



Correlation to the Common Core State Standards for Mathematics

Math in Focus

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Grade 3

**COMMON
CORE**

Correlation of *Math in Focus*® to the Common Core State Standards

Attached are grade level correlations showing how closely *Math in Focus*® covers the skills and concepts outlined in the Common Core State Standards. But it is equally important to recognize the parallel assumptions behind the Common Core and *Math in Focus*®. In fact, the Singapore curriculum was one of the 15 national curriculums examined by the committee and had a particularly important impact on the writers because Singapore is the top performing country in the world and the material is in English.

Overall, the CCSS are well aligned to Singapore's Mathematics Syllabus.

Policymakers can be assured that in adopting the CCSS, they will be setting learning expectations for students that are similar to those set by Singapore in terms of rigor, coherence and focus. – Achieve (achieve.org/CCSSandSingapore)

—Achieve, (achieve.org/CCSSandSingapore)*

Here are the parallel assumptions:

1, Curriculum must be focused and coherent:

Common Core State Standards:

For over a decade, research studies of mathematics education in high performing countries have pointed to the conclusion that the mathematics curriculum in the United States must become substantially more focused and coherent in order to improve mathematics achievement in this country.

(Common Core State Standards for Mathematics, 3)

Math in Focus® is organized to teach fewer topics in each grade but to teach them thoroughly. When a concept appears in a subsequent grade level, it is always at a higher level. For instance, first grade does not address fractions, second grade covers what a fraction is, third grade covers equivalent fractions and fractions of a set, fourth grade deals with mixed fractions, and addition of simple fractions, while fifth grade teaches addition, subtraction, and multiplication of fractions as well as division of fractions by whole numbers. This is the coherence and focus that the standards call for.

2. Teach to mastery

Common Core State Standards:

In grade 2, instructional time should focus on four critical areas: (1) extending understanding of base-ten notation; (2) building fluency with addition and subtraction; (3) using standard units of measure; and (4) describing and analyzing shapes. (Common Core State Standards for Mathematics, 17)

In Grade 3, instructional time should focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100;(2)developing understanding of fractions, especially unit fractions...;(3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes (Common Core State Standards for Mathematics, 21)

Math in Focus® has the identical structure. Rather than repeating topics, students master them in a grade level, and subsequent grades develop them to more advanced levels. Adding another digit is NOT an example. Moving from addition/subtraction in second grade to multiplication/division in third grade is such an example. Students continue to practice all the operations with whole numbers in every grade in the context of problem solving.

3. Focus on number, geometry and measurement in elementary grades

Common Core State Standards:

Mathematics experiences in early childhood settings should concentrate on (1) number (which includes whole number, operations, and relations) and (2) geometry, spatial relations, and measurement, with more mathematics learning time devoted to number than to other topics. (Common Core State Standards for Mathematics, 3)

Math in Focus® emphasizes number and operations in every grade K-5 just as recommended in the CCSS. The textbook is divided into two books roughly a semester each. Approximately 75% of Book A is devoted to number and operations and 60-70% of Book B to geometry and measurement where the number concepts are practiced. The key number topics are in the beginning of the school year so students have a whole year to master them.

4. Organize content by big ideas such as place value

Common Core State Standards:

*These Standards endeavor to follow such a design, not only by stressing conceptual understanding of key ideas, but also by continually returning to organizing principles such as place value or the properties of operations to structure those ideas.
(Common Core State Standards for Mathematics, 4)*

Math in Focus® is organized around place value and the properties of operations. The first chapter of each grade level from second to fifth begins with place value. In first grade, students learn the teen numbers and math facts through place value. In all the grades, operations are taught with place value materials so students understand how the standard algorithms work. Even the mental math that is taught uses understanding of place value to model how mental arithmetic can be understood and done.

5. Curriculum must include both conceptual understanding and procedural fluency.

Common Core State Standards:

*The Standards for Mathematical Content are a balanced combination of procedure and understanding
(Common Core State Standards for Mathematics, 8)*

Math in Focus® is built around the Singapore Ministry of Education's famous pentagon that emphasizes conceptual understanding, skill development, strategies for solving problems, attitudes towards math, and metacognition that enable students to become excellent problem solvers. The highly visual nature of the text and the consistent concrete to visual to abstract approach enables all students to both understand how procedures work and to fluently apply them to solve problems.

6. Mathematics is about reasoning

Common Core State Standards:

These Standards define what students should understand and be able to do in their study of mathematics....One hallmark of mathematical understanding is the ability to justify, in a way appropriate to the student's mathematical maturity.
(Common Core State Standards for Mathematics, 4)

Math in Focus® is famous for its model drawing to solve problems and to enable students to justify their solutions. In addition to journal questions and other explicit opportunities to explain their thinking, students are systematically taught to use visual diagrams to represent mathematical relationships in such a way as to accurately solve problems, but also to explain their thinking.

Works Cited:

1. "Common Core State Standards For Mathematics" *Common Core State Standards Initiative | Home*. 2 June 2010. Web. 26 July 2010. <http://www.corestandards.org/assets/CCSSI_Math%20Standards.pdf>.

Houghton Mifflin Harcourt Specialized Curriculum
***Math in Focus®*, Grade 3 ©2013**
Common Core Edition

correlated to the

Common Core State Standards for Mathematics
Grade 3

Standards	Descriptor	Page Citations
Standards for Mathematical Practice		
	MP.1 Make sense of problems and persevere in solving them.	<i>This standard is covered throughout the program; the following are examples.</i>
	<p>How <i>Math in Focus®</i> Aligns: <i>Math in Focus®</i> is built around the Singapore Ministry of Education’s mathematics framework pentagon, which places mathematical problem solving at the core of the curriculum. Encircling the pentagon are the skills and knowledge needed to develop successful problem solvers, with concepts, skills, and processes building a foundation for attitudes and metacognition. <i>Math in Focus®</i> is based on the premise that in order for students to persevere and solve both routine and non-routine problems, they need to be given tools that they can use consistently and successfully. They need to understand both the <i>how</i> and the <i>why</i> of math so that they can self-monitor and become empowered problem solvers. This in turn spurs positive attitudes that allow students to solidify their learning and enjoy mathematics. <i>Math in Focus®</i> teaches content through a problem solving perspective. Strong emphasis is placed on the concrete-to-pictorial-to-abstract progress to solve and master problems. This leads to strong conceptual understanding. Problem solving is embedded throughout the program.</p>	<p>SE/TE-3A: 5-11, 27-29, 31-32, 41-52, 58-62, 63, 65-69, 72-73, 79-80, 82-89, 91, 94-116, 122-132, 133-143, 145-149, 151, 155-156, 160-161, 163-164, 165-166, 170-171, 189, 191-193, 223, 224-226, 248-252, 256-265</p> <p>Workbook 3A: 11A, 29A, 52A, 63A, 73A, 78A, 89A, 150A, 226A, 253A</p> <p>SE/TE-3B: 27, 56, 75, 84-90, 91-96, 97-104, 105, 106-111, 156, 211, 292-293, 337, 381</p> <p>Workbook 3B: 27A, 56A, 75A, 90A, 90B, 96A, 96B, 104A, 104B, 104C, 105A, 156A, 211A, 218B, 218D, 259A, 293A, 337A, 381A, 387F</p>

Standards	Descriptor	Page Citations
	<p>MP.2 Reason abstractly and quantitatively.</p> <p>How <i>Math in Focus</i>® Aligns: <i>Math in Focus</i>® concrete-pictorial-abstract progression helps students effectively contextualize and decontextualize situations by developing a deep mastery of concepts. Each topic is approached with the expectation that students will understand both <i>how</i> it works, and also <i>why</i>. Students start by experiencing the concept through hands-on manipulative use. Then, they must translate what they learned in the concrete stage into a visual representation of the concept. Finally, once they have gained a strong understanding, they are able to represent the concept abstractly. Once students reach the abstract stage, they have had enough exposure to the concept and they are able to manipulate it and apply it in multiple contexts. They are also able to extend and make inferences; this prepares them for success in more advanced levels of mathematics. They are able to both use the symbols and also understand why they work, which allows students to relate them to other situations and apply them effectively.</p>	<p><i>This standard is covered throughout the program; the following are examples.</i></p> <p>SE/TE-3A: 32, 69, 89, 89A, 114, 127, 157, 181, 209, 210, 210A, 213, 218, 223, 235, 259</p> <p>Workbook 3A: 114A, 126B, 126C, 127A, 131B, 150A, 157A, 162A, 167A, 175A, 177A, 193A, 198A, 198B, 209A, 209B, 209C, 210A, 213A, 226A, 230A, 234A, 245A, 249A, 249B, 253A, 258A, 258B</p> <p>SE/TE-3B: 23, 41, 56, 75, 105, 156, 211, 241, 259, 292-293, 337, 381</p> <p>Workbook 3B: 27A, 56A, 75A, 105A, 156A, 211A, 259A, 293A, 337A, 381A</p>

Standards	Descriptor	Page Citations
	<p>MP.3 Construct viable arguments and critique the reasoning of others.</p> <p>How <i>Math in Focus</i>® Aligns: As seen on the Singapore Mathematics Framework pentagon, metacognition is a foundational part of the Singapore curriculum. Students are taught to self-monitor, so they can determine whether or not their solutions make sense. Journal questions and other opportunities to explain their thinking are found throughout the program. Students are systematically taught to use visual diagrams to represent mathematical relationships in such a way as to not only accurately solve problems, but also to justify their answers. Chapters conclude with a Put on Your Thinking Cap! problem. This is a comprehensive opportunity for students to apply concepts and present viable arguments. Games, explorations, and hands-on activities are also strategically placed in chapters when students are learning concepts. During these collaborative experiences, students interact with one another to construct viable arguments and critique the reasoning of others in a constructive manner. In addition, thought bubbles provide tutorial guidance throughout the entire Student Book. These scaffolded dialogues help students articulate concepts, check for understanding, analyze, justify conclusions, and self-regulate if necessary.</p>	<p>SE/TE-3A: 30, 82, 125, 140</p> <p>SE/TE-3B: 94, 145, 146, 272, 305, 352, 369, 370, 374</p>

Standards	Descriptor	Page Citations
<p>MP.4 Model with mathematics.</p> <p>How <i>Math in Focus</i>® Aligns: <i>Math in Focus</i>® follows a concrete-pictorial-abstract progression, introducing concepts first with physical manipulatives or objects, then moving to pictorial representation, and finally on to abstract symbols. A number of models are found throughout the program that support the pictorial stage of learning. <i>Math in Focus</i>® places a strong emphasis on number and number relationships, using place-value manipulatives and place-value charts to model concepts consistently throughout the program. In all grades, operations are modeled with place-value materials so students understand how the standard algorithms work. Even the mental math instruction uses understanding of place value to model how mental arithmetic can be understood and done. These place-value models build throughout the program to cover increasingly complex concepts. Singapore math is also known for its use of model drawing, often called “bar modeling” in the U.S. Model drawing is a systematic method of representing word problems and number relationships that is explicitly taught beginning in Grade 2 and extends all the way to secondary school. Students are taught to use rectangular “bars” to represent the relationship between known and unknown numerical quantities and to solve problems related to these quantities. This gives students the tools to develop mastery and tackle problems as they become increasingly more complex.</p>		<p><i>This standard is covered throughout the program; the following are examples</i></p> <p>SE/TE-3A: 5-11, 12-14, 17, 20-23, 53-57, 63, 77, 79, 84-86, 94, 98-100, 102-105, 108-110, 118-120, 122-123, 125-126, 127, 128-131, 138-149, 151-155, 158-162, 163-167, 168-175, 176-178, 180, 184-186, 194-195, 199-200, 202, 204-205, 224-226, 227-228, 231-232, 243-245, 246-249, 250-253, 254-258, 259-263</p> <p>Workbook 3A: 11A, 19B, 63A, 126A, 126B, 126C, 131B, 150A, 175A, 213B, 226A, 245A, 249A, 249B, 253A, 258A 258B, 263B, 263C, 263D, 263F, 263G</p> <p>SE/TE-3B: 4-5, 12, 15-16, 21, 24-26, 27, 42-45, 47, 48-53, 55, 56, 57, 63-68, 69-74, 75, 77, 117-120, 121-125, 126-129, 130-145, 147-150, 151-155, 156, 157-162, 168-185, 186-201, 202-210, 211, 215-217, 223-227, 241-243, 248-250, 254, 257, 262-263</p> <p>Workbook 3B: 23A, 26A, 26B, 27A, 47A, 55A, 56A, 68A, 74A, 75A, 78B, 78C, 120A, 125A, 129A, 145A, 150A, 150B, 155A, 156A, 185A, 185B, 2011A, 210A, 211A, 218B, 218C, 227A, 247A, 250A, 259A, 387E, 387G</p>

Standards	Descriptor	Page Citations
	<p>MP.5 Use appropriate tools strategically.</p> <p>How <i>Math in Focus</i>® Aligns: <i>Math in Focus</i>® helps students explore the different mathematical tools that are available to them. New concepts are introduced using concrete objects, which help students break down concepts to develop mastery. They learn how to use these manipulatives to attain a better understanding of the problem and solve it appropriately. <i>Math in Focus</i>® includes representative pictures and icons as well as thought bubbles that model the thought processes students should use with the tools. Several examples are listed below. Additional tools referenced and used in the program include clocks, money, dot paper, place-value charts, geometric tools, and figures.</p>	<p><i>This standard is covered throughout the program; the following are examples</i></p> <p>SE/TE-3A: 5-12, 14, 16-17, 20-23, 43-44, 47, 51, 57-58, 77, 79, 81, 84-86, 94, 98-100, 102-105, 106, 108-110, 140, 156, 166, 174, 194-195, 197, 199-202, 204-205, 207, 210, 215, 222, 227-228, 231-233</p> <p>Workbook 3A: 19B</p> <p>SE/TE-3B: 13, 32-34, 42-47, 64, 81, 83, 85-96, 105, 107, 109, 123-124, 131-132, 146, 166, 179-181, 186, 188-189, 191-192, 194, 199-200, 207, 215-217, 270, 272, 274, 278, 281, 289, 293, 297, 300, 302, 312, 315, 325, 337, 344, 346, 355, 360-361, 368-370, 371-374</p> <p>Workbook 3B: 96A, 96B, 105A, 201A, 218C, 318B, 337A, 352A, 361A, 374A, 374B, 381A, 387E</p>

Standards	Descriptor	Page Citations
MP.6 Attend to precision.	<p>How <i>Math in Focus</i>® Aligns: As seen in the Singapore Mathematics Framework, metacognition, or the ability to monitor one’s own thinking, is key in Singapore math. This is modeled for students throughout <i>Math in Focus</i>® through the use of thought bubbles, journal writing, and prompts to explain reasoning. When students are taught to monitor their own thinking, they are better able to attend to precision, as they consistently ask themselves, “does this make sense?” This questioning requires students to be able to understand and explain their reasoning to others, as well as catch mistakes early on and identify when incorrect labels or units have been used. Additionally, precise language is an important aspect of <i>Math in Focus</i>®. Students attend to the precision of language with terms like factor, quotient, difference, and capacity.</p>	<p><i>This standard is covered throughout the program; the following are examples.</i></p> <p>SE/TE-3A: 26, 30, 57, 60, 63, 69, 82, 96, 125, 140, 179, 197</p> <p>SE/TE-3B: 13, 89, 94, 102, 122-123, 132, 140, 145-146, 178, 181, 190, 197, 208, 246, 271, 272, 276, 277, 283, 290, 305, 307-308, 312, 315-316, 325, 332, 349-350, 352, 359, 367, 369-370, 373, 374, 377</p>
MP.7 Look for and make use of structure.	<p>How <i>Math in Focus</i>® Aligns: The inherent pedagogy of Singapore math allows students to look for, and make use of, structure. Place value is one of the underlying principles in <i>Math in Focus</i>®. Concepts in the program start simple and grow in complexity throughout the chapter, year, and grade. This helps students master the structure of a given skill, see its utility, and advance to higher levels. Many of the models in the program, particularly number bonds and bar models, allow students to easily see patterns within concepts and make inferences. As students progress through grade levels, this level of structure becomes more advanced.</p>	<p>SE/TE-3A: 25, 27-29, 31, 33, 35</p> <p>SE/TE-3B: 114, 116, 135, 142-143, 145, 147, 159, 161</p> <p>Workbook 3B: 156A, 218B, 387D</p>

Standards	Descriptor	Page Citations
	<p>MP.8 Look for and express regularity in repeated reasoning.</p> <p>How <i>Math in Focus</i>® Aligns: A strong foundation in place value, combined with modeling tools such as bar modeling and number bonds, gives students the foundation they need to look for and express regularity in repeated reasoning. Operations are taught with place value materials so students understand how the standard algorithms work in all grades. Even the mental math instruction uses understanding of place value to model how mental arithmetic can be understood and done. This allows students to learn shortcuts for solving problems and understand why they work. Additionally, because students are given consistent tools for solving problems, they have the opportunity to see the similarities in how different problems are solved and understand efficient means for solving them. Throughout the program, students see regularity with the reasoning and patterns between the four key operations. Students continually evaluate the reasonableness of solutions throughout the program; the consistent models for solving, checking, and self-regulation help them validate their answers.</p>	<p><i>This standard is covered throughout the program; the following are examples.</i></p> <p>SE/TE-3A: 41-44, 45-48, 49-52, 53-63, 69, 70, 72, 79-87, 88-89, 90-91, 94-97, 98-101, 102-106, 108-113, 114, 115-116, 122-126, 127, 128-131, 138-150, 151-157, 158-162, 163-167, 168-175, 177, 182-183, 185-186, 189, 191-193, 194-198, 199-209, 210-213, 216-223, 227-230, 231-234, 235-239, 243-245, 246-249, 259-260, 262</p> <p>Workbook 3A: 44A, 48A, 52A, 63A, 73A, 73B, 87A, 89A, 97A, 101A, 106A, 113A, 114A, 126A, 126B, 126C, 127A, 131B, 150A, 157A, 162A, 167A, 175A, 177A, 193A, 198A, 209A, 209B, 209C, 213B, 213C, 230A, 234A, 245A, 249A, 249B, 263B, 263C, 263D, 263F</p> <p>SE/TE-3B: 4-14, 15-23, 24-26, 27, 28-30, 375-380, 381, 387</p> <p>Workbook 3B: 14A, 23A, 26A, 26B, 27A, 380A, 380B, 387D, 387E, 387G</p>

Standards	Descriptor	Page Citations
Standards for Mathematical Content		
3.OA	Operations and Algebraic Thinking	
Represent and solve problems involving multiplication and division.		
3.OA.1	Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each.	SE/TE-3A: 157, 158-159, 162, 167 Workbook 3A: 175A, 213B, 263D
3.OA.2	Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each.	<i>This standard is covered to mastery in grade 2, opportunities to review can be found on pages:</i> SE/TE-3A: 176-177, 178-179, 183, 214-215, 219 See Grade 2: SE/TE-2A: 179-183, 185 Workbook 2A: 185A, 185B, 186A, 188A, 188C, 188D
3.OA.3	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	SE/TE-3A: 152, 158-159, 163-165, 168, 172, 177, 179-181, 183, 186, 213, 219-221, 227-228, 230, 231-234, 239, 243-245, 246-249, 250-253, 254-258, 259-263 Workbook 3A: 157A, 162A, 167A, 177A, 198A, 198B, 209B, 209C, 213C, 245A, 249A, 249B, 253A, 258A, 258B, 263B, 263C, 263D, 263F, 263G SE/TE 3B: 66-68, 69-74, 76-78 Workbook 3B: 68A, 74A, 78C, 387G

Standards	Descriptor	Page Citations	
3.OA.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers.	SE/TE-3A: Workbook 3A: SE/TE 3B: Workbook 3B:	138-150, 151-157, 158-162, 163-167, 168-175, 176-177, 178-186, 191, 194, 198, 201, 210-212, 216-223, 225-226, 227-230, 231-234, 235, 237-239, 243-245, 246-249, 251-253, 254-256, 258, 259, 260-263 150A, 157A, 162A, 167A, 175A, 177A, 193A, 213B, 226A, 230A, 234A, 245A, 249A, 249B, 253A, 258A, 258B, 263B, 263C, 263D, 263F, 263G 66-68, 69-74, 76-78 68A, 74A, 78C, 387G
Understand properties of multiplication and the relationship between multiplication and division.			
3.OA.5	Apply properties of operations as strategies to multiply and divide.	SE/TE-3A: Workbook 3A: SE/TE-3B: Workbook 3B:	138-150, 151-157, 158-162, 163-167, 168-175, 176-177, 178-186, 191, 194, 198, 201, 210-212, 216-223, 225-226, 227-230, 231-234, 235, 237-239, 243-245, 246-249, 251-253, 254-256, 258, 259, 260-263 150A, 157A, 162A, 167A, 175A, 177A, 193A, 213B, 226A, 230A, 234A, 245A, 249A, 249B, 253A, 258A, 258B, 263B, 263C, 263D, 263F, 263G 66-68, 69-74, 76-78 68A, 74A, 78C, 387G

Standards	Descriptor	Page Citations
3.OA.6	Understand division as an unknown-factor problem.	<p>SE/TE-3A: 176-177, 178-181, 183, 186, 216-223, 225-226, 226A, 227-230, 231-234, 235, 237-239, 251-253, 254-256, 258, 259, 260-263</p> <p>Workbook 3A: 177A, 230A, 234A, 253A, 258A, 258B, 263B, 263C, 263D, 263F, 263G</p> <p>SE/TE-3B: 67-68, 72-73, 76-78</p> <p>Workbook 3B: 74A, 78C, 387G</p>
Multiply and divide within 100.		
3.OA.7	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	<p>SE/TE-3A: 138-150, 151-157, 158-162, 163-167, 168-175, 176-177, 178-186, 191, 194, 198, 201, 210-212, 216-223, 225-226, 227-230, 231-234, 235, 237-239, 243-245, 246-249, 251-253, 254-256, 258, 259, 260-263</p> <p>Workbook 3A: 150A, 157A, 162A, 167A, 175A, 177A, 193A, 213B, 226A, 230A, 234A, 245A, 249A, 249B, 253A, 258A, 258B, 263B, 263C, 263D, 263F, 263G</p> <p>SE/TE-3B: 66-68, 69-74, 76-78</p> <p>Workbook 3B: 68A, 74A, 78C, 387G</p>

Standards	Descriptor	Page Citations
Solve problems involving the four operations, and identify and explain patterns in arithmetic.		
3.OA.8	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	<p>SE/TE-3A: 60-63, 122-126, 127, 128-131, 246-249, 254-256, 258, 259, 261, 263</p> <p>Workbook 3A: 63A, 73B, 126A, 126B, 126C, 127A, 131B, 249A, 249B, 258A, 258B, 263C, 263F, 263G</p> <p>SE/TE-3A: Common Core Focus Lesson Appendix Chapter 9, Lesson 4.a</p>
3.OA.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.	<p>SE/TE-3A: 5-11, 27-29, 138-143, 145-149, 151, 155-156, 160-161, 163-166, 170-171, 189, 191-193, 223-226</p> <p>Workbook 3A: 11A, 29A, 73A, 150A, 226A</p>

Standards	Descriptor	Page Citations
3.NBT	Number and Operations in Base Ten	
Use place value understanding and properties of operations to perform multi-digit arithmetic.		
3.NBT.1	Use place value understanding to round whole numbers to the nearest 10 or 100.	SE/TE-3A: 53-59, 61-63, 71, 73 Workbook 3A: 63A, 69, 69A, 73B
3.NBT.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Se/TE-3A: 41-44, 45-48, 49-52, 58-63, 65-68, 69, 70-73, 77-78, 79-87, 88-89, 90-91, 94-97, 98-101, 102-106, 107-113, 114, 115-116, 122-126, 127, 128-131 Workbook 3A: 44A, 48A, 52A, 63A, 68A, 69A, 73B, 78A, 87A, 89A, 97A, 101A, 106A, 113A, 114A, 126A, 126B, 126C, 127A, 131B, 263D, 263E, 263F SE/TE-3B: 4-14, 15-23, 24-26, 27, 28-30, 63-66, 68, 69-74, 76-78, 371, 375-378, 381 Workbook 3B: 14A, 23A, 26A, 26B, 27A, 68A, 74A, 75A, 78C, 380A, 380B, 387E, 387G
3.NBT.3	Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80 , 5×60) using strategies based on place value and properties of operations.	SE/TE-3A: 152, 154-155, 157, 160-162, 167, 170-171, 175, 186, 191-193, 201, 210-212, 261 Workbook 3A: 150A, 157A, 162A, 175A, 193A, 213B, 249A, 249B, 263E

Standards	Descriptor	Page Citations
3.NF	Number and Operations - Fractions	
Develop understanding of fractions as numbers.		
3.NF.1	Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$.	SE/TE 3B: 117-120, 121-123, 125, 126-127, 129, 156, 157, 161 Workbook 3B: 120A, 125A, 129A, 218B
3.NF.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram.	
3.NF.2.a	Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$ on the number line.	SE/TE-3B: 124-125, 131, 139-142, 144, 146, 157, 159 Workbook 3B: 125A, 146A, 147, 156A, 218B
3.NF.2.b	Represent a fraction a/b on a number line diagram by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.	SE/TE-3B: 124-125, 131, 139-142, 144, 146, 157, 159 Workbook 3B: 125A, 146A, 147, 156A, 218B

Standards	Descriptor	Page Citations
3.NF.3	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.	
3.NF.3.a	Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.	SE/TE-3B: 121-125, 126-129, 138-139, 143, 147, 157-158, 160-161 Workbook 3B: 125A, 129A, 387E
3.NF.3.b	Recognize and generate simple equivalent fractions, e.g., $1/2 = 2/4$, $4/6 = 2/3$. Explain why the fractions are equivalent, e.g., by using a visual fraction model.	SE/TE-3B: 121-125, 126-129, 138-139, 143, 147, 157-158, 160-161 Workbook 3B: 125A, 129A, 387E
3.NF.3.c	Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.	<i>This standard is covered to mastery in grade 2, opportunities to review can be found on pages:</i> SE/TE-3B: 113, 117, 159 Workbook 3B: 120A SE/TE-3B: Common Core Focus Lesson Appendix Chapter 14, Lesson 6.a See Grade 2: SE/TE-2B: 76, 79, 87, 90, 95
3.NF.3.d	Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.	SE/TE-3B: 130-134, 136-144, 147, 158-159 Workbook 3B: 146A, 147, 156A, 218B

Standards	Descriptor	Page Citations
3.MD	Measurement and Data	
Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.		
3.MD.1	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	SE/TE-3B: 223-227, 228-232, 233-236, 237-240, 241-247, 251-253, 255-256, 258, 259, 260, 262-263 Workbook 3B: 227A, 232A, 236A, 247A, 240A, 258A, 258B, 259A, 387F, 387G
3.MD.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.	SE/TE-3B: 42-47, 48-55, 56, 57-58, 64, 66-68, 71-74, 75, 76-78 Workbook 3B: 47A, 55A, 56A, 68A, 74A, 75A, 78B, 78C, 387E, 387G
Represent and interpret data.		
3.MD.3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs.	SE/TE-3B: 84-87, 90, 91-96, 105, 107, 109 Workbook 3B: 90A, 90B, 96A, 96B, 105A, 218B, 218D, 387F
3.MD.4	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.	SE/TE-3B: 97-104, 110-111, 122, 124, 125, 130, 131-136, 139-145, 164-165, 169, 171-175, 184 Workbook 3B: 104A, 104B, 104C, 185A SE/TE-3B: Common Core Focus Lesson Appendix Chapter 15, Lesson 1.a

Standards	Descriptor	Page Citations
Geometric Measurement: understand concepts of area and relate area to multiplication and to addition.		
3.MD.5	Recognize area as an attribute of plane figures and understand concepts of area measurement.	
3.MD.5.a	A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area.	SE/TE-3B: 347-349, 351-352, 353-361, 363-364, 366, 368-370, 372-374, 383-387 Workbook 3B: 352A, 361A, 370A, 374A, 374B, 387C, 387F
3.MD.5.b	A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.	SE/TE-3B: 347-352, 353-361, 363-364, 366, 368-370, 372-374, 385-386 Workbook 3B: 352A, 361A, 370A, 374A, 374B, 381A, 387F
3.MD.6	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).	SE/TE-3B: 347-352, 353-361, 363-364, 366, 368-370, 372-374, 385-386 Workbook 3B: 352A, 361A, 370A, 374A, 374B, 381A, 387F

Standards	Descriptor	Page Citations
3.MD.7	Relate area to the operations of multiplication and addition.	
3.MD.7.a	Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.	SE/TE-3B: 158-161, 164-165, 167, 170-172, 180, 183, 185 Workbook 3B: 162, 175A
3.MD.7.b	Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.	SE/TE-3B: 158-159, 164-165, 172
3.MD.7.c	Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.	SE/TE-3B: 160-161, 164-165, 167, 170-172 Workbook 3B: 175A
3.MD.7.d	Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.	SE/TE-3B: 355, 358-360, 361, 364, 368-369, 373-374, 385-386 Workbook 3B: 361A, 370A, 374A, 374B, 387C, 387F SE/TE-3B: Common Core Focus Lesson Appendix Chapter 19, Lesson 4.a
Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.		
3.MD.8	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.	SE/TE-3B: 371-374, 375-380, 385-387 Workbook 3B: 374A, 374B, 380A, 380B, 381A, 387C, 387D

Standards	Descriptor	Page Citations
3.G	Geometry	
Reason with shapes and their attributes.		
3.G.1	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	SE/TE-3B: 272, 274, 277-278, 306-308, 310-318, 319, 337, 338, 340-342 Workbook 3B: 274A, 318A, 318B, 387B
3.G.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.	SE/TE-3B: 117-120, 121-123, 125, 126-127, 129, 130-137, 139, 143-145, 147-150, 153-155, 156, 157-161 Workbook 3B: 120A, 125A, 129A, 146A, 150A, 150B, 155A, 156A, 218B