, 262-263, 264-265, 266-267 **TE:** Topic 9: 222A-222B, 223A-223B, 224A-224B, 225A-225B, 228A-228B, 229A-229B, 230A-230B, 231A-231B, 232A-232B, 233A-233B, 234A-234B, 235A-235B, 236A-236B, 237A-237B, 238A-238B, 239A-239B, 240A-240B, 243A-243B; Topic 10: 252A-252B, 253A-253B, 254A-254B, 255A-255B, 256A-256B, 259A-259B, 260A-260B, 261A-261B, 262A-262B, 263A-263B, 264A-264B, 265A-265B, 266A-266B, 267A-267B

Common Core State Standards for Mathematics Grade 5	**enVisionMATH Common Core Grade 5**
2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. [5.NF.2]	**SE/TE:** Topic 9: 224-225, 226-227, 228-229, 230-231, 232-233, 234-235, 236-237, 238-239, 240-243; Topic 10: 252-253, 254-255, 256-259, 260-261, 262-263, 264-265, 266-267 **TE:** Topic 9: 224A-224B, 225A-225B, 226A-226B, 227A-227B, 228A-228B, 229A-229B, 230A-230B, 231A-231B, 232A-232B, 233A-233B, 234A-234B, 235A-235B, 236A-236B, 237A-237B, 238A-238B, 239A-239B, 240A-240B, 243A-243B; Topic 10: 252A-252B, 253A-253B, 254A-254B, 255A-255B, 256A-256B, 259A-259B, 260A-260B, 261A-261B, 262A-262B, 263A-263B, 264A-264B, 265A-265B, 266A-266B, 267A-267B
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.	
3. Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. [5.NF.3]	**SE/TE:** Topic 11: 276-277 **TE:** Topic 11: 276A-276B, 277A-277B
4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. [5.NF.4]	**SE/TE:** Topic 11: 278-279, 282-285, 288-289 **TE:** Topic 11: 278A-278B, 279A-279B, 282A-282B, 285A-285B, 288A-288B, 289A-289B
a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. [5.NF.4.a]	**SE/TE:** Topic 11: 278-279, 282-285, 288-289 **TE:** Topic 11: 278A-278B, 279A-279B, 282A-282B, 285A-285B, 288A-288B, 289A-289B
b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas. [5.NF.4.b]	**SE/TE:** Topic 11: 286-287 **TE:** Topic 11: 286A-286B, 287A-287B
5. Interpret multiplication as scaling (resizing), by: [5.NF.5]	**SE/TE:** Topic 11: 290-291 **TE:** Topic 11: 290A-290B, 291A-291B

Common Core State Standards for Mathematics Grade 5	**enVisionMATH Common Core Grade 5**
a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication. [5.NF.5.a]	**SE / TE:** Topic 11: 280-281, 290-291 **TE:** Topic 11: 280A-280B, 281A-281B, 290A-290B, 291A-291B
b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1. [5.NF.5.b]	**SE / TE:** Topic 11: 280-281, 290-291 **TE:** Topic 11: 280A-280B, 281A-281B, 290A-290B, 291A-291B
6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem. [5.NF.6]	**SE / TE:** Topic 11: 284, 289, 291, 292-293 **TE:** Topic 11: 284A, 289A, 291A, 292A-292B, 293A-293B
7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. (*Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade.*) [5.NF.7]	**SE / TE:** Topic 11: 294-295, 296-297, 298-299 **TE:** Topic 11: 294A-294B, 295A-295B, 296A-296B, 397A-297B, 298A-298B, 299A-299B
a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. [5.NF.7.a]	**SE / TE:** Topic 11: 298-299 **TE:** Topic 11: 298A-298B, 299A-299B
b. Interpret division of a whole number by a unit fraction, and compute such quotients. [5.NF.7.b]	**SE / TE:** Topic 11: 294-295 **TE:** Topic 11: 294A-294B, 295A-295B
c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. [5.NF.7.c]	**SE / TE:** Topic 11: 296-297 **TE:** Topic 11: 296A-296B, 397A-297B

Common Core State Standards for Mathematics Grade 5	enVisionMATH Common Core Grade 5
Measurement and Data	
Convert like measurement units within a given measurement system.	
1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems. [5.MD.1]	**SE / TE:** Topic 13: 332-333, 334-335, 336-337, 338-339, 340-341, 342-343, 344-345 **TE:** Topic 13: 332A-332B, 333A-333B, 334A-334B, 335A-335B, 336A-336B, 337A-337B, 338A-338B, 339A-339B, 340A-341B, 341A-341B, 342A-342B, 343A-343B, 344A-344B, 345A-345B
Represent and interpret data.	
2. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. [5.MD.2]	**SE / TE:** Topic 14: 354-355, 356-357, 358-359, 360-361 **TE:** Topic 14: 354A-354B, 355A-355B, 356A-356B, 357A-357B, 358A-358B, 359A-359B, 360A-360B, 361A-361B
Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.	
3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement. [5.MD.3]	**SE / TE:** Topic 12: 308-309 **TE:** Topic 12: 308A-308B, 315A-315B, 316A-316B, 319A-319B
a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. [5.MD.3.a]	**SE / TE:** Topic 12: 310-311, 314-315 **TE:** Topic 12: 310A-310B, 311A-311B, 314A-314B, 315A-315B
b. A solid figure which can be packed without gaps or overlaps using *n* unit cubes is said to have a volume of *n* cubic units. [5.MD.3.b]	**SE / TE:** Topic 12: 310-311, 314-315 **TE:** Topic 12: 310A-310B, 311A-311B, 314A-314B, 315A-315B

Common Core State Standards for Mathematics Grade 5	**enVisionMATH Common Core Grade 5**
4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units. [5.MD.4]	**SE / TE:** Topic 12: 310-311, 314-315, 322-323 **TE:** Topic 12: 310A-310B, 311A-311B, 314A-314B, 315A-315B, 322A-322B, 323A-323B
5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. [5.MD.5]	**SE / TE:** Topic 12: 312-313, 316-319, 320-321 **TE:** Topic 12: 312A-312B, 313A-313B, 316A-316B, 319A-319B, 320A-320B, 321A-321B
a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication. [5.MD.5.a]	**SE / TE:** Topic 12: 314-315, 316-319 **TE:** Topic 12: 314A-314B, 315A-315B, 316A-316B, 319A-319B
b. Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems. [5.MD.5.b]	**SE / TE:** Topic 12: 316-319, 320-321 **TE:** Topic 12: 316A-316B, 319A-319B, 320A-320B, 321A-321B
c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems. [5.MD.5.c]	**SE / TE:** Topic 12: 320-321 **TE:** Topic 12: 320A-320B, 321A-321B

Common Core State Standards for Mathematics Grade 5	enVisionMATH Common Core Grade 5
Geometry	
Graph points on the coordinate plane to solve real-world and mathematical problems.	
1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., *x*-axis and *x*-coordinate, *y*-axis and *y*-coordinate). [5.G.1]	**SE / TE:** Topic 16: 392-395, 396-397, 398-399, 400-401, 404-405 **TE:** Topic 16: 392A-392B, 395A-395B, 396A-396B, 397A-397B, 398A-398B, 399A-399B, 400A-400B, 401A-401B, 404A-404B, 405A-405B
2. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. [5.G.2]	**SE / TE:** Topic 14: 362-363; Topic 16: 400-401, 402-403, 404-405 **TE:** Topic 14: 362A-362B; 363A-363B; Topic 16: 400A-400B, 401A-401B, 402A-402B, 403A-403B, 404A-404B, 405A-405B
Classify two-dimensional figures into categories based on their properties.	
3. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. *For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.* [5.G.3]	**SE / TE:** Topic 15: 372-373, 374-375, 376-377, 378-379, 382-383 **TE:** Topic 15: 372A-B, 373A-373B, 374A-374B, 375A-375B, 376A-376B, 377A-377B, 378A-378B, 379A-379B, 382A-382B, 383A-383B
4. Classify two-dimensional figures in a hierarchy based on properties. [5.G.4]	**SE / TE:** Topic 15: 376-377, 378-379, 380-381, 382-383 **TE:** Topic 15: 376A-376B, 377A-377B, 378A-378B, 379A-379B, 380A-380B, 381A-381B, 382A-382B, 383A-383B