



Common Core State Standards At-a-Glance Transition Documents Kindergarten

S²TEM Centers SC
www.s2temsc.org

S²TEM 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 S²TEM Centers SC seek to work collaboratively with STEM-oriented partners in education, business and government.



Preface

The S²TEM 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 S²TEM 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 S²TEM 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 S²TEM Centers SC CCSSM team at ccss.s2temsc@gmail.com with edits, refinements, and questions. Thank you.

Acknowledgements

S²TEM Centers SC CCSSM Team

Terrie R. Dew, Mathematics Instructional Specialist
AOP-G Regional S²TEM Center

Jeannie Martin, Mathematics Instructional Specialist
Lowcountry Regional S²TEM Center

Leigh Haltiwanger, Mathematics Instructional Specialist
Upper Savannah Regional S²TEM Center

Kim Poston, Mathematics Instructional Specialist
Coastal-Pee Dee Regional S²TEM Center

The S²TEM Centers SC CCSSM Team would like to thank the members of SCLME who volunteered their time to assist with the review, editing and refinement of the At-a-Glance Transition Documents.

S²TEM Centers SC At-a-Glance Transition Documents Review Team

Dian Alston, Instructional Specialist Elementary Mathematics
Lexington-Richland School District Five

Rita Bixler, Secondary Mathematics Consultant
Greenville County Schools

Dorothy Earle, Mathematics Instructional Specialist
AOP-G Regional S²TEM Center

Cathy Hale, Elementary Mathematics Consultant
Greenville County Schools

Kathryn Jackson, Mathematics Coach
Chesterfield County School District

Sue Phillips, Mathematics Instructional Specialist
Lowcountry Regional S²TEM Center

Pamela Smith, Curriculum Specialist
Dorchester County School District Four

Rhonda Willis, Curriculum Facilitator
Hampton County School District One

Sandra Avinger, Secondary Mathematics Consultant
Richland County School District One

Colleen Boissinot, K-12 Mathematics Coordinator
Lexington-Richland School District Five

Ellen Fender, District Instructional Facilitator
Colleton County School District

Beth Hough, School Improvement Facilitator
Chesterfield County School District

Carla King, Mathematics Coordinator
Sumter County School District Two

Christie Reid, Math Instructional Supervisor prek-12
Clover School District

Martha Taylor, Math/Science Coordinator
Darlington County School District

Kindergarten Overview

“In Kindergarten, instructional time should focus on two critical areas: (1) representing, relating, and operating on whole numbers, initially with sets of objects; (2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.” *Common Core State Standards for Mathematics*

Counting and Cardinality (K.CC)

- Know number names and the count sequence.
- Count to tell the number of objects.
- Compare numbers.

Operations and Algebraic Thinking (K.OA)

- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

Number and Operations in Base Ten (K.NBT)

- Work with numbers 11–19 to gain foundations for place value.

Measurement and Data(K.MD)

- Describe and compare measurable attributes.
- Classify objects and count the number of objects in categories.

Geometry(K.G)

- Identify and describe shapes.
- Analyze, compare, create, and compose shapes.

Common Core State Standards Initiative. (2010). Common Core State Standards for Mathematics. Washington, DC: National Governors Association Center for Best Practices and the Council of Chief State School Officers.

KINDERGARTEN CHANGES AT-A-GLANCE

What content is NEW to Kindergarten?

- Compare two numbers between 1 and 10 presented as written numerals. (K.CC.7)
- Fluently add and subtract within 5. (K.OA.5)
- Identification of hexagon as a two-dimensional shape. (K.G.1, K.G.2)
- Identification of cone as one of the three-dimensional shapes. (K.G.1, K.G.2)
- Identify shapes as two-dimensional or three-dimensional. (K.G.3)
- Analyze and compare a variety of two- and three-dimensional shapes. (K.G.4)
- Compose simple shapes to form larger shapes. (K.G.6)

Note: The Common Core State Standards are identified by grade level, domain, and standard number. So, for example, K.CC.2 refers to the Kindergarten Counting and Cardinality standard #2.

KINDERGARTEN CHANGES AT-A-GLANCE

What content will no longer be included in the Kindergarten Mathematics Standards?

- Understand that addition results in increase and subtraction results in decrease. (K-2.5)
- Analyze the magnitude of digits through 99 on the basis of their place values. (K-2.6)
- Identify ordinal positions through 31st. (K-2.8)
- Identify simple growing patterns. (K-3.1)
- Analyze simple repeating and growing relationships to extend patterns. (K-3.2)
- Translate simple repeating and growing patterns into rules. (K-3.3)
- Use the directional words left and right to describe movement. (K-4.4)
- Identify a penny, a nickel, a dime, a quarter, and a dollar and the value of each. (K-5.1)
- Identify rulers, yardsticks, and tape measures as devices used to measure length; scales and balances as devices used to measure weight; calendars and analog and digital clocks as devices used to measure time; and digital and standard thermometers as devices used to measure temperature. (K-5.4)
- Use analog and digital clocks to tell time to the hour. (K-5.6)
- Use a calendar to identify dates, days of the week, and months of the year. (K-5.7)
- Recall equivalencies associated with time: 7 days = 1 week and 12 months = 1 year. (K-5.8)
- Organize data in graphic displays in the form of drawings and pictures. (K-6.1)
- Interpret data in graphic displays in the form of drawings and pictures. (K-6.2)

***Note: Common Core standards implementation will begin in 2010-2011, with full implementation and assessment in 2014-2015.**

KINDERGARTEN

COUNTING AND CARDINALITY (CC)

| Common Core State Standards | Understanding CCSS: Notes and Examples | 2007 S.C. Academic Standards for Mathematics | Major Changes |
|--|---|---|---|
| K.CC – Know number names and count in sequence. | | | |
| 1. Count to 100 by ones and by tens | | K-2.1 Recall numbers counting forward through 99 and backward from 10 | In addition to counting to 99, extend to include counting by tens to 100. Counting backwards from 10 is no longer Kindergarten content. |
| 2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1). | <i>Editorial Clarification: This was referred to as "counting on" in the previous support document.</i> | K-2.1 Recall numbers counting forward through 99 and backward from 10 | Continue to teach with the exception of counting backwards from 10. |
| 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). | | K-2.2 Translate between numeral and quantity through 31. | Continue to teach up to 20. |
| K.CC– Count to tell the number of objects. | | | |
| 4. Understand the relationship between numbers and quantities; connect counting to cardinality. a. When counting objects, say the number names in the standard order, pairing each object with one and only one | | K-2.2 Translate between numeral and quantity through 31. | Continue to teach up to 20. |

Common Core State Standards At-a-Glance Transition Documents

| | | | |
|--|--|---|---|
| <p>number name and each number name with one and only one object.</p> <p>b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.</p> <p>c. Understand that each successive number name refers to a quantity that is one larger.</p> | | | |
| <p>5. Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.</p> | | <p>K-2.2 Translate between numeral and quantity through 31.</p> | <p>Continue to teach up to 20.</p> |
| <p>K.CC – Compare numbers.</p> | | | |
| <p>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.</p> | <p>e.g. by using matching and counting strategies.</p> <p>Note: Include groups with up to ten objects.</p> | <p>K-2.3 Compare sets of no more than 31 objects by using the terms <i>more than</i>, <i>less than</i>, and <i>the same as</i>.</p> | <p>Continue to teach with groups of up to 10 objects.</p> |

Common Core State Standards At-a-Glance Transition Documents

| | | | |
|--|--|--|---------------------------------------|
| 7. Compare two numbers between 1 and 10 presented as written numerals. | <i><u>Editorial Clarification:</u> use words such as “greater than”, “less than”, or “equal to” to compare two numerals.</i> | | This standard is new to Kindergarten. |
|--|--|--|---------------------------------------|

KINDERGARTEN

OPERATIONS AND ALGEBRAIC THINKING (OA)

| Common Core State Standards | Understanding CCSS: Notes and Examples | 2007 S.C. Academic Standards for Mathematics | Major Changes |
|---|--|---|---|
| K.OA – Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. | | | |
| 1. Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g. claps), acting out situations, verbal explanations, expressions, or equations. | Note: Drawings need not show details, but should show the mathematics in the problem. (This applies whenever drawings are mentioned in the Standards.) | K-2.4 Represent simple joining and separating situations through 10 | Extend to include symbolic representations. |
| 2. Solve addition and subtraction word problems, and add and subtract within 10. | e.g. by using objects or drawings to represent the problem. | K-2.4 Represent simple joining and separating situations through 10 | Extend to include symbolic representations. |
| 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 $5 = 4 + 1$). | K-2.4 Represent simple joining and separating situations through 10 | Extend to include symbolic representations. |
| 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. | K-2.4 Represent simple joining and separating situations through 10 | Extend to include symbolic representations. |
| 5. Fluently add and subtract within 5. | <i>Editorial Clarification: Maximum sum and maximum minuend of 5.</i> | | This standard is new to Kindergarten. (See 2007 1-2.6 for reference.) |

KINDERGARTEN

NUMBER AND OPERATIONS IN BASE TEN (NBT)

| Common Core State Standards | Instructional Implications | 2007 S.C. Academic Standards for Mathematics | Major Changes |
|--|---|--|-------------------------------|
| K.NBT – Work with numbers 11-19 to gain foundations for place value. | | | |
| 1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones and record each composition or decomposition by a drawing or equation; understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. | <p>Compose/decompose (e.g. by using objects or drawings).</p> <p>Equation (e.g. $18 = 10 + 8$)</p> | K-2.7 Represent the place value of each digit in a two-digit whole number. | Continue to teach through 19. |

KINDERGARTEN

MEASUREMENT AND DATA (MD)

| Common Core State Standards | Instructional Implications | 2007 S.C. Academic Standards for Mathematics | Major Changes |
|--|--|--|--|
| K.MD – Describe and compare measurable attributes. | | | |
| 1. Describe measurable attributes of objects. Describe several measurable attributes of a single object. | Objects such as length or weight. <i>Editorial Clarification: use of nonstandard units implied by vertical articulation.</i> | K-5.3 Use nonstandard units to explore the measurement concepts of length and weight. K-5.5 Understand which measure—length, weight, time, or temperature—is appropriate for a given situation. | Continue to teach with the exception of time and temperature. |
| 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. | <i>For example, directly compare the heights of two children and describe one child as taller/shorter.</i> <i>Editorial Clarification: use of nonstandard units implied by vertical articulation.</i> | K-5.2 Compare the lengths of two objects, both directly and indirectly, to order objects according to length. K-5.3 Use nonstandard units to explore the measurement concepts of length and weight. | Continue to teach, extend to include comparisons of weight (See 2007 1-5.7 for reference.) |
| K.MD – Classify objects and count the number of objects in each category. | | | |
| 3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. | Note: Limit category counts to be less than or equal to 10. | K-3.4 Classify objects according to one or more attributes such as color, size, shape, and thickness. | Continue to teach, extend to include counting the number of objects and sorting by count. |

KINDERGARTEN

GEOMETRY (G)

| Common Core State Standards | Instructional Implications | 2007 S.C. Academic Standards for Mathematics | Major Changes |
|--|--|--|--|
| K.G – Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). | | | |
| 1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms. | Terms such as <i>above, below, beside, in front of, behind,</i> and <i>next to</i> . | K-4.1 Identify the two-dimensional shapes square, circle, triangle, and rectangle and the three-dimensional shapes cube, sphere, and cylinder. K-4.3 Use the positional words <i>near, far, below, above, beside, next to, across from,</i> and <i>between</i> to describe the location of an object. | Continue to teach, extend to include “in front of”, “behind”, hexagons, and cones. |
| 2. Correctly name shapes regardless of their orientations or overall size. | | k-4.1 Identify the two-dimensional shapes square, circle, triangle, and rectangle and the three-dimensional shapes cube, sphere, and cylinder. | Continue to teach, extend to include hexagons and cones. |
| 3. Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”). | | | This standard is new to Kindergarten. |

| K.G – Analyze, compare, create, and compose shapes. | | | |
|--|--|--|---------------------------------------|
| 4. Analyze and compare a variety of two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts and other attributes. | Informal language (e.g. number of sides and vertices/"corners") Attributes (e.g. having sides of equal length). | | This standard is new to Kindergarten. |
| 5. Model shapes in the world by building shapes from components and drawing shapes. | Components (e.g., sticks and clay balls). | K-4.2 Represent two-dimensional geometric shapes | None noted. |
| 6. Compose simple shapes to form larger shapes. | For example, "Can you join these two triangles with full sides touching to make a rectangle?" | | This standard is new to Kindergarten. |