Common Core State Standards

At-a-Glance Transition Documents

First Grade

S^2TEM Centers SC
www.s2temsc.org

S^2TEM Centers SC are a statewide system of support for improving instruction and increasing student achievement in mathematics and science. S²TEM Centers SC, like S²MART Centers before them, are an initiative of South Carolina's Coalition for Mathematics and Science. The S^2TEM Centers SC seek to work collaboratively with STEM-oriented partners in education, business and government.

<u>Preface</u>

The S[2]TEM Centers SC At-a-Glance Transition Documents were created in response to a request by district leaders for a quick overview of the magnitude of the changes as South Carolina moves from the 2007 SC Academic Standards for Mathematics to the Common Core State Standards for Mathematics (CCSSM). These documents do not provide a detailed analysis of the CCSSM or include all of the sub-skills that might need to be taught to ensure mastery of the standard, nor do they replace the current Support Documents for Mathematics that is available for Kindergarten through Algebra 1. More robust instructional resources will be created as SC gets closer to full implementation of the CCSSM.

In addition to the S[2]TEM Centers SC At-a-Glance Transition Documents, educators should have copies of the CCSSM from www.corestandards.org, as well as the appendices that accompany the standards. Specifically, K-8 educators will need access to the CCSSM glossary which includes tables 1, 2, and 3 to completely understand the intent of the standards.

The format of the documents is:

- Bulleted list of content that is new to the given grade level
- Bulleted list of content that is no longer included in the standards for the given grade level
- Four column table showing: Common Core State Standard, Understanding CCSS: Notes and Examples, 2007 SC Academic Standard, Major Changes

Throughout this document, the Common Core State Standards are identified by grade level, domain, and standard number. So, for example, 3.NBT.2 refers to the 3rd grade Number and Operations in Base Ten standard #2.

Please note: The CCSSM identifies a list of 8 Standards for Mathematical Practice in addition to the content standards for each grade. These mathematical practices are similar to NCTM's Process Standards. The Standards for Mathematical Practice identify the "habits of mind" used by proficient mathematics students. They are: (1) Make sense of problems and persevere in solving them, (2) Reason abstractly and quantitatively, (3) Construct viable arguments and critique the reasoning of others, (4) Model with mathematics, (5) Use appropriate tools strategically, (6) Attend to precision, (7) Look for and make use of structure, (8) Look for and express regularity in repeated reasoning.

As with any curriculum document, the S[2]TEM Center SC At-a-Glance Transition Documents are updated regularly to ensure accuracy of information. The date of the most recent edits is noted in the footer on each page of the documents. Please contact the S[2]TEM Centers SC CCSSM team at ccss.s2temsc@gmail.com with edits, refinements, and questions. Thank you.

During the period of July 1, 2009 to June 30, 2011, S2TEM Centers SC operated as S2MART Centers SC.

Grade 1 Overview

"In Grade 1, instructional time should focus on four critical areas: (1) developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; (2) developing understanding of whole number relationships and place value, including grouping in tens and ones; (3) developing understanding of linear measurement and measuring lengths as iterating length units; and (4) reasoning about attributes of, and composing and decomposing geometric shapes." *Common Core State Standards for Mathematics*

Operations and Algebraic Thinking (1.OA)

• Represent and solve problems involving addition and subtraction.

• Understand and apply properties of operations and the relationship between addition and subtraction.

• Add and subtract within 20.

• Work with addition and subtraction equations.

Number and Operations in Base Ten (1.NBT)

• Extend the counting sequence.

• Understand place value.

• Use place value understanding and properties of operations to add and subtract.

Measurement and Data (1.MD)

• Measure lengths indirectly and by iterating length units.

• Tell and write time.

• Represent and interpret data.

Geometry (1.G)

• Reason with shapes and their attributes.

FIRST GRADE CHANGES AT-A-GLANCE

What content is NEW to 1st Grade?

- Solve problems involving addition of three whole numbers. (1.OA.2)

- Work with addition and subtraction equations. (1.OA.7, 1.OA.8)

- Understand that the two digits of a two-digit number represent amounts of tens and ones. (1.NBT.2)

- Given a two-digit number, mentally find 10 more or 10 less than the number. (1.NBT.5)

- Order three objects by length. (1.MD.1)

- Express the length of an object as a whole number of length units. (1.MD.2)

- Tell and write time to the hour. (1.MD.3)

- Compose two-dimensional or three-dimensional shapes to create composite shapes. (1.G.2)

- Partition circles and rectangles into two and four equal shares. (1.G.3)

Note: The Common Core State Standards are identified by grade level, domain, and standard number. So, for example, 1.OA.2 refers to the 1ST grade Operations and Algebraic Thinking standard #2.

FIRST GRADE CHANGES AT-A-GLANCE

What content will no longer be included in the 1st Grade Standards?*

- Use estimation to determine the approximate number of objects in a set of 20 to 100 objects. (1-.2.2)
- Represent quantities in word form through ten. (1-2.3)
- Recognize whole-number words that correspond to numerals through twenty. (1-2.4)
- Analyze the magnitude of digits through 999 on the basis of their place values. (1-2.9)
- Analyze numeric relationship to complete and extend simple patterns. (1-3.4)
- Classify a number as odd or even. (1-3.5)
- Classify change over time as quantitative or qualitative. (1-3.6)
- Identify the three-dimensional geometric shapes prism, pyramid, and cone. (1-4.1)
- Analyze the two-dimensional shapes circle, square, triangle, and rectangle. (1-4.2)
- Identify a line of symmetry. (1-4.4)
- Use the positional and directional terms north, south, east, and west to describe location and movement. (1-4.5)
- Use a counting procedure to determine the value of a collection of pennies, nickels, dimes and quarters totaling less than a dollar. (1-5.1)
- Represent a nickel, a dime, a quarter, a half-dollar, and a dollar in combinations of coins. (1-5.2)
- Represent money by using the cent and dollar notations. (1-5.3)
- Generate common referents for whole inches. (1-5.5)
- Use common referents to make estimates in whole inches. (1-5.6)
- Use nonstandard units to measure the weight of objects. (1-5.7)
- Illustrate past and future dates on a calendar. (1-5.9)
- Represent dates in standard form (June 1, 2007, for example) and numeric form (6-1-2007, for example). (1-5.10)
- Use Celsius and Fahrenheit thermometers to measure temperature. (1-5.11)
- Use survey questions to collect data. (1-6.1)
- Predict on the basis of data whether events are likely or unlikely to occur. (1-6.4)
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Note: Common Core standards implementation will begin in 2010-2011, with full implementation and assessment in 2014-2015.

FIRST GRADE

OPERATIONS AND ALGEBRAIC THINKING (OA)

Common Core State Standards	Understanding CCSS: Notes and Examples	2007 S.C. Academic Standards for Mathematics	Major Changes
1.OA – Represent and solve problems involving addition and subtraction.			
1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.	e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.5 Note: See CCSS Glossary, Table 1 Note: Drawings need not show details, but should show the mathematics in the problem. (This applies whenever drawings are mentioned in the Standards.)	1-2.6 Recall basic addition facts through 9 + 9 and corresponding subtraction facts. 1-1.1 Apply substantive mathematical problem-solving strategies.	Extend to include word problems.
2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20.	e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.		This standard is new to 1st Grade.
1.OA – Understand and apply properties of operations and the relationship between addition and subtraction.			
3. Apply properties of operations as strategies to add and subtract.	*Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.)* *To add 2 + 6 + 4, the second two*	1-3.1 Analyze numeric patterns in addition and subtraction to develop strategies for acquiring basic facts. 1-3.2 Translate patterns into	Extend to include the Associate Property of Addition.

	numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.) . Note: Students need not use formal terms for these properties.	rules for simple addition and subtraction. 1-3.3 Illustrate the commutative property based on basic facts.	
4. Understand subtraction as an unknown-addend problem.	*For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.*	1-2.7 Summarize the inverse relationship between addition and subtraction.	None noted.

1.OA – Add and subtract within 20.

5. Relate counting to addition and subtraction.	(e.g., by counting on 2 to add 2).	1-3.1 Analyze numeric patterns in addition and subtraction to develop strategies for acquiring basic facts.	None noted
6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10.	Use strategies such as: • counting on; • making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); • decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); • using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and • creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).	1-2.6 Recall basic addition facts through 9 + 9 and corresponding subtraction facts. 1-2.7 Summarize the inverse relationship between addition and subtraction.	Continue to teach. Students are expected to demonstrate fluency only through 10 (i.e. 5+5), instead of 18 (i.e. 9+9).

1.OA – Work with addition and subtraction equations.

7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.	*For example, which of the following equations are true and which are false? 6=6, 7=8–1, 5+2=2+5, 4+1=5+2.*		This standard is new to 1st Grade.
8. Determine the unknown number in a whole-number addition or subtraction equation relating three whole numbers.	*For example, determine the unknown number that makes the equation true in each of the equations 8+? = 11, 5 =? - 3, 6 + 6 =?*		This standard is new to 1st Grade. (See 2007 2-2.8 for reference.)

FIRST GRADE

NUMBER AND OPERATIONS IN BASE TEN (NBT)

Common Core State Standards	Understanding CCSS: Notes and Examples	2007 S.C. Academic Standards for Mathematics	Major Changes
1.NBT – Extend the counting sequence.			
1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.		1-2.1 Translate between numeral and quantity through 100.	Extend to include numbers up to 120.
1.NBT – Understand place value.			
2. Understand that the two digits of a two-digit number represent amounts of tens and ones.	Understand the following as special cases: a. 10 can be thought of as a bundle of ten ones — called a "ten." b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).		This standard is new to 1st Grade.

3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.		1-2.5 Compare whole-number quantities through 100 by using the terms *is greater than, is less than,* and *is equal to*.	Extend to include comparisons with symbols ">", "<", and "=".

1.NBT - Use place value understanding and properties of operations to add and subtract.

4. Add within 100. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.	This should include: • adding a two-digit number and a one-digit number, and • adding a two-digit number and a multiple of 10, 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.	1-2.8 Generate strategies to add and subtract without regrouping through two-digit numbers.	Extend to include addition and subtraction with regrouping. (See 2007 2-2.7 for reference.)
5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.			This standard is new to 1st Grade.
6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences).	Use 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.	1-2.8 Generate strategies to add and subtract without regrouping through two-digit numbers.	None noted.

FIRST GRADE

MEASUREMENT AND DATA (MD)

Common Core State Standards	Understanding CCSS: Notes and Examples	2007 S.C. Academic Standards for Mathematics	Major Changes
1.MD – Measure lengths indirectly and by iterating length units.			
1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.	*Editorial Clarification: Focus here is on nonstandard measures, based on vertical articulation.*		This standard is new to 1st Grade. (See 2007 K-5.3 for reference.)
2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps.	*Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.* *Editorial Clarification: Focus here is on nonstandard measures, based on vertical articulation.*		This standard is new to 1st Grade. (See 2007 K-5.3 for reference.)
1.MD – Tell and write time.			
3. Tell and write time in hours and half-hours using analog and digital clocks.		1-5.8 Use analog and digital clocks to tell and record time to the half hour.	Extend to include telling and writing time to the hour. (See 2007 K-5.4 and K-5.6 for reference.)

1.MD – Represent and interpret data.

4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.		1-6.2 Organize data in picture graphs, object graphs, bar graphs, and tables. 1-6.3 Interpret data in picture graphs, object graphs, bar graphs, and tables by using the comparative terms *more, less, greater, fewer, greater than,* and *less than*.	None noted.

FIRST GRADE

GEOMETRY (G)

Common Core State Standards	Understanding CCSS: Notes and Examples	2007 S.C. Academic Standards for Mathematics	Major Changes
1.G – Reason with shapes and their attributes.			
1.Distinguish between defining attributes versus non-defining attributes; build and draw shapes to posses defining attributes.	Defining attributes (e.g., triangles are closed and three sided). Non-defining attributes (e.g., color, orientation, overall size)	1-4.3 Classify two-dimensional shapes as polygons or nonpolygons.	Extend to include building shapes given attributes.
2. Compose two-dimensional shapes or three-dimensional shapes to create a composite shape, and compose new shapes from the composite shape.	2-dimensional: rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles 3-dimensional : cubes, right rectangular prisms, right circular cones, and right circular cylinders Note: Students do not need to learn formal names such as "right rectangular prism."		This standard is new to 1st Grade. (See 2007 2-4.3 for reference.)
3. Partition circles and rectangles into two and four equal shares. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.	Describe the shares using the words *halves*, *fourths*, and *quarters*, and use the phrases *half of*, *fourth of*, and *quarter of*		This standard is new to 1st Grade. (See 2007 2-4.3 for reference.)