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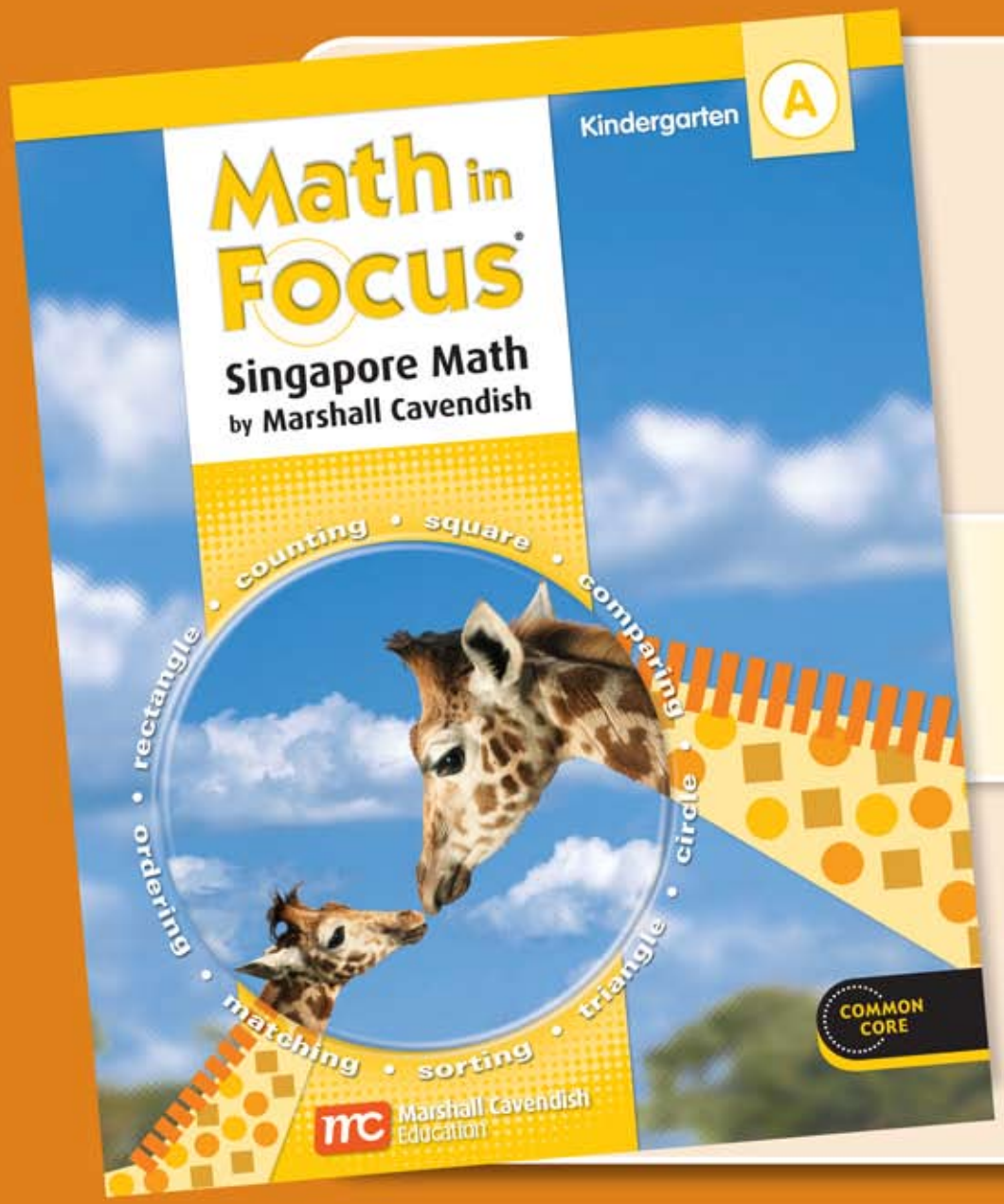

Correlation to the Common Core State Standards for Mathematics

Math in Focus

© 2012

Grade K

COMMON CORE

Correlation of *Math Ín 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 tw0-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 opera tions 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>.

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for the Common Core

correlated to the

Common Core State Standards for Math
Grade K

Standards	Descriptor	Citations
Standards for Mathematical Practice		
MP.1	Make sense of problems and persevere in solving them.	**SE/TE-A:** 6-10, 51-58, 63-68, 70-73, 86-89, 90-95, 109-112, 126-128 **SE/TE-B:** 2-5, 15-17, 62-67, 68-71, 77-84, 86-90, 100-103, 110-114, 128-134, 136-142, 143-147, 148-153, 154-160, 167-172,198-200, 202-208, 209-214, 215-218, 220-225, 226-230, 240-246
MP.2	Reason abstractly and quantitatively.	**SE/TE-A:** 2-5, 6-10, 11-15, 16-21, 22-26, 32-36, 37-43, 44-50, 51-58, 59-62, 63-68, 74-76, 80-82, 86-89, 100-105, 109-112, 118-121, 156-160 **SE/TE-B:** 11-14, 18-20, 62-67, 68-71, 72-76, 77-84, 86-90, 120-126, 136-142, 167-172, 192-197, 198-200, 202-208, 209-214, 215-218, 220-225, 226-230, 231-234, 240-246
MP.3	Construct viable arguments and critique the reasoning of others.	**SE/TE-A:** 22-26, 44-50, 63-68, 77-79, 100-105, 126-128 **SE/TE-B:** 11-14, 15-17, 68-71, 86-90, 120-126, 128-134, 162-166, 180-185, 202-208, 226-230, 240-246

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Standards	Descriptor	Citations
MP.4	Model with mathematics.	**SE/TE-A:** 2-5, 6-10, 11-15, 16-21, 27-30, 32-36, 37-43, 44-50, 51-58, 59-62, 63-68, 74-76, 86-89, 90-95, 96-99, 100-105, 106-108, 109-112, 122-125, 130-137, 138-142, 143-148, 149-155, 156-160 **SE/TE-B:** 2-5, 6-10, 11-14, 15-17, 18-20, 22-26, 27-31, 32-37, 38-43, 44-49, 50-56, 57-60, 62-67, 68-71, 77-84, 110-114, 115-119, 120-126, 128-134, 136-142, 143-147, 148-153, 154-160, 167-172, 173-178, 180-185, 192-197, 198-200, 202-208, 209-214, 215-218, 220-225, 226-230, 231-234, 236-239, 240-246
MP.5	Use appropriate tools strategically.	**SE/TE-A:** 2-5, 6-10, 11-15, 16-21, 22-26, 32-36, 37-43, 44-50, 51-58, 63-68, 70-73, 77-79, 80-82, 86-89, 90-95, 100-105, 109-112, 114-117, 118-121, 126-128, 130-137, 138-142, 143-148, 149-155, 149-155, 156-160 **SE/TE-B:** 2-5, 6-10, 15-17, 68-71, 72-76, 91-93, 100-103, 104-108, 110-114, 115-119, 128-134, 148-153, 154-160, 167-172, 173-178, 180-185, 188-190, 192-197, 202-208, 220-225, 236-239, 240-246
MP.6	Attend to precision.	**SE/TE-A:** 2-5, 6-10, 16-21, 27-30, 44-50, 100-105, 106-108,122-125 **SE/TE-B:** 15-17, 62-67, 86-90, 100-103, 120-126, 128-134, 173-178, 188-190, 192-197, 209-214, 231-234, 236-239
MP.7	Look for and make use of structure.	**SE/TE-A:** 11-15, 16-21, 51-58, 70-73, 74-76, 77-79, 80-82, 86-89, 90-95, 126-128, 130-137 **SE/TE-B:** 18-20, 72-76, 86-90, 91-93, 94-98, 100-103, 104-108, 120-126, 128-134, 136-142, 148-153, 162-166, 173-178, 188-190, 198-200, 209-214, 220-225, 236-239
MP.8	Look for and express regularity in repeated reasoning.	**SE/TE-A:** 86-89, 90-95, 96-99 **SE/TE-B:** 22-26, 27-31, 32-37, 38-43, 44-49, 50-56, 57-60, 72-76, 77-84, 136-142, 148-153, 198-200, 215-218

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Standards	Descriptor	Citations
Standards for Mathematical Content		
K.CC	**Counting and Cardinality**	
Know number names and the count sequence.		
K.CC.1	Count to 100 by ones and by tens.	**SE/TE-A:** 2-5, 6-10, 11-15, 16-21, 22-26, 32-36, 86-89, 90-95, 96-99, 100-105, 106-108, 109-112, 114-117, 130-137, 138-142, 143-148, 149-155, 156-160 **SE/TE-B:** 2-5, 22-26, 27-31, 32-37, 38-43, 44-49, 50-56, 57-60, 62-67, 68-71, 72-76, 77-84, 110-114, 115-119, 120-126, 167-172, 173-178, 192-197, 198-200, 202-208, 209-214, 215-218
K.CC.2	Count forward beginning from a given number within the known sequence (instead of having to begin at 1).	**SE/TE-A:** 51-58, 86-89, 90-95, 96-99, 100-105, 106-108, 109-112, 130-137, 138-142, 143-148, 149-155 **SE/TE-B:** 27-31, 38-43, 44-49, 50-56, 62-67, 72-76, 77-84, 110-114, 136-142, 143-147, 240-246
K.CC.3	Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).	**SE/TE-A:** 2-5, 6-10, 11-15, 16-21, 22-26, 27-30, 32-36, 37-43, 44-50, 51-58, 59-62, 63-68, 86-89, 90-95, 96-99, 100-105, 106-108 130-137, 138-142, 143-148, 149-155 **SE/TE-B:** 22-26, 27-31, 61-67, 68-71, 72-76, 77-84, 110-114, 154-160, 167-172, 173-178, 192-197, 198-200, 202-208, 209-214, 215-218, 220-225, 236-239, 240-246

Standards	Descriptor	Citations
Count to tell the number of objects.		
K.CC.4	Understand the relationship between numbers and quantities; connect counting to cardinality.	
K.CC.4a	The number names are said in the standard order.	**SE/TE-A:** 2-5, 6-10, 11-15, 16-21, 22-26, 27-30, 32-36, 37-42, 44-50, 51-58, 63-68, 86-89, 90-95, 96-99, 100-105, 106-108, 109-112, 130-137, 138-142, 143-148, 149-155, 156-160 **SE/TE-B:** 22-26, 27-31, 32-37, 38-43, 44-49, 50-56, 57-60, 62-67, 68-71, 77-84, 110-114, 115-119, 120-126, 154-160, 167-172, 173-178
K.CC.4b	Each object is paired with one and only one number name.	**SE/TE-A:** 2-5, 6-10, 11-15, 16-21, 22-26, 32-36, 37-43, 44-50, 51-58, 59-62, 63-68, 86-89, 90-95, 100-105, 106-108, 109-112, 114-117, 130-137, 138-142, 143-148, 149-155, 156-160 **SE/TE-B:** 22-26, 27-31, 32-37, 38-42, 44-49, 50-56, 57-60, 110-114, 115-119, 120-126, 136-142, 143-147, 154-160, 167-172, 173-178
K.CC.4c	The last number name said tells the number of objects counted.	**SE/TE-A:** 44-50, 51-58, 63-67, 86-89, 90-95, 96-99, 100-105, 106-108, 109-112, 130-137, 138-142, 143-148, 149-155 **SE/TE-B:** 27-31, 32-37, 38-43, 44-49, 50-56, 57-60, 110-114, 136-142, 142-147, 154-160, 167-172, 173-178
K.CC.5	Understand that when counting forward, each successive number name refers to a quantity that is 1 larger.	**SE/TE-A:** 2-5, 6-10, 11-15, 16-21, 22-26, 32-36, 37-43, 44-50, 51-58, 59-62, 63-68, 86-89, 90-95, 96-99, 100-105, 106-108, 109-112, 114-117, 130-137, 138-142, 143-148, 149-155, 156-160 **SE/TE-B:** 2-5, 22-26, 27-31, 32-37, 57-60, 110-114, 154-160, 240-246

Standards	Descriptor	Citations
Compare numbers.		
K.CC.6	Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.	**SE/TE-A:** 11-15, 16-21, 51-58, 59-62, 63-68, 138-142, 143-148, 156-160 **SE/TE-B:** 27-31, 57-60, 62-67, 68-71, 115-119, 120-126, 136-142, 143-147, 154-160, 209-214
K.CC.7	Compare two numbers between 1 and 10 presented as written numerals.	**SE/TE-A:** 44-50, 51-58, 59-62, 86-89, 100-105, 106-108, 130-137, 149-155, 156-160 **SE/TE-B:** 22-26, 27-31
K.OA	**Operations and Algebraic Thinking**	
Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.		
K.OA.1	Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.	**SE/TE-A:** 86-89, 90-95, 96-99, 106-108, 114-117, 130-137 **SE/TE-B:** 72-76, 77-84, 110-114, 120-126, 136-142, 143-147, 148-153, 154-160, 167-172, 192-197, 198-200, 202-208, 209-214, 215-218, 240-246
K.OA.2	Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.	**SE/TE-A:** 143-148, 149-155 **SE/TE-B:** 72-76, 77-84, 120-125, 143-147, 154-159, 167-172, 192-197, 198-200, 202-208, 209-214, 215-218, 240-246
K.OA.3	Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).	**SE/TE-A:** 84-89, 86-89, 130-137, 143-148, 149-155 **SE/TE-B:** 110-114, 115-119, 136-142, 143-147, 148-153, 154-160, 192-197, 198-200, 202-208, 209-214, 215-218, 240-246
K.OA.4	For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.	**SE/TE-A:** 130-137, 138-142 **SE/TE-B:** 110-114, 115-119, 136-142, 143-147, 148-153, 154-160, 192-197, 202-208
K.OA.5	Fluently add and subtract within 5.	**SE/TE-A:** 86-89, 96-99 **SE/TE-B:** 77-84, 136-142, 143-147, 148-153, 154-160, 192-197, 198-200, 215-218

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Standards	Descriptor	Citations
K.NBT	**Number and Operations in Base Ten**	
Work with numbers 11–19 to gain foundations for place value.		
K.NBT.1	Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	**SE/TE-A:** 130-137, 138-142 **SE/TE-B:** 27-31, 110-114, 115-119, 120-126, 148-153
K.MD	**Measurement and Data**	
Describe and compare measurable attributes.		
K.MD.1	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.	**SE/TE-A:** 11-15, 16-21, 70-73, 74-76, 77-79, 80-82, 114-117, 118-121, 126-128 **SE/TE-B:** 162-166, 167-172, 173-178, 180-185, 220-225, 226-230, 231-234, 236-239
K.MD.2	Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference.	**SE/TE-A:** 11-15, 16-21, 70-73, 74-76, 77-79, 80-82, 114-117, 118-121 **SE/TE-B:** 94-98, 100-103, 104-108, 162-166, 167-172, 173-178, 180-185, 188-190, 220-225, 226-230, 231-234, 236-239
Classify objects and count the number of objects in each category.		
K.MD.3	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.	**SE/TE-A:** 2-5, 22-26, 70-73, 114-117, 118-121 **SE/TE-B:** 104-108, 180-185, 188-190

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Standards	Descriptor	Citations
K.G	**Geometry**	
Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).		
K.G.1	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above*, *below*, *beside*, *in front of*, *behind*, and *next to*.	**SE/TE-A:** 122-125, 130-173 **SE/TE-B:** 2-5, 6-10, 128-134
K.G.2	Correctly name shapes regardless of their orientations or overall size.	**SE/TE-B:** 2-5, 6-10, 11-14, 15-17, 18-20, 128-134, 188-190
K.G.3	Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").	**SE/TE-B:** 2-5, 6-10, 11-14
Analyze, compare, create, and compose shapes.		
K.G.4	Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/ "corners") and other attributes (e.g., having sides of equal length).	**SE/TE-B:** 2-5, 6-10, 11-14, 15-17, 18-20
K.G.5	Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.	**SE/TE-B:** 4, 6-10, 11-14, 17
K.G.6	Compose simple shapes to form larger shapes.	**SE/TE-B:** 2-5, 6-10, 15-17