

## Mathematics Benchmarks for Kindergarten

<b>Mathematical Content</b>
<b>Strand: <i>Counting and Cardinality (CC)</i></b>
<b>Know number names and the count sequence.</b>
Count to 100 by ones and by tens
Count forward beginning from a given number within a known sequence
Write numbers from 0 to 20
Represent a number of objects with a written numeral 0-20
<b>Count to tell the number of objects.</b>
Relate counting to a quantity
Count each object in a series of objects by pairing it with only one number name
Show that the last number name counted tells the number of objects
Show that each successive number name refers to a quantity that is one larger
Count up to 20 objects arranged in a line, a rectangular array, a circle, or a scattered configuration
<b>Compare numbers.</b>
Determine whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group
Compare two numbers between 1 and 10 presented as written numerals
<b>Strand: <i>Operations and Algebraic Thinking (OA)</i></b>
<b>Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</b>
Represent addition and subtraction with objects and actions
Solve addition and subtraction word problems with numbers up to 10
Decompose numbers less than or equal to 10 into pairs in more than one way
Find any number from 1 to 9 that makes 10 when added to a given number
Add and subtract numbers up to 5 fluently
<b>Strand: <i>Number and Operations in Base Ten (NBT)</i></b>
<b>Work with numbers 11–19 to gain foundations for place value.</b>
Compose numbers from 11 to 19 into groups of 10 and remainders
Decompose numbers from 11 to 19 into groups of 10 and remainders
<b>Strand: <i>Measurement and Data (MD)</i></b>
<b>Describe and compare measurable attributes.</b>

Describe measurable attributes of one or more objects
Compare two objects with a measurable attribute in common, to see which has more or less of the attribute
<b>Classify objects and count the number of objects in each category.</b>
Classify and count objects into given categories
<b>Strand: <i>Geometry (G)</i></b>
<b>Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).</b>
Name the shapes of common objects found in the environment
Describe the relative position of an object to another object
Name shapes of differing orientations and sizes
Identify shapes as two-dimensional or three-dimensional
<b>Analyze, compare, create, and compose shapes.</b>
Describe the similarities, differences, and parts of two- and three-dimensional shapes
Create shapes from components by modeling shapes found in the world
Combine simple shapes to form larger shapes

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<b>Mathematical Practice</b>
<b>Strand: <i>Solve Problems (MP1)</i></b>
<b>1. Make sense of problems and persevere in solving them.</b>
Make sense of your problem
Reflect on your thinking as you solve your problem
Keep trying when your problem is hard
Check whether your answer makes sense
Solve problems in more than one way
Compare the strategies you and others use
<b>Strand: <i>Reason (MP2)</i></b>
<b>2. Reason abstractly and quantitatively.</b>
Create mathematical representations using numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects
Make sense of the representations you and others use
Make connections between representations
<b>Strand: <i>Construct Arguments (MP3)</i></b>
<b>3. Construct viable arguments and critique the reasoning of others.</b>
Make mathematical conjectures and arguments
Make sense of others' mathematical thinking
<b>Strand: <i>Model (MP4)</i></b>
<b>4. Model with mathematics.</b>
Model real-world situations using graphs, drawings, tables, symbols, numbers, diagrams, and other representations
Use mathematical models to solve problems and answer questions
<b>Strand: <i>Use Tools (MP5)</i></b>
<b>5. Use appropriate tools strategically.</b>
Choose appropriate tools
Use tools effectively and make sense of your results
<b>Strand: <i>Attend to Precision (MP6)</i></b>
<b>6. Attend to precision.</b>
Explain your mathematical thinking clearly and precisely
Use an appropriate level of precision for your problem

Use clear labels, units, and mathematical language
Think about accuracy and efficiency when you count, measure, and calculate
<b>Strand: <i>Use Structure (MP7)</i></b>
<b>7. Look for and make use of structure.</b>
Look for mathematical structures such as categories, patterns, and properties
Use structures to solve problems and answer questions
<b>Strand: <i>Express Regularity (MP8)</i></b>
<b>8. Look for and express regularity in repeated reasoning.</b>
Use context to self-correct words by rereading words that were not recognized