

# Kindergarten

Curriculum Guide

Scranton School District

Scranton, PA

Updated

2022-2023



**Course Name: Mathematics Grade: Kindergarten**

**Prerequisites: N/A**

**Course Description: Numbers and Operations (Counting and Cardinality, Numbers and Operations in Base Ten ), Algebraic Concepts (Operations and Algebraic Thinking), Geometry (2D and 3D shapes), Measurement, Data and Probability (Measurement and Data)**

## Summary By Quarter

### Quarter 1 Overview

#### Topic Standards / Assessment Anchors Pacing Guide

Connects to all areas.

Numbers and Operations: Counting and Cardinality **CC.2.1.K.A.1**

Know number names, write and recite the count sequence.

**K.CC.1**

**K.CC.2**

**K.CC.3**

**Realize Series**

**Unit 1 - Math Is**

**(7 days)**

Readiness Skills **Math Practices** 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

Eligible Content - Grade 3

**Unit 2 - Numbers to 5 (15 days)**

**Overall Total: 62 days**

**Realize Series**

<p><b>Eligible Content - Grade 3</b> M03.A-T.1.1.1 M03.A-T.1.1.4</p> <p><b>CC.2.1.K.A.2</b> <b>Apply One to One Correspondence to Count the Number of Objects</b> <b>K.CC.4</b> <b>K.CC.5</b></p> <p><b>Eligible Content - Grade 3</b> M03.A-T.1.1</p> <p><b>CC.2.1.K.A.3 Apply the concept of magnitude to Compare Numbers and Quantities</b> <b>K.CC.6</b> <b>K.CC.7</b></p> <p><b>Eligible Content - Grade 3</b> M03.A-T.1.1</p> <p>Geometry <b>CC.2.3.K.A.1 / CC.2.3.K.A.2 Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).</b> <b>K.G.1.</b> <b>K.G.3.</b> <b>K.G.4.</b> <b>K.G.5.</b> <b>K.G.6.</b></p> <p><b>Eligible Content - Grade 3</b> M03.C-G.1.1 M03.C-G.1.1.2</p>	<p><b>Realize Series</b> <b>Unit 5 - 2 Dimensional Shapes</b></p> <p><b>Overall Total: 37 days</b></p>
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**Quarter 2 Overview**

<p>Numbers and Operations: Counting and Cardinality <b>CC.2.1.K.A.1</b>          Know number names, write and recite the count sequence.  <b>K.CC.1</b>  <b>K.CC.2</b>  <b>K.CC.3</b></p> <p><b>Eligible Content - Grade 3</b>          M03.A-T.1.1.1          M03.A-T.1.1.4</p> <p><b>CC.2.1.K.A.2</b>  <b>Apply One to One Correspondence to Count the Number of Objects</b>  <b>K.CC.4</b>  <b>K.CC.5</b></p> <p><b>Eligible Content - Grade 3</b>          M03.A-T.1.1</p> <p><b>CC.2.1.K.A.3 Apply the concept of magnitude to Compare Numbers and Quantities</b>  <b>K.CC.6</b>  <b>K.CC.7</b></p> <p><b>Eligible Content - Grade 3</b>          M03.A-T.1.1</p>	<p><b>Realize Series</b>  <b>Unit 3 - Number to 10</b>  <b>(18 days)</b></p> <p><b>Overall Total: 62 days</b></p>
<p>Geometry <b>CC.2.3.K.A.1 / CC.2.3.K.A.2 Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).</b>  <b>K.G.1.</b>  <b>K.G.3.</b>  <b>K.G.4.</b>  <b>K.G.5.</b>  <b>K.G.6.</b></p>	<p><b>Realize Series</b>  <b>Unit 4 - Sort, Classify and Count</b>  <b>(8 days)</b></p> <p><b>Overall Total: 37 days</b></p>

<p style="text-align: center;"><b>Eligible Content - Grade 3</b> M03.C-G.1.1 M03.C-G.1.1.2</p>	
<p>Measurement, Data and Probability: Measurement and Data</p> <p style="text-align: center;"><b>CC.2.4.K.A.1</b></p> <p style="text-align: center;"><b>Describe and compare attributes of length, area, weight and capacity of everyday objects.</b></p> <p style="text-align: center;"><b>CC.2.4.K.A.4</b></p> <p style="text-align: center;"><b>Classify objects and count the number of objects in each category.</b></p> <p style="text-align: center;"><b>K.MD.1</b> <b>K.MD.2</b> <b>K.MD.3</b></p> <p style="text-align: center;"><b>Eligible Content- Grade 3</b> M03.D-M.1.2 M03.D-M.1.2.3 M03.D-M.1.3 M03.D-M.2.1 M03.D-M.2.1.1 M03.D-M.2.1.2 M03.D-M.2.1.3 M03.D-M.2.1.4</p>	<p style="text-align: center;"><b>Realize Series</b></p> <p style="text-align: center;"><b>Unit 4 - Sort, Classify and Count (8 days)</b> <b>Unit 14 - Compare Measurable Attributes (9 days)</b></p> <p style="text-align: center;"><b>Overall Total:17 days</b></p>

### Quarter 3 Overview

Topic Standards / Assessment Anchors Pacing Guide

<p>Numbers and Operations: Counting and Cardinality <b>CC.2.1.K.A.1</b>          Know number names, write and recite the count sequence.  <b>K.CC.1</b>  <b>K.CC.2</b>  <b>K.CC.3</b></p> <p><b>Eligible Content - Grade 3</b>          M03.A-T.1.1.1          M03.A-T.1.1.4</p> <p><b>CC.2.1.K.A.2</b>  <b>Apply One to One Correspondence to Count the</b></p>	<p><b>Realize Series</b>  <b>Unit 9 - Numbers 11 to 15</b>  <b>(10 days)</b></p> <p><b>Overall Total: 62 days</b></p>
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<p><b>Number of Objects</b>  <b>K.CC.4</b>  <b>K.CC.5</b></p> <p><b>Eligible Content - Grade 3</b>          M03.A-T.1.1</p> <p><b>CC.2.1.K.A.3 Apply the concept of magnitude to Compare Numbers and Quantities</b>  <b>K.CC.6</b>  <b>K.CC.7</b></p> <p><b>Eligible Content - Grade 3</b>          M03.A-T.1.1</p>	
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<p>Numbers and Operations: Numbers and Operations in Base Ten</p> <p><b>CC.2.1.K.B.1 Work With Numbers 11-19 to Gain Foundations for Place Value</b></p> <p><b>K.NBT.1</b> 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., <math>18=10+8</math>); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.</p> <p><b>Eligible Content - Grade 3</b> M03.A-T.1.1</p>	<p><b>Realize Series</b> <b>Unit 9 - Numbers 11 to 15</b> <b>(10 days)</b></p> <p><b>Unit 12 - Count to 100</b> <b>(9 days)</b></p> <p><b>Overall Total: 29 days</b></p>
<p>Algebraic Concepts: Operations and Algebraic Thinking</p> <p><b>Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. (PA Standard: CC.2.2.K.A.1)</b></p> <p><b>K.OA.1</b> <b>K.OA.2</b> <b>K.OA.3</b> <b>K.OA.4</b> <b>K.OA.5</b></p> <p><b>Eligible Content - Grade 3</b> M03.A-T.1.1 M03.B-O.1.2</p>	<p><b>Realize Series</b> <b>Unit 6 - Understand Addition</b> <b>(9 days)</b></p> <p><b>Overall Total: 27 days</b></p>



<p>M03.B-O.3.1</p> <p><b>CC.2.1.K.A.2</b>  <b>Apply One to One Correspondence to Count the Number of Objects</b>  <b>K.CC.4</b>  <b>K.CC.5</b></p> <p><b>Eligible Content - Grade 3</b>  M03.A-T.1.1</p> <p><b>CC.2.1.K.A.3</b> Apply the concept of magnitude to Compare Numbers and Quantities  <b>K.CC.6</b>  <b>K.CC.7</b></p> <p><b>Eligible Content - Grade 3</b>  M03.A-T.1.1</p> <p>Geometry <b>CC.2.3.K.A.1 / CC.2.3.K.A.2</b> Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).  <b>K.G.1.</b>  <b>K.G.3.</b>  <b>K.G.4.</b>  <b>K.G.5.</b>  <b>K.G.6.</b></p> <p><b>Eligible Content - Grade 3</b>  M03.C-G.1.1  M03.C-G.1.1.2</p>	<p><b>Realize Series</b>  <b>Unit 11 - 3D shapes</b>  <b>(10 days)</b></p> <p><b>Overall Total: 37 days</b></p>
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**Quarter 4 Overview**



<p>CC.2.2.K.A.1)  K.OA.1  K.OA.2  K.OA.3  K.OA.4  K.OA.5</p> <p>Eligible Content - Grade 3  M03.A-T.1.1  M03.B-O.1.2  M03.B-O.3.1</p>	<p>Unit 8  Addition and Subtraction Strategies  (10 days)</p> <p>Overall Total: 27 days</p>
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Geometry **CC.2.3.K.A.1 / CC.2.3.K.A.2** Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

- K.G.1.
- K.G.3.
- K.G.4.
- K.G.5.
- K.G.6.

**Detailed Breakdown By Topic**

Essential Knowledge &  
Skills Vocabulary Resources &

**Eligible Content - Grade 3**  
M03.C-G.1.1  
M03.C-G.1.1.2  
**Realize Series**  
**Unit 13 Compare/Compose Shapes (10 days)**

Activities Assessments Suggested  
Time

**Overall Total: 37 days**

**Topic Standards / Assessment Anchors**

Numbers and	Operations:	Counting and	Cardinality <b>CC.2.1.K.A.1</b>	Know number names, write and	recite the count sequence.
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<p><b>K.CC.1</b> Count to 100 by ones and by tens.</p> <p><b>K.CC.2</b> Count forward beginning from a given number within the known sequence instead of having to begin at one. <b>K.CC.3</b> Write numbers from 0 to 20. Represent a number of objects with a written numeral from 0 to 20 representing a count of objects.</p>	<p>limit sets to no more than four numbers).</p> <p><b>C.C.2.1.K.A.2</b> <b>Apply One to One Correspondence to C.C.2.1.K.A.1: Know number names and write and recite the count sequence.</b></p> <p><b>Essential Skills and Understanding:</b></p> <ul style="list-style-type: none"> <li>• Ability to use rote counting (e.g., simply reciting numbers in order with no meaning attached) to one hundred.</li> <li>• Ability to use verbal counting (e.g., meaningful counting employed in</li> </ul>	<p>order to solve a problem, such as finding out how many are in a set.</p> <ul style="list-style-type: none"> <li>• Ability to count using the hundreds chart or number line.</li> <li>• Ability to initially use concrete materials, hundreds chart or number count compare order quantity number line sequence ten-frame size (value) double check counting backwards attendance more/most greater/larger less/least</li> </ul>	<p>few/fewer fewest same equal number words (zero to twenty) penny nickel dime how many total number Numeral skip count</p> <p>Essential Questions</p> <p>How can numbers from 1 to 20 be counted, read, Count the number of students in the class. Use the calendar to count days.</p> <p>Count how many up to 20 (in a line, rectangle or circle).</p>	<p>Count how many up to 10 (scattered objects).</p> <p>Given a number up to 20, count out that many objects.</p> <p>Connect number names, numerals and quantities.</p> <p>Connect counting to cardinality (count objects in order, last number said is the total number of objects, each successive number refers to a quantity of one more)..</p> <p>Establish one-to-one correspondence between equal groups.</p> <p>Develop strategies for accurately counting and keeping track of</p>	<p>quantities up to the</p> <p><b>Formative:</b></p> <ul style="list-style-type: none"> <li>• Journals/logs</li> <li>• KWL chart</li> <li>• Warm up activity</li> <li>• Question and answer</li> <li>• Thumbs up/thumbs down</li> <li>• Individual white boards</li> <li>• Teacher observation checklists</li> <li>• Student activity book page</li> <li>• Exit Tickets</li> </ul> <p><b>Summative:</b></p> <ul style="list-style-type: none"> <li>• Benchmark assessments</li> <li>• Teacher observation checklists</li> <li>• Performance based assessments</li> </ul>	<ul style="list-style-type: none"> <li>• Student projects</li> <li>• Teacher observation checklists</li> <li>• Student activity book page</li> </ul> <p><b>Realize Series</b></p> <p><b>Unit 2</b> <b>Numbers to 5 (15 days)</b></p> <p><b>Unit 3</b> <b>Numbers to 10 (18 days)</b></p> <p><b>Unit 9</b> <b>Numbers 11 to 15 (10 days)</b></p> <p><b>Unit 10</b> <b>Numbers 16-19 (10 days)</b></p> <p><b>Unit 12</b> <b>Count to 100 (9 days)</b></p>
<p><b>Eligible Content - Grade 3</b> M03.A-T.1.1 Apply place-value strategies to solve problems.</p> <p>M03.A-T.1.1.4 Order a set of whole numbers from least to greatest or greatest to least (up through 9,999, and</p> <p>Numbers and Operations:</p> <p>Counting and Cardinality</p> <p><b>Count the Number of Objects</b></p> <p><b>K.CC.4</b> Understand the relationship between numbers and quantities; connect counting to cardinality.</p>	<p>• Ability to use rote counting (e.g., simply reciting numbers in order with no meaning attached) to one hundred.</p> <ul style="list-style-type: none"> <li>• Ability to use verbal counting (e.g., meaningful counting employed in</li> </ul> <p>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.</p> <p>b. Understand that the last number name said tells the number of objects counted. The number of objects is</p>	<p>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><b>K.CC.5</b> Count to answer “ How many?” questions about as</p>	<p>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 one to twenty, count that many objects.</p> <p><b>Eligible Content - Grade 3</b> M03.A-T.1.1 Apply line to model counting from a given number</p>	<p>other than 1.</p> <ul style="list-style-type: none"> <li>• Knowledge that counting is the process of adding 1 to the previous number.</li> </ul> <p><b>C.C.2.1.K.A.2: Apply one-one correspondence to count the number of objects.</b></p> <p><b>Essential Skills and Understanding:</b></p>	<ul style="list-style-type: none"> <li>• Knowledge that cardinality is the understanding that, when counting a set, the last number represents the total number of the objects in the set.</li> <li>• Ability to apply a one-to-one correspondence</li> </ul>	

when counting, and written? How can quantities be determined, represented, communicated and counted?	2's, 5's or 10's be accurately counted?  Does order matter when you count? Why?	How is mathematics used to quantify, compare, represent, and model numbers? number of students in the class (counting a set of objects by 1's)	and represent quantities.  Estimate the number of objects, compare groups, determine which had more/less.  Make an estimate of the number of objects up to 100 and verify by counting.	than/fewer than.  Count, read and order numbers to 100.  Practice the rote counting sequence, from 1-30.  Keep track of a growing set of objects. Write numbers from 0-20.	size.  Record an arrangement of a quantity.  Match sets with a 1 to 1 correspondence ● Series End of unit assessment ● Quarterly Report Card Assessment
How can numbers to 100 be counted?	How can language be used to describe the relationship between numbers?	Concept of equivalence. Create an equivalent set.	Develop an understanding of more	Create a set of a given	
How can a set of objects that come in Numbers and Operations: Counting and Cardinality place-value strategies to solve problems.	quantities and magnitudes of fractions and whole numbers.  <b>C.C.2.1.K.A.3: Apply the concept of magnitude to compare numbers and quantities. Essential Skills and Understanding:</b>	Count, create, record of visually, to compare by matching, and to compare by counting. ● Ability to apply knowledge of an experience with ● comparing concrete objects. ● Identify a penny is worth one cent and a nickel is worth five cents.	represent quantities and record how many.	represent quantities and record how many.  Consider whether order matters when you count.  Compare two or more quantities to determine which is more.	
<b>CC.2.1.K.A.3 Apply the concept of magnitude to Compare Numbers and Quantities</b>					
<b>K.CC.6</b> Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group. <b>K.CC.7</b> Compare two numbers between one and ten presented as written numerals.	● Knowledge that when one more is added to a number set, this new number includes all the previous objects in the set, plus the new one. (e.g., $6+1=7$ ). ● Ability to use concrete materials when comparing sets. ● Ability to compare	Use math manipulatives for counting.  Use the calendar as a tool for keeping track of time and events.		Using a ten-frame to develop visual images for quantities up to 10.  Count forwards/backwards.  Develop an understanding of the magnitude and position of numbers.  Develop language for comparing quantities.	
<b>Eligible Content - Grade 3</b> M03.A-T.1.1 Apply place-value strategies to solve problems. M03.A-F.1.1 Develop and apply number theory concepts to compare		Represent quantities with pictures, numbers, objects, and/or words.  Use numbers to		Order quantities from least to most.	

Count spaces and move the game  
 Numbers and Operations:

Counting and Cardinality  
 board.

Use the number lines as a tool for counting.

Use subsets to count a set of objects.

Work with 1 to 1  
 correspondence.

Count by groups of five and ten.

Compare 2 written numbers between 1 and 10.

Count and write  
 numbers 0-20.

Count orally up to 100.

Count on from any given number up to 100 orally.

Use written numbers to show more/less values.

**Topic Standards / Assessment Anchors  
 Essential Knowledge &**

**Skills Vocabulary Resources &**

Numbers and Operations:  
 Numbers and Operations in Base Ten  
**Work With Numbers 11-19 to Gain Foundations for Place Value (PA Standard: CC.2.1.K.B.1)**

(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.

**Eligible Content - Grade 3 M03.A-T.1.1**  
 Apply place-value strategies to solve problems.

**K.NBT.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 decomposition by a drawing or equation

M03.A-T.1.1.4 Order a set of whole numbers from least to greatest or greatest to least (up through 9,999, and limit sets to no more than four numbers)  
 • Ability to use concrete

materials (e.g., unifix cubes, snap cubes, base 10 blocks, etc. (to represent the combination of one ten and extra ones for each number)  
 • Ability to record the representations of 11 through 19 in pictures, numbers, and/or equations.  
 • Ability to use concrete materials to build sets, towers, or groups of 10, to make sense of counting by tens.

• Ability to count, with or without manipulatives by ones or tens.  
 • Know a Dime is worth 10 cents and a Quarter is worth 25 cents (two groups of ten and five extra ones)  
 tens  
 ones  
 place value  
 ones place  
 tens place  
 ten frame  
 dime  
 quarter  
 group, bundle  
 Essential Questions  
 How can you add 1 ten and some ones to

**Activities Assessments Suggested Time**

make the numbers 11 to 19?  
 How can you break the numbers 11-19 into parts by making a group of ten and some ones?  
 Represent days of school by using ones, tens and hundreds during calendar activities.  
 Combine 10 ones to make a ten and 10 tens to make a hundred.  
 Compose and decompose the teen numbers into one ten and some number of ones.

Use place value blocks to represent numbers 11-19 as ones alone or a combination of tens and ones.  
 Identify and name coins and their values.  
 Use a ten's frame to show numbers as a group of ten and extra ones.  
 Count sets of pennies, sets of nickels and sets of dimes up to a dollar.  
 Recognize the symbol for cents  
**Formative:**  
 • Journals/logs • KWL

chart  
 • question and answer  
 • Individual white boards  
 • Teacher observation checklists  
 • Student activity book page  
 • Observation of student performance  
 • Exit Tickets  
**Summative:**  
 • Benchmark assessments  
 • Teacher observation checklists  
 • Performance based assessments  
 • Student generated

project  
 ● Teacher  
 observation

checklists  
 ● Student  
 activity book

page  
 ● Series End of Unit  
 assessment

● Quarterly  
 Assessment  
**Realize Series**

**Unit 9**  
**Numbers 11 to 15**  
**(10 days)**

**Unit 10**  
**Numbers**  
**16-19**

**(10 days)**

**Unit 12**  
**Count to 100 (9 days)**

**Topic Standards / Assessment Anchors**  
**Essential Knowledge &**

**Activities Assessments Suggested**  
**Time**

**Skills Vocabulary Resources &**

<p>Algebraic Concepts:           Operations and Algebraic Thinking  <b>Understand addition as putting together and adding to, and subtraction as taking apart and taking from. (PA Standard: CC.2.2.K.A.1)</b></p>	<p>using objects or drawings to represent the problem. <b>K.OA.3</b> 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., <math>5=2+3</math>) and <math>(5=4+1)</math>. <b>K.OA.4</b> For any number from 1-9 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          ● Ability to represent addition and subtraction processes in a variety of ways, using concrete materials, pictures, numbers, words, or acting it           Operations and</p>	<p>out.          ● Knowledge that “putting together” and “adding to” are two different processes of addition.          ● Knowledge that “taking apart” and “taking from” are two different processes of subtraction.          ● Ability to represent the process of solving various types of addition and subtraction word problems within 10 using objects, and drawings to develop number sentences.          ● Knowledge of the different remove, minus subtract, subtraction sign          Algebraic Thinking equation.</p>	<p>difference          take away          add, join, plus, combine          addition          addition sign all together          in all          sum          total number number          ten tence          equation          equals          solve          doubles          pattern          repeats          same          different          unit          sign, symbol          Count up          Count back           Essential Questions          How can you model addition as a combining situation?           How can you model subtraction as a taking from/separating situation?          Use manipulatives,  <b>K.OA.5</b> Fluently add and subtract within 5.</p>	<p>drawings, tools and notation to show strategies and solutions.           Find the total after 1, 2, or 3 is added to, or subtracted from a set.           Combine 2 single digit numbers with totals to 10.           Model the action of combining and separating situations.           Separate one amount from another.           Develop strategies for solving addition and subtraction story problems.           Decompose numbers less than ten in different ways.           Consider combinations of a number.           Use number and/or</p>	<p>addition notation to describe arrangements of objects, to record how many, and to represent an addition situation.           Use numbers, pictures,  <b>Formative:</b>          ● Journals/logs ● KWL          ● Warm up activity          ● Question and answer          ● Thumbs up/thumbs down          ● Individual white boards          ● Observation of students working          ● Exit Tickets   <b>Summative:</b>          ● Benchmark assessments          ● Teacher observation checklists</p>	<p>● Performance based assessments          ● Student generated projects          ● Teacher observation checklists          ● Student activity book page          ● Series End of Unit assessments          ● Quarterly Report Card Assessments  <b>Realize Series</b>   <b>Unit 6</b>  <b>Understand Addition (9 days)</b>   <b>Unit 7</b>  <b>Understand ing Subtraction (9 days)</b>   <b>Unit 8</b>  <b>Addition and Subtraction Strategies (10 days)</b></p>
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**Eligible Content - Grade**

<p>3 M03.A-T.1.1 Apply place-value strategies to solve problems.</p>	<p>unknown) which lays the foundation for more difficult word problems.</p>	<ul style="list-style-type: none"> <li>• Knowledge that there are a variety of combinations that represent a given number.</li> </ul>	<p>How many different ways can you decompose a given number?</p>	<p>Distinguish between patterns and non-patterns.</p>
<p>M03.B-O.1.2 Solve mathematical and real world problems using multiplication and division, including determining the missing number in a multiplication and/or division equation.</p>	<ul style="list-style-type: none"> <li>• Ability to use concrete materials or pictures and a part-part-whole mat to organize the manipulatives and make sense of the problem.</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to begin with the whole</li> <li>What types of situations involve addition/subtraction?</li> </ul>	<p>How can you write a number sentence to represent addition/subtraction and/or words to represent a quantity, measurement or solution to a problem.</p>	<p>Construct a variety of patterns using the same elements.</p>
<p>M03.B-O.3.1 Use operations, patterns, and estimation strategies to solve problems (may include word problems). types of word problems (e.g., add to, result unknown; take from, result unknown; put together/take apart, total</p>	<ul style="list-style-type: none"> <li>• Knowledge that decomposition involves separating a number into 2 different parts and understanding that there is a relationship between the sum of the parts and the whole.</li> </ul>	<p>How can you find the total when 1, 2 or 3 are added to a set?</p>	<p>Copy, construct, compare, describe and record repeating patterns.</p>	<p>Compare different kinds of patterns.</p>
<p>Algebraic Concepts:</p>		<p>How can you find the difference when 1, 2 or 3 are subtracted from a set?</p>	<p>Determine what comes next in a repeating pattern.</p>	<p>Identify the unit in a repeating pattern.</p>
<p>Operations and Algebraic Thinking when decomposing numbers into pairs.</p>		<p>How can you use addition notation to describe an arrangement of</p>	<p>Compare repeating and non-repeating arrangements.</p>	<p>Count the number of units in a repeating pattern.</p>
<ul style="list-style-type: none"> <li>• Knowledge when writing an equation to represent the decomposition of a number, the values on each side of the equal sign are the same</li> </ul>		<p>(e.g., <math>7=2+5</math>)</p> <ul style="list-style-type: none"> <li>• Ability to use experience with K.OA.3 to make sense of this standard.</li> <li>• Ability to apply decomposition knowledge and relationship between addition and subtraction to determine the sum or differences of various problems.</li> </ul>	<p>one part are known.</p>	<p>Extend a repeating pattern by adding on units to the pattern.</p>
		<p>Solve a problem in which the total (10) and illustration to represent addition and</p>	<p>Use numbers to record how many.</p> <p>Use addition notation to record each composition and decomposition.</p> <p>Add/subtract 1 to/from numbers up to 10.</p> <p>Add to/subtract from one quantity to make another quantity.</p> <p>Write a number sentence corresponding to an</p>	<p>Add/subtract within 5.</p> <p>Find how many are left after 1, 2, or 3 is subtracted from a set.</p>



subtraction through 10.

subtraction problems with sums and differences through 5.

explanations, equations).

Solve addition and subtraction problems to 10 with manipulatives.

Represent Addition and Subtraction within 10 (drawings, actions, sounds, verbal

Solve addition and subtraction problems

Develop fluency for addition and

within 10 using objects/drawings or objects.

Starting from a number 1-9, find how many more would make 10 using objects, drawings or equations.

Fluently add and subtract within 5 (PA within 10).

**Topic Standards / Assessment Anchors  
Essential Knowledge &**

**Skills Vocabulary Resources &**

Geometry **CC.2.3.K.A.1**

**CC.2.3.K.A.2**

**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.

**K.G.2.** Correctly name shapes regardless of their orientations or overall size.

**K.G.3.** Identify shapes as

two-dimensional (lying in a plane, "flat") or three-dimensional ("solid"). Analyze, compare, create, and compose shapes. **K.G.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).

**K.G.5.** Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and

**CC.2.3.K.A.1: Identify and describe two and three dimensional shapes.**

**Essential Skills and Understanding:**

- Ability to use

**Activities Assessments Suggested Time**

**Essential Skills and Understanding:**

- Ability to sort

measurement and geometric vocabulary when describing the attributes of objects.

**CC.2.3.K.A.2: Analyze, compare, create, and compose 2-and 3-dimensional shapes.**

objects by a given attribute.  
 • Ability to classify objects by

predetermined categories related to attributes (numbers of sides, number of corners).  
 • Ability to

construct a shape using manipulatives.  
 circle  
 triangle  
 square  
 rectangle

drawingshapes.

**K.G.6.** Composesimple

hexagon  
 rhombus  
 trapezoid  
 2-D shape  
 3-D shape  
 rectangular  
 prism  
 cone  
 sphere  
 cube  
 cylinder  
 face  
 shape  
 matching  
 same/different geo-board  
 round  
 sides  
 corners  
 points  
 curved  
 straight  
 vertice  
 angle

Essential Questions

What are the attributes of a given 2-D or 3-D shape?make a given 3-D shape.

Where can you find 2-D and 3-D objects in the real world?  
 Describe, identify, compare and sort 2-D and 3-D shapes.

Compose and decompose 2-D and 3-D shapes.

Develop language to describe and compare shapestoform larger shapes.

2-D and 3-D shapes and their attributes.

Relate 2-D and 3-D shapes to real world objects.

Describe the attributes of circles, rectangles, triangles, and squares.

Explore and compare relationships among pattern block shapes.

Compare the faces of different 3-D shapes and the faces of a single 3-D shape.

Construct 2-D shapes.

Find combinations of shapes that fill an area.

Construct 3-D shapes.

Combine 3-D shapes to make a given 3-D shape.

Describe objects in the real world?  
**Formative:**

- KWL chart
- Warm up activity
- Question and answer
- Thumbs up/thumbs down
- Individual white boards
- Teacher observation

of activities  
 • Exit Tickets

**Summative:**  
 • Benchmark assessments  
 • Teacher observation checklists  
 Performance based assessments  
 Student generated projects  
 • Teacher observation checklists  
 • Series End of Unit Assessment  
 • Quarterly Report Card Assessments  
**Realize Series**

**Unit 5**  
**2 Dimensional Shapes (9 days)**

**Unit 4**  
**Sort, Classify and count (8 days)**

**Unit 11**  
**3D Shapes (10 days)**

**Unit 13**  
**Compare/Compose Shapes (10 days)**

Forexample, "Can you join these two triangles with full sides touching to make a rectangle?"

**Eligible Content - Grade 3**

M03.C-G.1.1 Analyze characteristics of polygons.

M03.C-G.1.1.1 Explain that shapes in different categories may share attributes and that the shared attributes can define a larger category. Example 1: A rhombus and a rectangle are both quadrilaterals since they both have exactly four sides.

Example 2: A triangle and a pentagon are both polygons since they are both multi-sided plane figures.

M03.C-G.1.1.2 Recognize rhombi, rectangles, and squares as examples of quadrilaterals and/or draw examples of quadrilaterals that do not belong to any of these subcategories.

What shapes can be created by using the pattern blocks?

What is the same/different about two given 2-D or 3-D

shapes? environment using names of shapes and describe their positions using positional words.

Name shapes regardless of orientation or size

Model shapes by building from components (stick, clay) and draw shapes.

Compose simple shapes from other shapes (ex: 2 triangles to make a rectangle).

**Topic Standards / Assessment Anchors Essential Knowledge &**

**Skills Vocabulary Resources &**

**Measurement, Data and Probability:**  
**Measurement and Data NCC.2.4.K.A.1 Describe and compare attributes of length, area, weight and capacity of everyday objects.**  
**CC.2.4.K.A.4 Classify objects and count the number of objects in each category.**

**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. 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.

**Eligible Content- Grade 3** M03.D-M.1.2 Use the attributes of liquid volume,

**CC.2.4.K.A.1 Describe and compare attributes of length, area, weight and capacity of everyday objects.**

**Essential Skills of Understanding:**

- Recognize the attributes of length, volume, weight, area, and time, and compare and order objects according to these attributes.
- Understand how to measure using both nonstandard and standard units.
- Select an appropriate unit

**Activities Assessments Suggested Time**

and tool for the attribute being measured.

**CC.2.4.K.A.4 Classify objects and count the number of objects in each category.**

**Essential Skills of Understanding:**

- Connect number words and capacity full empty holds more/ holds less/

holds same long/ longer/ longer than/ tall/taller short/ shorter/ shorter than weight scale balance heavier lighter the same equal to length height width, wide table graph column row time

hour, minute analog clock digital clock big, bigger, biggest small, smaller, smallest tall, taller, tallest  
 Essential Questions  
 Given a set of 2 objects, how can you determine which Sort objects into 2 categories according to length.  
 Develop language to describe and compare lengths.

Identify the longest dimension of an object.	measuring the length of an object.	Describe several measurable attributes of an object such as length, weight	<ul style="list-style-type: none"> <li>• Journals/logs</li> <li>• KWL chart</li> <li>• Warm up activity</li> <li>• Question and answer</li> </ul>	<ul style="list-style-type: none"> <li>• Student activity book page</li> <li>• Exit Tickets</li> </ul>	assessments	<b>Realize Series</b>
Compare lengths of different objects.	Understand what weight is	Record measurements with pictures, numbers, and/or words	<ul style="list-style-type: none"> <li>• Thumbs up/thumbs down</li> <li>• Individual white boards</li> <li>• Teacher observation</li> </ul>	<ul style="list-style-type: none"> <li>• Student generated projects</li> <li>• Teacher observation checklists</li> <li>• Student activity book page</li> <li>• Series End of Unit assessment</li> <li>• Quarterly</li> </ul>	<ul style="list-style-type: none"> <li>• Student generated projects</li> <li>• Teacher observation checklists</li> <li>• Student activity book page</li> <li>• Series End of Unit assessment</li> <li>• Quarterly</li> </ul>	<b>Unit 4 Sort, Classify and Count (8 days)</b>
Repeat multiple non-standard units to quantify length.	Compare weights of different objects	Compare nonstandard	<b>Formative:</b>	<b>Summative:</b>	<ul style="list-style-type: none"> <li>• Benchmark assessments</li> <li>• Teacher observation checklists</li> <li>• Performance based</li> </ul>	<b>Unit 14 Compare Measurable Attributes (9 days)</b>
Develop strategies for mass, and length of objects.	Develop strategies for measuring the weight of an object	<b>Formative:</b>	physical models and representations.	vocabulary can you use to	Compare how objects are the same and different	
M03.D-M.1.2.3 Use a ruler to measure lengths to the nearest quarter inch or centimeter.	M03.D-M.2.1.2 Solve one and two-step problems using information to interpret data presented in scaled pictographs and scaled bar graphs (scales limited to 1, 2, 5, and 10). Example 1: (One-step) "Which category is the largest?" Example 2: (Two-step) "How many more are in category A than in category B?"	M03.D-M.2.1.2 Solve one and two-step problems using information to interpret data presented in scaled pictographs and scaled bar graphs (scales limited to 1, 2, 5, and 10). Example 1: (One-step) "Which category is the largest?" Example 2: (Two-step) "How many more are in category A than in category B?"	one is the longest?	What is the proper way to measure an object with non-standard units?	Use attributes to sort a set of objects	
M03.D-M.1.3 Count, compare, and make change using a collection of coins and one-dollar bills.	M03.D-M.2.1 Organize, display, and answer questions based on data.	M03.D-M.2.1.3 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Display the data by numerals to the quantities they represent, using various	What are good rules for measuring?	What vocabulary can you use to describe the amount of liquid a container holds?	Find objects that share one attribute	
M03.D-M.2.1.1 Complete a scaled pictograph and a scaled bar graph to represent a data set with several categories (scales limited to 1, 2, 5, and 10).	M03.D-M.2.1.3 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Display the data by numerals to the quantities they represent, using various	M03.D-M.2.1.3 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Display the data by numerals to the quantities they represent, using various	What vocabulary can you use to describe the weight of an object?	What vocabulary can you use to describe the amount of liquid a container holds?	Group data into categories based on similar attributes	
making a lineplot, where the horizontal scale is marked in appropriate units—whole numbers, halves, or quarters.	M03.D-M.2.1.4 Translate information from one type of display to another. Limit	M03.D-M.2.1.4 Translate information from one type of display to another. Limit	What	Identify attributes and develop language to describe them	Sort a set of objects or data in different ways	
				Identify the attribute that is common to several objects	Create a bar graph with the structure of the graph provided	
					Collect, count, represent, describe and compare data.	
					Report Card Assessment	

to pictographs, tally charts, bar graphs, and tables. Example:  
Convert a tally chart to a bar graph.

What is the difference between standard and nonstandard measuring?

How can you compare the weight of an object?

What are different types of measurement?

What are the different measuring tools?

How do you determine the proper measuring tools?