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## Kindergarten Year-at-a-Glance

<table>
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<th>Assessments</th>
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| Kindergarten Pre-Assessment | September/October | **Unit #1**  
| District Benchmark 1 | November/December | **Unit #2**  
|                      | January          | **Unit #3**  
| District Benchmark 2 | Feb/March        | **Unit #4**  
|                      | April/June       | **Unit #5**  

*Standards to be taught on a regular basis throughout the year.*
## Unit #1: Counting Numbers Up to 20

Content Standards: K.CC.1, K.CC.2, K.CC.3, K.CC.4, K.CC.5

In this unit, students will work with numbers orally and in writing to twenty.


In this unit, students will identify and describe objects in their environment using names of shapes and their position, and counting to 100.

### Math Common Core Content Standards:

#### Domain:

**Counting and Cardinality**

- **Know number names and the count sequence.**
  - K.CC.1 Count to 100 by ones and by tens.
  - K.CC.2 Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
  - 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).

- **Count to tell the number of objects**
  - K.CC.4 Understand the relationship between numbers and quantities; connect counting to cardinality.
  - K.CC.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. Compare numbers.

**Measurement and Data**

- **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.

**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.

### Standards for Mathematical Practice:

- SMP.1 Make sense of problems and persevere in solving them.
- SMP.6 Attend to precision.
- SMP.7 Look for and make use of structure.
- SMP.8 Look for and express regularity in repeated reasoning.

### SEL Competencies:

- Self-awareness
- Self-management
- Social awareness
- Relationship skills
- Responsible decision making

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<tr>
<th>Content Standards</th>
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<th>Measurement and Data</th>
<th>Geometry</th>
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<tbody>
<tr>
<td>K.CC.1</td>
<td>Count to 100 by ones and by tens.</td>
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<tr>
<td>K.CC.2</td>
<td>Count forward beginning from a given number within the known sequence (instead of having to begin at 1).</td>
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<tr>
<td>K.CC.3</td>
<td>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).</td>
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<td>K.CC.4</td>
<td>Understand the relationship between numbers and quantities; connect counting to cardinality.</td>
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<td>K.CC.5</td>
<td>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. Compare numbers.</td>
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<tr>
<td>K.MD.3</td>
<td>Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.</td>
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<td>K.G.1</td>
<td>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.</td>
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</tbody>
</table>
ELD Standards to Support Unit:

Part I: Interacting in Meaningful Ways:
   A. Collaborative:
      2. Interacting with others in written English in various communicative forms
      4. Adapting language choices to various contexts
   B. Interpretive:
      5. Listening actively to spoken English in a range of social and academic contexts.
   C. Productive:
      11. Supporting own opinions and evaluating others’ opinions in speaking and writing.

Part II: Learning About How English Works
   A. Expanding and Enriching Ideas
      5. Modifying to add details.
   B. Connecting and Condensing Ideas
      6. Connecting Ideas
      7. Condensing Ideas
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<tr>
<td>Assessments/Tasks aligned to learning experiences: Pre-Assessment: K-Year Long Assessment, Charlotte Area Mathematics Consortium, 2011 <a href="http://scusd-math.wikispaces.com/Kindergarten">http://scusd-math.wikispaces.com/Kindergarten</a></td>
<td>Note: Standards (K.CC.1, K.MD.3, and K.G.1) will be taught for on-going concept development throughout this unit. Students will be able to... A. Classify objects into given categories. B. Count the numbers of objects in a category. C. Sort categories of objects by count. D. Describe objects in their environment using the names of two-dimensional shapes (e.g., squares, circles, triangles, rectangles, and hexagons).</td>
<td>For setting up cooperative learning: <a href="https://www.teachingchannel.org/videos/seating-arrangements">https://www.teachingchannel.org/videos/seating-arrangements</a> Describe objects based on their attributes using concrete objects. Categorize groups of objects based on their attributes (e.g., shapes, color, size). Let's Count! Learning Numbers in Multiple Ways: <a href="https://www.teachingchannel.org/videos/pre-k-math-lesson">https://www.teachingchannel.org/videos/pre-k-math-lesson</a> Count the number of objects sorted by categories with no more than 10 objects in each category. Classify and sort by similarities and differences (e.g., size, color, shape). Use the names of shapes when describing the object</td>
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</table>
## Essential Questions

- How many different ways can you represent a given number?
- What does zero mean?

## Suggested Assessments for Learning


## Sequence for Learning Outcomes

| E. | Describe objects in the environment and their relative position such as above, below, beside, in front of, behind, and next to. |
| F. | Count to 100. |

## Strategies for Teaching and Learning

- Describe objects in the classroom.
- Identify their location using appropriate vocabulary.
- Hide shapes around the classroom and ask students to find the shapes and describe their position.
- Students determine position when teacher asks questions such as, “Which way?”、“How far?”、“Where?”
- Count by ones.

## Differentiation (EL/SpEd/GATE)

- Use of math journals for differentiation and formative assessment (use link below) [https://www.teachingchannel.org/videos/math-journals](https://www.teachingchannel.org/videos/math-journals)
- Flexible grouping:
  - Content
  - Interest
  - Project/product
  - Level (Heterogeneous/Homogeneous)
- Tiered:
  - Independent Management Plan (Must Do/May Do)

## Resources

- “Pre-Assessment”:
- Counting by ones up to 100 is a year-long process.
- Unit 1 focuses on counting up to 20.
- Can begin implementing strategies that build to the “Celebrate 100 Days of School” which reinforces counting up to 100.
- Learning geometric shapes focus on circles, squares, and triangles.
- Bundle objects such as straws, linking cubes, popsicle sticks, etc. into groups of ten.
- Progressions for the Common Core – K–5 Progression on Counting and Cardinality and Operations and Algebraic Thinking [http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf](http://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf)
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<tr>
<td>• Why can you count from any given number?</td>
<td>KCC Task 4.doc, NC Wikispace; <a href="http://commoncoretasks.ncdpi.wikispaces.net/K.CC.4-K.CC.5+Tasks">http://commoncoretasks.ncdpi.wikispaces.net/K.CC.4-K.CC.5+Tasks</a></td>
<td>3. Understand that the next number in the sequence is one more than the previous number.</td>
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<td>• How do you know what number comes next in the sequence?</td>
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</table>

Start students on five frames. Other models to develop instantaneously seeing quantity without counting (subtilizing): dot cards, dominos, linking cubes, etc.

When using a number line, teacher and students will point to the numbers as they count. ▪ How can you use a number line to represent a number?

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<td>KCC Task 2a.doc, and KCC Task 3b.doc, NC Wikispace; <a href="http://commoncoretasks.ncdpi.wikispaces.net/K.CC.4-K.CC.5+Tasks">http://commoncoretasks.ncdpi.wikispaces.net/K.CC.4-K.CC.5+Tasks</a></td>
<td>4. Given any quantity between 0-10, use the strategy of counting on up to 10.</td>
<td>Count objects in the classroom; e.g., count the number of chairs of the students who are absent, count the number of windows, shoes, triangles, circles, etc. (Framework, p7). Beyond Fingers: Place Value &amp; the Numbers 11-19: <a href="https://www.teachingchannel.org/videos/kindergarten-counting-cardinality-lesson">https://www.teachingchannel.org/videos/kindergarten-counting-cardinality-lesson</a></td>
<td>See Differentiation Resources at: <a href="http://scusd-math.wikispaces.com/home">http://scusd-math.wikispaces.com/home</a></td>
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<td>Trace numbers 0-10; represent the numbers with a visual and/or object, and say the numbers aloud.</td>
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<td>8. Trace numbers 0-10; represent the numbers with a visual and/or object, and say the numbers aloud.</td>
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**Grade Kindergarten Mathematics**

**SCUSD Curriculum Map**
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<tr>
<td>9. Count aloud by ones from 0 - 20, using manipulatives (for example counting geometric shapes: rectangles and hexagons, in addition to number lines, ten frames).</td>
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<td>Counting objects 0-20 should be arranged in a line, a rectangular array, or a circle, or as many as ten objects in a scattered configuration. Include varied counting sequences such as counting by ones, teens, and “crossing the decade” (see pg. 7 of the Framework). Learning geometric shapes focus on rectangles and hexagons.</td>
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<tr>
<td>11. Using two ten frames, recognize a group of numbers (11-20) as a quantity of ten ones and some more ones.</td>
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<td>13. Trace and write numbers 0-20; represent the numbers with a visual and/or object, and say the numbers aloud (with zero representing a count of no objects).</td>
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</table>
Unit #2: Comparing Numbers and Objects

Content Standards: K.CC.3, K.CC.6, K.CC.7
In this unit, students will use their understanding of numbers to compare size and amount.

In this unit, students will describe objects using measurable attributes and counting to 100.

Math Common Core Content Standards:

Domain:
Counting and Cardinality
Know number names and the count sequence.
  K.CC.1 Count to 100 by ones and by tens.
Know number names and the count sequence.
  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).
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.
  K.CC.7 Compare two numbers between 1 and 10 presented as written numerals.
Measure 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.
  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. For example, directly compare the heights of two children and describe one child as taller/shorter.
Geometry
Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).
  K.G.2 Correctly name shapes regardless of their orientations or overall size.
Standards for Mathematical Practice:
All the SMPs are embedded within the tasks chosen to support the Sequence of Learning Experiences.

- SMP.3 Construct viable arguments and critiques the reasoning of others.
- SMP.5 Use appropriate tools strategically.
- SMP.6 Attend to precision.

ELD Standards to Support Unit:
Part I: Interacting in Meaningful Ways:
A. Collaborative:
   1. Exchanging information and ideas with others through oral collaborative conversations on a range of social and academic topics.
   2. Interacting with others in written English in various communicative forms
   3. Offering and supporting opinions and negotiating with others in communicative exchanges
B. Interpretive:
   5. Listening actively to spoken English in a range of social and academic contexts.
C. Productive:
   11. Supporting own opinions and evaluating others’ opinions in speaking and writing.

Part II: Learning About How English Works
B. Expanding and Enriching Ideas
   5. Modifying to add details.
C. Connecting and Condensing Ideas
   6. Connecting Ideas

SEL Competencies:
- Self-awareness
- Self-management
- Social awareness
- Relationship skills
- Responsible decision making
# Essential Questions
- How do we know when we move an object, its length stays the same?
- How can measuring an object help with comparing it to another object?

## Suggested Assessments for Learning

1. Identify measurable attributes of objects.
2. Describe objects using attributes such as length, size, and weight.
3. Use measurable attributes to compare two objects, using comparison language such as “more of” and “less of”.
4. Count to 100.

## Sequence for Learning Outcomes

### A. Identify measurable attributes of objects.
- Note: This standard focuses on students using descriptive words rather than sorting objects based on attributes. Attributes could include color, number of sizes, shape, etc.

### B. Describe objects using attributes such as length, size, and weight.

### C. Use measurable attributes to compare two objects, using comparison language such as “more of” and “less of”.
- Students focus on specific attributes when making verbal comparisons (e.g., when comparing 3 rectangles, students focus on length).

### D. Count to 100.
- Count by ones and tens. Count by 1s from any given number.

## Strategies for Teaching and Learning

### Differentiation (GATE, ELD, SpEd)

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<tr>
<td>How do we know when we move an object, its length stays the same?</td>
<td>Identify measurable attributes of objects.</td>
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<td>How can measuring an object help with comparing it to another object?</td>
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<td>Use measurable attributes to compare two objects, using comparison language such as “more of” and “less of”.</td>
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<td></td>
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</tbody>
</table>
### Essential Questions
- How do you know that 3 is less than 4?
- How can I prove that groups are equal?

### Suggested Assessments for Learning
- Domino Sort-Assessment, (administered one-on-one), Silicon Valley Mathematics Initiative; [http://scusd-math.wikispaces.com/Kindergarten](http://scusd-math.wikispaces.com/Kindergarten)

### Sequence for Learning Outcomes

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<tr>
<td>2.</td>
<td>Compare two sets of objects including geometric shapes (up to 10) to determine which is greater than, less than, and/or equal to, and justify their reasoning.</td>
</tr>
<tr>
<td>3.</td>
<td>Compare two sets of objects and represent the quantities with a written numeral 0-20.</td>
</tr>
</tbody>
</table>

### Strategies for Teaching and Learning
- Students use one-to-one correspondence, repeatedly matching one object from one set with one object from the other set to determine which set has more objects. Teacher asks probing questions, such as, “How do you know?” to elicit student thinking and reasoning (Framework, p.13).
- Students count the objects in each set and then identify which set has more, less, or an equal number of objects (Framework, p.13) and describe the differences (Framework, p. 24).
- Introduce students to 0, 5, & 10 as benchmark numbers to help students further develop their sense of quantity as well as their ability to compare numbers. Benchmarks of 5 & 10 are especially useful with the 5-group patterns (Framework, p.13).

### Differentiation (GATE, ELD, SpEd)
- Content-related Tasks for early finishers
  - Game
  - Investigation
  - Partner Activity
  - Stations

### Resources
- Depth and Complexity Prompts/Icons:
  - Depth
    - Language of the Discipline
    - Patterns
    - Unanswered Questions
    - Rules
    - Trends
    - Big Ideas
  - Complexity
    - See Differentiation Resources at: [http://scusd-math.wikispaces.com/home](http://scusd-math.wikispaces.com/home)

### Other Resources
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<td></td>
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<td>5. Compare pairs or sets by measuring length and weight.</td>
<td>Make comparisons between real world objects with significant weight differences such as a car and a tricycle. Measure objects using a balance beam scale. Measure lengths of objects in the classroom using non-standard units of measures such as paper clips, pencil, blocks, etc. Interactive Fruit Balance Scale: <a href="http://www.crickweb.co.uk/ks2numeracy-shape-and-weight.html">http://www.crickweb.co.uk/ks2numeracy-shape-and-weight.html</a></td>
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<tr>
<td>7. Justify their reasoning when comparing two written numerals by drawing pictures, manipulating objects, or orally.</td>
<td></td>
<td>8. Write numerals 0-20.</td>
<td>For writing numbers, use a variety of “writing instruments” such as sand, clay, finger in the air, etc. <a href="http://scusd-math.wikispaces.com/file/view/counttraceprintnumbers.pdf/498555654/counttraceprintnumbers.pdf">http://scusd-math.wikispaces.com/file/view/counttraceprintnumbers.pdf/498555654/counttraceprintnumbers.pdf</a></td>
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