# Kindergarten Mathematics

| Domain | *Counting and Cardinality* | |
|---|---|---|
| **Cluster** | *Know number names and the count sequence* | **Pacing**<br><br>**1st Quarter – Stepping Stones**<br>  Module 1 (Counting and Cardinality 3)<br>  Module 2 (Counting and Cardinality 3)<br>  Module 3 (Counting and Cardinality 1)<br>**2nd Quarter – Stepping Stones**<br>  Module 5 (Counting and Cardinality 1 and 3)<br>**3rd Quarter – Stepping Stones**<br>  Module 7 (Counting and Cardinality 1)<br>**4th Quarter – Stepping Stones**<br>  Module 11 (Counting and Cardinality 2 and 3)<br>  Module 12 (Counting and Cardinality 1, 2, 4, and 4c) |

**Standards**

1. *Count to 100 by ones and by tens.*

   **Learning Targets:**
   - I can count to 10 by ones.
   - I can count to 20 by ones.
   - I can count to 100 by ones.
   - I can count to 100 by tens.

2. *Count forward beginning from a given number within the known sequence (instead of having to begin at 1).*

   **Learning Targets:**
   - I can count from a number other than 1 up to 100.

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).*

   **Learning Targets:**
   - I can write numbers 0-10.
   - I can write numbers 11-20.
   - I can represent a group of objects with a written numeral 0-20.

**Content Elaborations**

**Key Elaborations From Preschool**

1. Count to 20 by ones with increasing accuracy.
2. Identify and name numerals 1-9.
3. Identify without counting small quantities of up to 3 items (subitize).

**Standards of Mathematical Practice**

*Mathematically proficient students*
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.

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| **Content Vocabulary**<br>• count<br>• numeral | **Academic Vocabulary**<br>• sequence<br>• forward<br>• represent |
| **Formative Assessments**<br>• See Stepping Stones | **Summative Assessments**<br>• See Stepping Stones |
| **Resources**<br>• **Stepping Stones**<br>• **Book *Number Talks*, by Sherry Parrish**<br>• **Book *It Makes Sense*, by Melissa Conklin**<br>• http://www.teachers.cr.k12.de.us/~shane/parentpageK.html<br>• http://www.teachers.cr.k12.de.us/~galgano/klinksmath.html<br>• http://www.charleston.k12.il.us/pdfs/curriculum-maps/math/K_Math_Map.pdf<br>• http://www.livebinders.com/play/play?id=462015<br>• www.morestarfall.com<br>• http://www.internet4classrooms.com/skills-k-mathbuilders.html<br>• http://www.helpingwithmath.com/by_grade/k_cc_skills.html<br>• http://www.fuelthebrain.com/Interactives/?gr=k<br>• http://www.abc.net.au/countusin/<br>• http://education.fcps.org/tps/kindergartenonlinemathgames<br>• http://www.k-5mathteachingresources.com/kindergarten-math-activities.html | **Enrichment Strategies**<br>• See Stepping Stones |
| **Integrations**<br>• See Stepping Stones | **Intervention Strategies**<br>• Games:  Trouble, Candy Land, Chutes and Ladders<br>• Stepping Stones Small Group Activities |

# Kindergarten Mathematics

| Domain | *Counting and Cardinality* | |
|---|---|---|
| **Cluster** | *Count to tell the number of objects* | **Pacing**<br><br>**1st Quarter – Stepping Stones**<br>    Module 1 (Counting and Cardinality 4, 4a, and 4b)<br>    Module 2 (Counting and Cardinality 4, 4a, 4b, and 5)<br>    Module 3 (Counting and Cardinality 4 and 4c)<br>**2nd Quarter – Stepping Stones**<br>    Module 5 (Counting and Cardinality 4 and 4b)<br>    Module 6 (Counting and Cardinality 4 and 4b)<br>**4th Quarter – Stepping Stones**<br>    Module 10 (Counting and Cardinality 5) |

**Standards**

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 number name and each number name with one and only one object.
   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.
   c. Understand that each successive number name refers to a quantity that is one larger.

   **Learning Targets:**
   - I can count objects in a group correctly (each object is counted only once) regardless of arrangement and order.
   - I can say "how many" are in a group after counting all the objects.
   - If I already know how many are in a group, I can say how many there are (without recounting the whole group) when one more object is added to the group.
   - I can explain my counting strategy.

**Content Elaborations**

**Key Advances From Preschool**

1. Demonstrate one-to-one correspondence when counting objects up to 10.
2. Understand that the last number spoken tells the number of objects counted.

**Standards of Mathematical Practice**

*Mathematically proficient students*
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.

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| **5.** *Count to answer "how many?" questions about as many as 20 objects arranged in a line, a rectangular array, or a circle, or as many as 10 objects in a scattered configuration; given a number from 1-20, count out that many objects.*<br><br>**Learning Targets:**<br>• I can count objects up to 20 in a variety of arrangements.<br>• I can say "how many" objects are in a group.<br>• I can show the correct number of objects when I am told a number up to 20. | |
| **Content Vocabulary**<br>• quantities<br>• cardinality<br>• counting<br>• recounting<br>• rectangular array<br>• circle<br>• scattered configuration | **Academic Vocabulary**<br>• understand<br>• relationship<br>• connect<br>• arrangement<br>• order<br>• strategy<br>• variety |
| **Formative Assessments**<br>• See Stepping Stones | **Summative Assessments**<br>• See Stepping Stones |
| **Resources**<br><br>• **Book:** *Number Talks*, by Sherry Parrish<br><br>• **Book:** *It Makes Sense*, by Melissa Conklin<br><br>• http://www.teachers.cr.k12.de.us/~shane/parentpageK.html<br><br>• http://www.teachers.cr.k12.de.us/~galgano/klinksmath.html<br><br>• http://www.charleston.k12.il.us/pdfs/curriculum-maps/math/K_Math_Map.pdf<br><br>• http://www.livebinders.com/play/play?id=462015<br><br>• www.morestarfall.com<br><br>• http://www.internet4classrooms.com/skills-k-mathbuilders.html | **Enrichment Strategies**<br>• See Stepping Stones |

- http://www.helpingwithmath.com/by_grade/k_cc_skills.html

- http://www.fuelthebrain.com/Interactives/?gr=k

- http://www.abc.net.au/countusin/

- http://education.fcps.org/tps/kindergartenonlinemathgames

- http://www.k-5mathteachingresources.com/kindergarten-math-activities.html

| Integrations | Intervention Strategies |
| --- | --- |
| • See Stepping Stones | • Games: Trouble, Candy Land, Chutes and Ladders<br>• Stepping Stones Small Group Activities |

# Kindergarten Mathematics

| Domain | *Counting and Cardinality* | |
|---|---|---|
| Cluster | *Compare numbers* | |

| Standards | Content Elaborations |
|---|---|
| **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.*<br><br>**Learning Targets:**<br>• I can say which group has more by matching or counting the number of objects in both groups.<br>• I can say which group has less by matching or counting the number of objects in both groups.<br>• I can say when groups are equal (same as) by matching or counting.<br><br>**7.** *Compare two numbers between 1 and 10 presented as written numerals.*<br><br>**Learning Targets:**<br>• I can read numerals to 10.<br>• I can tell the values of numerals to 10.<br>• I can compare two numerals between 1 and 10 and say which numeral has a greater value. | **Key Advances From Preschool**<br><br>1. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group up to 10.<br><br>**Standards of Mathematical Practice**<br><br>*Mathematically proficient students*<br>1. Make sense of problems and persevere in solving them.<br>2. Reason abstractly and quantitatively.<br>3. Construct viable arguments and critique the reasoning of others.<br>4. Model with mathematics.<br>5. Use appropriate tools strategically.<br>6. Attend to precision.<br>7. Look for and make use of structure.<br>8. Look for and express regularity in repeated reasoning. |
| **Content Vocabulary**<br>• objects<br>• greater than/more<br>• less than/less<br>• equal/same as<br>• matching<br>• counting<br>• numerals<br>• values<br>• greater value | **Academic Vocabulary**<br>• identify<br>• group<br>• strategies<br>• compare<br>• presented |

| Formative Assessments | Summative Assessments |
|---|---|
| • See Stepping Stones | • See Stepping Stones |

| Resources | Enrichment Strategies |
|---|---|
| • **Book: *Number Talks***, by Sherry Parrish<br><br>• **Book: *It Makes Sense***, by Melissa Conklin<br><br>• http://www.teachers.cr.k12.de.us/~shane/parentpageK.html<br><br>• http://www.teachers.cr.k12.de.us/~galgano/klinksmath.html<br><br>• http://www.charleston.k12.il.us/pdfs/curriculum-maps/math/K_Math_Map.pdf<br><br>• http://www.livebinders.com/play/play?id=462015<br><br>• www.morestarfall.com<br><br>• http://www.internet4classrooms.com/skills-k-mathbuilders.html<br><br>• http://www.helpingwithmath.com/by_grade/k_cc_skills.html<br><br>• http://www.fuelthebrain.com/Interactives/?gr=k<br><br>• http://www.abc.net.au/countusin/<br><br>• http://education.fcps.org/tps/kindergartenonlinemathgames<br><br>• http://www.k-5mathteachingresources.com/kindergarten-math-activities.html<br><br>• http://www.apples4theteacher.com/math.html<br><br>• http://sites.google.com/site/teachnic/math2<br><br>• http://www.ixl.com/math/kindergarten | • See Stepping Stones |

| Integrations | Intervention Strategies |
|---|---|
| • See Stepping Stones | • Games: Trouble, Candy Land, Chutes and Ladders<br>• Stepping Stones Small Group Activities |

# Kindergarten Mathematics

| Domain | *Operations and Algebraic Thinking* | |
|---|---|---|
| **Cluster** | *Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.* | **Pacing**<br><br>**2nd Quarter – Stepping Stones**<br>    Module 5 (Operations and Algebraic Thinking 4 and 5)<br>    Module 6 (Operations and Algebraic Thinking 1 and 2)<br>**3rd Quarter – Stepping Stones**<br>    Module 7 (Operations and Algebraic Thinking 3)<br>    Module 8 (Operations and Algebraic Thinking 1 and 4)<br>    Module 9 (Operations and Algebraic Thinking 1, 2, and 5)<br>**4th Quarter – Stepping Stones**<br>    Module 10 (Operations and Algebraic Thinking 1)<br>    Module 12 (Operations and Algebraic Thinking 1, 2, and 5) |

| **Standards** | **Content Elaborations** |
|---|---|
| 1. *Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.*<br><br>**Learning Targets:**<br>• I can explain addition (putting together and adding to).<br>• I can explain subtraction (taking apart and taking from).<br>• I can identify the mathematical symbols used to show addition and subtraction.<br>• I can show addition and subtraction using objects, fingers, sounds, acting out situations, expressions, and equations.<br><br>2. *Solve addition and subtraction word problems, and add and subtract within 10; e.g., by using objects or drawings to represent the problem.*<br><br>**Learning Targets:**<br>• I can add and subtract numbers within 10.<br>• I can solve addition and subtraction word problems using objects and drawings.<br><br>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* | **Key Advances From Preschool**<br><br>1. Count to solve simple addition and subtraction problems with totals smaller than 8, using concrete objects.<br><br>**Content Progression in First Grade**<br><br>*Represent and solve problems involving addition and subtraction*<br>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.<br>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. Understand and apply properties of operations and the relationship between addition and subtraction.<br>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 numbers can be added to make a ten, so $2 + 6 + 4 = 2 + 10 = 12$ |

*by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).*

**Learning Targets:**
- I can decompose (break apart) numbers to 10 using objects or drawing.
- I can record the answer using a drawing or equation.

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.*

**Learning Targets:**
- I can determine the number to add to a given number 1-9 to make 10 and show the answer with a drawing or equation.

5. *Fluently add and subtract within 5.*

**Learning Targets:**
- I can easily add numbers that add up to 5 or less.
- I can easily subtract numbers when the starting number is 5 or less.

(associative property of addition).

4. Understand subtraction as an unknown-addend problem. For example, subtract 10 – 8 by finding the number that makes 10 when added to 8. Add and subtract within 20.
5. Relate counting to addition and subtraction (e.g., by counting on2 to add 2).
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). 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.
8. Determine the unknown number in a whole-number addition or subtraction equation. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11; 5 = ☐ - 3; 6 + 6 = ☐ .

**Standards of Mathematical Practice**

*Mathematically proficient students*
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.

| **Content Vocabulary** | **Academic Vocabulary** |
|---|---|
| • addition<br>• putting together/adding to<br>• subtraction<br>• taking apart/taking from | • mental images<br>• verbal explanations<br>• expressions<br>• explain |

| | |
|---|---|
| • equations<br>• mathematical symbols<br>• solve<br>• word problems<br>• make 10 (ten frame) | • identify<br>• represent<br>• decompose/break apart<br>• record<br>• fluently |
| **Formative Assessments**<br>• See Stepping Stones | **Summative Assessments**<br>• See Stepping Stones |
| **Resources**<br>• http://www.internet4classrooms.com/<br>• http://www.helpingwithmath.com/by_grade/k_cc_skills.html<br>• http://www.k-5mathteachingresources.com/kindergarten-math-activities.html<br>• http://www.apples4theteacher.com/math.html<br>• http://sites.google.com/site/teachnic/math2<br>• http://www.ixl.com/math/kindergarten | **Enrichment Strategies**<br>• See Stepping Stones |
| **Integrations**<br>• See Stepping Stones | **Intervention Strategies**<br>• Stepping Stones Small Group Activities |

# Kindergarten Mathematics

| Domain | *Number and Operations in Base Ten* | |
|---|---|---|
| Cluster | *Work with numbers 11-19 to gain foundations for place value.* | **Pacing**<br><br>**4th Quarter – Stepping Stones**<br>    Module 11 (Number and Operations in Base Ten 1) |

| Standards | Content Elaborations |
|---|---|
| 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.*<br><br>**Learning Targets:**<br>• I can count to 20.<br>• I can use numbers 1-9 to make 10 using objects or drawings (e.g., 10 frame, base ten blocks).<br>• I can compose (put together) numbers 11-19 using a ten and some ones and show my work with a drawing or equation.<br>• I can decompose (break apart) numbers 11-19 using a ten and some ones and show my work with a drawing or equation. | **Key Advances From Preschool**<br><br>*N/A*<br><br>**Content Progression for First Grade**<br><br>*Extend the counting sequence.*<br>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.<br>*Understand place value.*<br>2. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:<br>    a. 10 can be thought of as a bundle of ten ones – called a "ten."<br>    b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.<br>    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).<br>3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.<br>*Use place value understanding and properties of operations to add and subtract.*<br>4. Add within 100, including 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. |

*Understand that in adding two-digit numbers, one adds tens and tens, ones and ones, and sometimes it is necessary to compose a ten.*
5. Given a two-digit number, mentally find 10 more or 10 less than the number without having to count; explain the reasoning used.
6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences) 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.

## Standards of Mathematical Practice

*Mathematically proficient students*
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.

| **Content Vocabulary** | **Academic Vocabulary** |
|---|---|
| <ul><li>equation</li><li>digit</li></ul> | <ul><li>compose/put together</li><li>decompose/break apart</li><li>objects</li><li>drawings</li><li>understand</li></ul> |
| **Formative Assessments** | **Summative Assessments** |
| <ul><li>See Stepping Stones</li></ul> | <ul><li>See Stepping Stones</li></ul> |
| **Resources** | **Enrichment Strategies** |
| <ul><li>http://www.k-5mathteachingresources.com/kindergarten-math-activities.html</li><li>http://www.apples4theteacher.com/math.html</li></ul> | <ul><li>See Stepping Stones</li></ul> |

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| • http://sites.google.com/site/teachnic/math2<br><br>• http://www.ixl.com/math/kindergarten | |
| **Integrations**<br>• See Stepping Stones | **Intervention Strategies**<br>• Stepping Stones Small Group Activities |

# Kindergarten Mathematics

| Domain | Measurement and Data |
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| Cluster | Describe and compare measurable attributes. | Pacing<br><br>2nd Quarter – Stepping Stones<br>  Module 4 (Measurement and Data 1 and 2)<br>  Module 6 (Measurement and Data 2) |
|---|---|---|

| Standards | Content Elaborations |
|---|---|
| 1. **Describe measurable attributes of objects such as length or weight. Describe several measurable attributes of a single object.**<br><br>   **Learning Targets:**<br>   • I can describe measurable attributes of objects.<br>   • I can describe the measurable attributes of a given object.<br><br>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.**<br><br>   **Learning Targets:**<br>   • I can tell which object is longer (or shorter or taller) than the other by comparing them side by side.<br>   • I can tell which object can hold more (or less) than the other by filling up one of the objects and pouring it into the other one.<br>   • I can tell which object is heavier (or lighter) by lifting one in one hand and the other in my other hand.<br>   • I can tell which object is warmer (or colder) than the other by touching them. | **Key Advances From Preschool**<br><br>1. Describe and compare objects using measurable attributes (e.g., length, size, capacity, and weight).<br>2. Order objects by measurable attribute (e.g., biggest to smallest, etc.).<br><br>**Content Progression in First Grade**<br><br>*Measure lengths indirectly and by iterating length units.*<br>1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.<br>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.<br>*Tell and write time.*<br>3. Tell and write time in hours and half-hours using analog and digital clocks.<br>*Represent and interpret data.*<br>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.<br><br>**Standards of Mathematical Practice**<br><br>*Mathematically proficient students*<br>1. Make sense of problems and persevere in solving them. |

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|---|---|
| | 2. Reason abstractly and quantitatively.<br>3. Construct viable arguments and critique the reasoning of others.<br>4. Model with mathematics.<br>5. Use appropriate tools strategically.<br>6. Attend to precision.<br>7. Look for and make use of structure.<br>8. Look for and express regularity in repeated reasoning. |
| **Content Vocabulary** | **Academic Vocabulary**<br>&bull; describe<br>&bull; compare<br>&bull; classify<br>&bull; category<br>&bull; groups |
| **Formative Assessments**<br>&bull; See Stepping Stones | **Summative Assessments**<br>&bull; See Stepping Stones |
| **Resources**<br>&bull; http://www.k-5mathteachingresources.com/kindergarten-math-activities.html<br>&bull; http://www.apples4theteacher.com/math.html<br>&bull; http://sites.google.com/site/teachnic/math2<br>&bull; http://www.ixl.com/math/kindergarten | **Enrichment Strategies**<br>&bull; See Stepping Stones |
| **Integrations**<br>&bull; See Stepping Stones | **Intervention Strategies**<br>&bull; Stepping Stones Small Group Activities |

# Kindergarten Mathematics

| Domain | *Measurement and Data* | |
|---|---|---|
| **Cluster** | *Classify objects and count the number of objects in each category.* | **Pacing**<br><br>**1st Quarter – Stepping Stones**<br>   Module 1 (Measurement and Data 3)<br>   Module 2 (Measurement and Data 3)<br>**4th Quarter – Stepping Stones**<br>   Module 12 (Measurement and Data 3) |
| **Standards**<br><br>*3.* ***Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.***<br><br>**Learning Targets:**<br>• I can sort (classify) objects into categories (groups).<br>• I can determine the number of objects in each category.<br>• I can sort the categories by number or count. | **Content Elaborations**<br><br>**Key Advances From Preschool**<br><br>1. Sort and classify objects by one or more attributes (e.g., size, shape).<br><br>**Content Progression for First Grade**<br><br>*Measure lengths indirectly and by iterating length units.*<br>1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.<br>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.<br>*Tell and write time.*<br>3. Tell and write time in hours and half-hours using analog and digital clocks.<br>*Represent and interpret data.*<br>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.<br><br>**Standards of Mathematical Practice**<br><br>*Mathematically proficient students*<br>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. |

| **Content Vocabulary** | **Academic Vocabulary** |
| --- | --- |
| • count <br> • sort (classify) | • classify <br> • categories (groups) <br> • determine |

| **Formative Assessments** | **Summative Assessments** |
| --- | --- |
| • See Stepping Stones | • See Stepping Stones |

| **Resources** | **Enrichment Strategies** |
| --- | --- |
| • http://www.k-5mathteachingresources.com/kindergarten-math-activities.html <br><br> • http://www.apples4theteacher.com/math.html <br><br> • http://sites.google.com/site/teachnic/math2 <br><br> • http://www.ixl.com/math/kindergarten | • See Stepping Stones |

| **Integrations** | **Intervention Strategies** |
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|  | • Stepping Stones Small Group Activities |

# Kindergarten Mathematics

| Domain | Geometry | |
|---|---|---|
| Cluster | Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). | **Pacing**<br><br>**1st Quarter – Stepping Stones**<br>   Module 3 (Geometry 1)<br>**3rd Quarter – Stepping Stones**<br>   Module 7 (Geometry 2)<br>   Module 8 (Geometry 3)<br>   Module 9 (Geometry 2 and 4) |

| Standards | Content Elaborations |
|---|---|
| 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.*<br><br>**Learning Targets:**<br>• I can find and name shapes correctly (e.g., square, circle, triangle, rectangle, and hexagon) in my environment.<br>• I can describe the position of objects as above, below, beside, in front of, behind, and next to.<br><br>2. *Correctly name shapes regardless of their orientations or overall size.*<br><br>**Learning Targets:**<br>• I can name shapes correctly.<br>• I can name shapes correctly even when their size and orientation is unusual or different.<br><br>3. *Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").*<br><br>**Learning Targets:**<br>• I can define two-dimensional as being flat.<br>• I can define three-dimensional as being solid.<br>• I can identify 2D shapes.<br>• I can identify 3D shapes. | **Key Advances From Preschool**<br><br>1. Demonstrate understanding of the relative position of objects using terms such as in/on/under, up/down, inside/outside, above/below, beside/between, in front of/behind, and next to.<br>2. Understand and use names of shapes when identifying objects.<br>3. Name three-dimensional objects using informal, descriptive vocabulary (e.g., "cube" for box, "ice cream cone" for cone, "ball" for sphere, etc.).<br><br>**Content Progression for First Grade**<br><br>*Reason with shapes and their attributes.*<br>1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.<br>2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.<br>3. Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of.  Describe the whole as two of or four of the shares.  Understand for these examples that decomposing into more equal shares creates smaller shares. |

**Standards of Mathematical Practice**

*Mathematically proficient students*
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.

**Content Vocabulary**
- shapes
- 2 dimensional (squares, circles, triangles, rectangles, and hexagons)
- 3 dimensional (cubes, cones, cylinders, and spheres)
- flat
- solid
- plane

**Academic Vocabulary**
- environment
- above
- below
- beside
- in front of
- behind
- next to
- size
- orientation
- unusual
- different
- define
- identify

**Formative Assessments**
- See Stepping Stones

**Summative Assessments**
- See Stepping Stones

**Resources**
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**Enrichment Strategies**

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| **Integrations** | **Intervention Strategies**<br>• Stepping Stones Small Group Activities |

# Kindergarten Mathematics

| Domain | *Geometry* | |
|---|---|---|
| Cluster | *Analyze, compare, create, and compose shapes* | |

| Standards | Content Elaborations |
|---|---|
| 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).*<br><br>**Learning Targets:**<br>• I can describe a shape by telling things like the number of sides, number of vertices (corners), and other special qualities.<br>• I can compare 2D shapes and describe their similarities and differences.<br>• I can compare 3D shapes and describe their similarities and differences.<br><br>5. *Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.*<br><br>**Learning Targets:**<br>• I can build shapes from materials in my environment.<br>• I can draw shapes in my environment.<br><br>6. *Compose simple shapes to form larger shapes. For example, "Can you join these two triangles with full sides touching to make a rectangle?"*<br><br>**Learning Targets:**<br>• I can put shapes together to make new shapes.<br>• I can name the new shape that results from composing two simple shapes. | **Key Advances From Preschool**<br><br>1. Compare two-dimensional shapes, in different sizes and orientations, using informal language.<br>2. Create shapes during play by building, drawing, etc.<br>3. Combine simple shapes to form larger shapes.<br><br>**Content Progression in First Grade**<br><br>*Reason with shapes and their attributes.*<br>1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.<br>2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.<br>3. Partition circles and rectangles into two and four equal shares; describe the shares using the words halves, fourths, and quarters; and use the phrases half of, fourth of, and quarter of. Describe the whole as two of or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares. |

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|---|---|
| | **Standards of Mathematical Practice**<br><br>*Mathematically proficient students*<br>1. Make sense of problems and persevere in solving them.<br>2. Reason abstractly and quantitatively.<br>3. Construct viable arguments and critique the reasoning of others.<br>4. Model with mathematics.<br>5. Use appropriate tools strategically.<br>6. Attend to precision.<br>7. Look for and make use of structure.<br>8. Look for and express regularity in repeated reasoning. |
| **Content Vocabulary**<br>• vertices/corners<br>• sides<br>• 2D shapes<br>• 3D shapes<br>• length<br>• equal | **Academic Vocabulary**<br>• analyze<br>• compare<br>• create<br>• compose<br>• similarities<br>• differences<br>• attributes<br>• orientations<br>• describe<br>• qualities<br>• components<br>• model<br>• materials<br>• environment<br>• draw<br>• results<br>• simple |
| **Formative Assessments**<br>• See Stepping Stones | **Summative Assessments**<br>• See Stepping Stones |
| **Resources**<br>• http://www.k-5mathteachingresources.com/kindergarten-math-activities.html<br><br>• http://www.apples4theteacher.com/math.html | **Enrichment Strategies** |

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