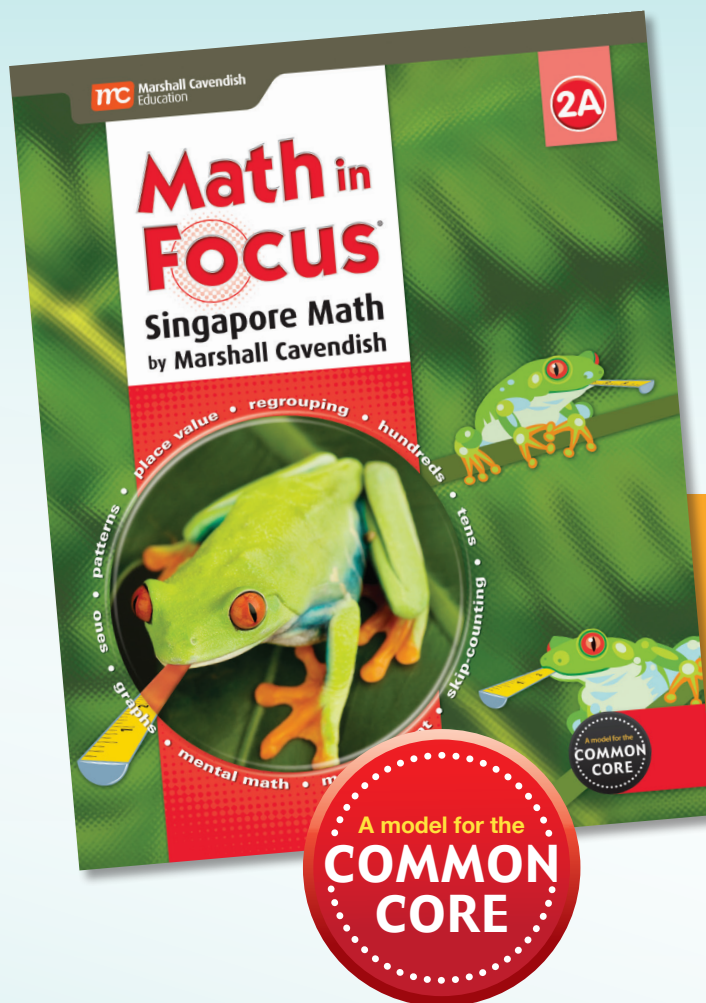


Math in Focus[®]

Singapore Math[®]
by Marshall Cavendish[®]



Correlation to the Common Core State Standards for Mathematics

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Grade 2

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Common Core Edition

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Grade 2

Standards	Descriptor	Page Citations
Standards for Mathematical Practice		
SMP.1 Make sense of problems and persevere in solving them.	For <i>example</i> : SE/TE-2A: 26-31, 32, 53-54, 58, 88-89, 92-93, 125, 138-142, 146-150, 151, 157-159, 166-167, 177, 189, 198, 209-210, 220, 225, 234, 251, 263, 285 Workbook 2A: 31A, 32A, 33A, 58B, 93A, 125C, 127C, 127D, 145A, 150A, 151A, 159A, 171A, 182A, 189A, 192C, 199A, 214A, 224A, 225A, 227A, 238A, 285B SE/TE-2B: 8, 10-15, 36-37, 38-39, 72, 94-95, 99, 130, 131, 132-133, 158-160, 161-163, 188-191, 194, 210-218, 221, 230-237, 238-240, 244-248, 253-254, 257-259, 278-280, 281, 282, 312-322, 323-325 Workbook 2B: 15A, 37A, 72A, 72B, 101A, 130A, 131A, 160A, 193A, 194A, 220A, 220B, 221A, 237A, 243A, 243B, 248A, 280A, 322A	<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>

Standards	Descriptor	Page Citations
SMP.2 Reason abstractly and quantitatively.	<p>How <i>Math in Focus</i> Aligns:</p> <p><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>For <i>example</i>:</p> <p>SE/TE-2A: 25-32, 58, 88-91, 92-93, 125, 148-150, 159, 162-165, 175-176, 180-182, 189, 190, 198-199, 215-219, 236-238, 253, 271-276, 285</p> <p>Workbook 2A: 31A, 32A, 58B, 91A, 93A, 125C, 127C, 127D, 150A, 159A, 165A, 176A, 182A, 189A, 192A, 192B, 192C, 192D, 219A, 276A, 285B</p> <p>SE/TE-2B: 39, 131, 154-160, 176-178, 185-187, 221, 230-237, 257-259, 278-280, 281, 312-322, 323</p> <p>Workbook 2B: 131A, 160A, 178A, 187A, 221A, 237A, 280A, 322A</p>

Standards	Descriptor	Page Citations
SMP.3 Construct viable arguments and critique the reasoning of others.		For <i>example</i> : SE/TE-2A: 25-26, 29-30, 124, 135, 151, 174, 176 Workbook 2A: 125A, 1258, 137A
How <i>Math in Focus</i> Aligns:		SE/TE-2B: 9, 16, 27, 33, 38, 51, 53, 99, 161-162, 177, 190-191
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.		

Standards	Descriptor	Page Citations
SMP.4 Model with mathematics.		
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>SE/TE-2A: 6-10, 11-12, 16-17, 18-23, 33, 40-41, 42-45, 65-67, 71-72, 76-78, 82-84, 88-91, 100-106, 107-108, 110-112, 113-118, 119-123, 131-134, 150, 151, 183-186, 220-224, 225, 263, 282-285</p> <p>Workbook 2A: 10A, 10B, 17A, 33A, 41A, 106A, 112A, 118A, 125A, 125B, 127A, 137A, 150A, 151A, 188A, 224A, 225A, 263A, 285A</p> <p>SE/TE-2B: 6-7, 17-19, 20-25, 66-69, 72, 77-84, 85-91, 92-95, 98, 99-101, 126-130, 131, 137-140, 141-145, 194, 221, 249-252, 257-259, 323</p> <p>Workbook 2B: 19A, 26A, 72A, 72B, 84A, 84B, 98A, 130A, 131A, 140A, 145A, 194A, 221A</p>

Standards	Descriptor	Page Citations
SMP.5 Use appropriate tools strategically.	<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>For example:</i> SE/TE-2A: 6-10, 11-12, 17, 18-21, 33, 40-41, 42-44, 46, 48, 50-51, 53-54, 65-67, 71-72, 76-78, 80, 82-84, 88-89, 100-103, 138-140, 160-164, 168-169, 172, 175, 177, 180-182, 185, 196-199, 201-202, 205-214, 215-219, 220, 226-227, 233-238, 239-243, 244-248, 249, 251-256, 263, 264-265, 278-281, 285, 287 Workbook 2A: 10A, 10B, 17A, 33A, 106A, 165A, 171A, 176A, 182A, 192A, 199A, 214A, 219A, 227A, 238A, 243A, 248A, 263A, 281A, 285B, 285C, 287A, 287C SE/TE-2B: 9, 105-108, 109-111, 113-119, 120-122, 124-125, 127, 132, 161-162, 174-178, 183, 185-186, 195-196, 253-254, 281, 292-293, 295, 299-305, 306-311, 323 Workbook 2B: 108A, 119A, 125A, 133A, 178A, 187A, 305A, 305C, 311A</p>
SMP.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>For example:</i> SE/TE-2A: 25-26, 29-30, 100-105, 107-111, 113-116, 119, 124, 131-133, 135, 136, 138, 140-141, 146-148, 150, 172-176, 196-197, 200-202, 205-207, 209-210, 212, 217, 232-234, 236, 251-253, 270-272, 274 Workbook 2A: 125B, 137A, 145A, 150A, 238A, 276A SE/TE-2B: 9, 16, 27, 28, 33, 38, 51, 53, 59, 79, 82, 89, 107, 111, 122, 124, 139, 158, 160, 172, 177-178, 184, 188-191, 203-204, 205-208, 241-242, 270, 272, 278-279, 290, 292, 295, 297, 309-310, 317 Workbook 2B: 37A, 61A, 61B, 61C, 108A, 112A, 125A, 140A, 160A, 178A, 187A, 193A, 204B, 209A, 243A, 243B, 273A, 280A, 305A- 305C, 311A, 322A</p>

Standards	Descriptor	Page Citations
SMP.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><i>For example:</i> SE/TE-2A: 24-26, 29-30, 33, 58, 88-89, 92-93, 225, 239-243, 249-256, 264, 274-276, 285 Workbook 2A: 31A, 33A, 58B, 93A, 225A, 243A, 276A, 276B, 285C, 287E SE/TE-2B: 72, 85-91, 101, 257-259, 287-305, 324-325 Workbook 2B: 72B, 101A, 305A, 305B, 305C, 325A</p>
SMP.8 Look for and express regularity in repeated reasoning.	<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>For example:</i> SE/TE-2A: 24-26, 28-31, 32, 38-41, 151, 157-159, 166-171, 177-182, 189 Workbook 2A: 31A, 32A, 33A, 41A, 151A, 159A, 171A, 182A, 189A SE/TE-2B: 170-173, 179-182, 194, 195, 197, 312-316, 318-320, 322, 324-325 Workbook 2B: 173A, 182A, 194A, 322A, 325C, 325E</p>

Standards	Descriptor	Page Citations
Standards for Mathematical Content		
2.OA	Operations and Algebraic Thinking	
Represent and solve problems involving addition and subtraction		
2.OA.1	Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	SE/TE-2A: 98-99, 100-105, 108-110, 119, 121, 125, 257-259, 261-262, 282-285 Workbook 2A: 106A, 112A, 125C, 262A, 285A, 285B SE/TE-2B: 6-7, 17-19, 39, 126-130 Workbook 2B: 7A, 19A, 130A
Add and subtract within 20		
2.OA.2	Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.	SE/TE-2A: 38-41, 61, 63 Workbook 2A: 41A SE/TE-2B: 2-3, 5
Work with equal groups of objects to gain foundations for multiplication		
2.OA.3	Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.	SE/TE-2A: 183-188 Workbook 2A: 188A
2.OA.4	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.	SE/TE-2A: 154-156, 160-165, 172, 175, 177-182 Workbook 2A: 165A, 176A, 182A SE/TE-2B: 165-168, 174-178, 183, 185-186 Workbook 2B: 178A, 187A

Standards	Descriptor	Page Citations
2.NBT	Number and Operations in Base Ten	
Understand place value		
2.NBT.1	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:	
2.NBT.1.a	100 can be thought of as a bundle of ten tens — called a “hundred.”	SE/TE-2A: 6-10, 11-12, 17, 18-21, 23, 33 Workbook 2A: 10A, 10B, 17A, 33A
2.NBT.1.b	The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).	SE/TE-2A: 6-7, 11-12, 16-17, 33 Workbook 2A: 17 A, 17B, 33A
2.NBT.2	Count within 1000; skip-count by 5s, 10s, and 100s.	SE/TE-2A: 6-10, 24-26, 32-33, 157-159, 166-169, 177-179 Workbook 2A: 10A, 10B, 31A, 32A, 33A, 159A, 171A, 182A SE/TE-2B: 135, 164, 167, 200
2.NBT.3	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form	SE/TE-2A: 6-10, 11-17, 33 Workbook 2A: 10A, 10B, 17A, 17B, 33A
2.NBT.4	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons.	SE/TE-2A: 18-23, 33 Workbook 2A: 23A, 33A

Standards	Descriptor	Page Citations
Use place value understanding and properties of operations to add and subtract		
2.NBT.5	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	SE/TE-2A: 35-37, 45, 61-64, 100-103, 108, 110, 114, 117-118, 119, 121, 126, 195, 268-269 Workbook 2A: 106A, 112A, 125A, 125B, 127A SE/TE-2B: 2-5, 20, 26, 27, 35, 37, 40 Workbook 2B: 26A, 41A
2.NBT.6	Add up to four two-digit numbers using strategies based on place value and properties of operations.	SE/TE-2A: 35-37, 46-47, 49, 50-52, 53-55, 59 Workbook 2A: 49A, 52A, 58A, 58B, 59A SE/TE-2B: 6-7, 34, 37, 38, 41 Workbook 2B: 7A, 41A
2.NBT.7	Add and subtract within 1000, 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. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds	SE/TE-2A: 42-45, 46-47, 50-52, 53-55, 57-58, 65-70, 71-75, 76-79, 82-87, 88-91, 100-103, 107-108, 110, 113-116, 119, 125, 229-231 Workbook 2A: 45A, 49A, 52A, 58A, 58B, 70A, 75A, 81A, 87A, 91A, 106A, 112A, 118A SE/TE-2B: 1-4, 8, 10-14, 16, 20-25, 103 Workbook 2B: 15A, 26A
2.NBT.8	Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.	SE/TE-2A: 155 SE/TE-2B: 11-13, 16, 18-19, 40-41, 134-136 Workbook 2B: 15A, 41A
2.NBT.9	Explain why addition and subtraction strategies work, using place value and the properties of operations.	SE/TE-2A: 42-44, 46-47, 50-51, 53-55, 71-75, 76-79, 82-87, 88-91, 92-93, 96-99 Workbook 2A: 45A, 49A, 52A, 58A, 75A, 81A, 87A, 91A SE/TE-2B: 6, 8, 10-14, 17-19, 20-25, 27, 34-35, 37, 38 Workbook 2B: 7A, 15A, 19A, 26A

Standards	Descriptor	Page Citations
2.MD	Measurement and Data	
Measure and estimate lengths in standard units		
2.MD.1	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	SE/TE-2A: 196-199, 205-214, 215-219, 267-269 Workbook 2A: 199A, 214A, 219A SE/TE-2B: 103-104, 105-108, 110-111, 113-119, 120-125 Workbook 2B: 108A, 119A, 125A
2.MD.2	Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.	SE/TE-2B: 123-125 Workbook 2B: 125A
2.MD.3	Estimate lengths using units of inches, feet, centimeters, and meters.	SE/TE-2A: 196-199, 208 Workbook 2A: 199A SE/TE-2B: 105-108, 116, 118-119 Workbook 2B: 108A
2.MD.4	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.	SE/TE-2A: 201-204, 215-217, 219 Workbook 2A: 219A SE/TE-2B: 109-112, 120-122 Workbook 2B: 112A, 125A

Standards	Descriptor	Page Citations
Relate addition and subtraction to length		
2.MD.5	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.	SE/TE-2A: 220-224 Workbook 2A: 224A SE/TE-2B: 126-130, 202-204, 205-209, 210-220 Workbook 2B: 130A, 220A, 220B
2.MD.6	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.	SE/TE-2A: 26-27, 88-91, 220-224 Workbook 2A: 31A SE/TE-2B: 29, 126-129, 202-204, 205-206, 210-212 Workbook 2B: 37A, 220A, 220B
Work with time and money		
2.MD.7	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	SE/TE-2B: 138-140, 141-145, 148-149, 156, 159-160, 161-162 Workbook 2B: 140A, 145A, 160A, 162A
2.MD.8	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately.	SE/TE-2B: 42-45, 49, 51, 54-55, 62-65, 66-72, 74 Workbook 2B: 65A, 72A, 74A
Represent and interpret data		
2.MD.9	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.	SE/TE-2B: 253-254
2.MD.10	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems ⁴ using information presented in a bar graph	SE/TE-2B: 225, 227-229, 230-237, 238-243, 244-248, 249-251, 255-256, 257-262 Workbook 2B: 237A, 243A, 243B, 248A

Standards	Descriptor	Page Citations
2.G	Geometry	
Reason with shapes and their attributes		
2.G.1	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.	SE/TE-2B: 265-268, 278-280, 285-286, 287-289, 296-305, 306-308, 310-311, 313-314, 316, 318-322 Workbook 2B: 280A, 305A, 305B, 305C, 311A, 322A
2.G.2	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	SE/TE-2A: 160-164, 177, 180-182 Workbook 2A: 165A, 182A SE/TE-2B: 77, 80-84, 85-91, 92-98 Workbook 2B: 84A, 84B, 98A
2.G.3	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	SE/TE-2B: 77, 79-81, 83-84, 85-88, 90-91, 92-96, 98, 99 Workbook 2B: 84A, 84B, 98A