

MIAMI-DADE COUNTY PUBLIC SCHOOLS

# Mathematics Pacing Guide

## Kindergarten



2008-2009

DIVISION OF MATHEMATICS EDUCATION

# THE SCHOOL BOARD OF MIAMI-DADE COUNTY, FLORIDA

Mr. Agustin J. Barrera, Chair  
Ms. Perla Tabares Hantman, Vice Chair  
Mr. Renier Diaz de la Portilla  
Dr. Martin Karp  
Ms. Evelyn Langlieb Greer  
Dr. Wilbert "Tee" Holloway  
Ms. Ana Rivas Logan  
Dr. Marta Pérez  
Dr. Solomon C. Stinson

Rudolph F. Crew, Ed.D  
Superintendent of Schools

Ms. Antoinette P. Dunbar  
Associate Superintendent  
Curriculum and Instruction

Melanie Megias  
Administrative Director  
Mathematics Education



Miami-Dade County Public Schools  
Division of Mathematics Education  
MATHEMATICS PACING GUIDE

## Overview

### Purpose and Goal

The purpose of the Pacing Guide is to coordinate teaching efforts district-wide. The Pacing guides were developed and reviewed collaboratively by teams of M-DCPS elementary teachers, regional personnel, and Elementary Mathematics Liaisons representing all grade levels with the support of the Division of Mathematics Education staff. The Mathematics Pacing Guide is developed for Kindergarten through Grade Eight based on Florida's Next Generation Mathematics Sunshine State Standards (SSS) approved in 2007. It structures teaching so that if students move from one school to another within the district, they can be assured of receiving consistent delivery of instructional content. The Pacing Guide is a grade level curriculum map derived from state standards to help provide equal access to instruction for all students. The goal of the Pacing Guide is to develop a common pacing which will ensure that students receive effective, focused instruction daily in the most appropriate grouping, in order to maximize student learning.

### Describing the Standards

The state's core curriculum defines the minimum essential content to be taught at each grade level. The standards consist of the Big Ideas and Supporting Ideas along with the Access Points. The Big Idea Standards are aligned to the Curriculum Focal Points released in 2006 by the National Council of Teachers (NCTM). They should be the primary focus of mathematics instruction for each grade level, K – 8. There are three Big Ideas for each grade. The order does not determine the order of instruction nor does it indicate that any one Big Idea requires greater instructional emphasis. Instructional time may not be evenly divided among the three Big Ideas. The Supporting Ideas are standards which are fundamental to sound mathematics instruction. These, too, are aligned to the Curriculum Focal Points. Supporting Ideas prepare students for future mathematics teaching and learning and address gaps in instruction that are important to the understanding, fluency, and application of mathematics ideas to problem solving. They are no less important than the Big Ideas but are key components to a structurally sound mathematics education. Access Points are restatements of standards that describe a different level of complexity to capture the core intent of the standards. The mathematics Access Points are written for students with significant cognitive disabilities.

### Recommended Strategies for using the Pacing Guide

Because of the mobility rate of our student population it is suggested that these Pacing Guides be followed as the units suggest. This will ensure that our students are able to develop mastery of key concepts and continuity of instruction when they move within the school district. Because an effective assessment program is grounded in student's understanding of curricular content through instructional delivery, it is suggested that teachers develop assessment strategies that will assess all students' progress.

There are different types of assessment:

- Performance-based assessment provides tasks that actively engage students in critical thinking and problem solving.
- Authentic assessment demonstrates skills and competencies that realistically represent problems and situations likely to be encountered in daily life.
- Portfolios are a collection of student work done over a substantial period of time for improvement and teach self-assessment.

- Self-assessment requires student to evaluate their own participation, progress and product.
- Teacher observations, quizzes, and tests are techniques for formal and informal assessments.

Teachers are cognizant of the needs of all their students, therefore, effective assessment strategies should be developed to ensure that assessment reflect mastery of the skills and concepts covered.

#### Components of the Pacing Guide

The Pacing Guides identify content to be covered each nine weeks. The various components of the Pacing Guide are explained as follows: Essential Questions help frame student inquiry, promote critical thinking and provide a context for student learning. Student Learning Goals describe the specific content and skills that students must be able to master at the end of each unit. Essential Content delineates what teachers must expose students to in order to meet their learning goals.

Benchmarks reflect the expectations for learning, and indicate what all children should know and be able to do in order to be prepared and successful in post-secondary options and in life. Benchmarks are rigorous, must be assessed regularly, and assist in adjusting instruction as needed. They help students be successful in the current and next level of schooling. Since these benchmarks are aligned, they help students be prepared for high stakes testing.

Understanding the coding for the mathematics standards:

The Florida Department of Education (FLDOE) developed the following Benchmark Coding Scheme:

Benchmark Coding Scheme

MA.	K.	A.	1.	1
Subject	Grade Level	Body of Knowledge	Big Idea / Supporting Idea	Benchmark

Although Access Points are not addressed in the Pacing Guide they are addressed for each grade level in the K-8 Standards available at: <http://www.floridastandards.org/index.aspx>

The Division of Mathematics Education acknowledges that each child is viewed as a unique person with individual interests and differences. Both the curriculum and instructional components for each unit are designed to meet the needs of all students.

**KINDERGARTEN**  
**MATHEMATICS PACING GUIDE**  
**NINE WEEK OVERVIEW**

1 <sup>st</sup> Nine Weeks	2 <sup>nd</sup> Nine Weeks	3 <sup>rd</sup> Nine Weeks	4 <sup>th</sup> Nine Weeks
<p>1. Calendar and Time</p> <ul style="list-style-type: none"> <li>• Day</li> <li>• Week</li> <li>• Month</li> <li>• Year</li> <li>• Relate Time to Activities</li> </ul> <p>2. Sorting Objects</p> <ul style="list-style-type: none"> <li>• Color</li> <li>• Shape</li> <li>• Size</li> <li>• Relative positions of objects</li> </ul> <p>3. Understanding and Working with Numbers 0 to 5</p> <ul style="list-style-type: none"> <li>• Count numbers up to 5</li> <li>• Represent numbers up to 5</li> <li>• Recognize numbers up to 5</li> <li>• Write numbers up to 5</li> <li>• Ordinals– Ordering numbers backwards and forwards</li> <li>• Sequence of numbers</li> </ul> <p>4. Pattern Recognition</p> <ul style="list-style-type: none"> <li>• Sound Patterns</li> <li>• Physical Movement</li> <li>• Objects</li> </ul>	<p>5. Understanding and Working with Numbers 6 to 10</p> <ul style="list-style-type: none"> <li>• Counting numbers up to 10</li> <li>• Represent numbers up to 10</li> <li>• Recognize numbers up to 10</li> <li>• Write numbers up to 10</li> <li>• Solve real-world problems using ordinal numbers</li> <li>• Sequence of numbers</li> </ul> <p>6. Solving Word Problems using Numbers 0 – 10</p> <ul style="list-style-type: none"> <li>• Counting (natural) numbers</li> <li>• Joining sets</li> <li>• Separating sets</li> </ul>	<p>7. Measurement: Comparing And Ordering Objects By Length, Height, Weight, and Time</p> <ul style="list-style-type: none"> <li>• Compare objects indirectly or directly using attributes</li> <li>• Order objects indirectly or directly using attributes</li> <li>• Relate time to activities</li> </ul> <p>8. Shapes &amp; Space 2-D Two-dimensional shapes – squares, triangles, circles, rectangles, hexagons, and trapezoids</p> <ul style="list-style-type: none"> <li>• Identify two dimensional shapes</li> <li>• Model objects in real-world using shapes</li> </ul> <p>9a. Shapes &amp; Space 3-D</p> <ul style="list-style-type: none"> <li>• Identify three dimensional shapes – spheres, cubes (blocks) and cylinders</li> <li>• Draw three-dimensional shapes</li> <li>• Match the outline with the shape</li> </ul>	<p>9b. Shapes &amp; Space 3-D: Models And Problem Solving with Three-Dimensional Objects</p> <ul style="list-style-type: none"> <li>• Use appropriate vocabulary to describe spheres, cubes, cylinders, and cones</li> <li>• Model solid figures using real-world objects and manipulatives</li> </ul> <p>10. Growing and Repeating Patterns</p> <ul style="list-style-type: none"> <li>• Numeric patterns</li> <li>• Non-numeric patterns</li> </ul> <p>11. Understanding and Working With Numbers 11 – 20</p> <ul style="list-style-type: none"> <li>• Count numbers up to 20</li> <li>• Represent numbers up to 20</li> <li>• Recognize numbers up to 20</li> <li>• Write numbers up to 20</li> <li>• Solve real-world problems using ordinal numbers</li> <li>• Sequences of Numbers</li> <li>• Number Sets</li> </ul>



**SUPPORTING IDEA: Geometry and Measurement - Demonstrate an understanding of the concept of time.**

**UNIT 1:** Calendar and Time

**Pacing Recommendations:** 1 Week (Embedded throughout the year)

**Essential Question(s):** What instrument do you use to tell time?  
 How are time and daily activities related?  
 What can I use to tell me the days of the week, or which day is my birthday?

**Student Learning Goals:**

After studying this unit the student will:

- identify concepts of time, including morning, evening, afternoon, day, night, by associating activities to a time period
- use a calendar to investigate situations relating to days of the week and months of the year
- choose events that happen at intervals of the day, as morning, afternoon, evening, and night
- order events using words like before/after, shorter/longer
- determine part of the day such as breakfast time, lunch time, and dinner time

Essential Content	Benchmarks	Page Number(s)	Assessment & Resources		
1. Day – Morning, afternoon, and night 2. Week – Days of the week 3. Month – Months of the year 4. Year 5. Relate time to activities, for example: <table border="1" style="margin-left: 20px; width: 300px;"> <tr> <td>1. We go to the playground in the afternoon.</td> </tr> <tr> <td>2. We put on our pajamas at night.</td> </tr> </table>	1. We go to the playground in the afternoon.	2. We put on our pajamas at night.	<b>MA.K.G.5.1</b> Demonstrate an understanding of the concept of time using identifiers such as morning, afternoon, day, week, month, year, before/after, and shorter/longer.		<b>Assessment:</b> See recommended strategies in the Overview section.  <b>Vocabulary:</b> time, morning, noon, afternoon, evening, night, day, week, month, year, shorter, longer, before, after, today, yesterday, tomorrow  <b>Technology:</b> <ul style="list-style-type: none"> <li>• Riverdeep®</li> </ul>
1. We go to the playground in the afternoon.					
2. We put on our pajamas at night.					



**BIG IDEA 2: Describe shapes and space.**

**UNIT 2:** Sorting Objects

**Pacing Recommendations:** 3 Weeks

**Essential Question(s):** What are some examples of sorting in every day life?  
Why is it important to sort objects in real life?

**Student Learning Goals:**

After studying this unit the student will:

- recognize shapes by identifying shapes in the classroom
- compare and sort real-world objects by color, size, shape, and position
- name and describe basic objects
- reproduce shapes by drawing pictures

Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
1. Sort by color 2. Sort by shape 3. Sort by size 4. Sort by position include relative positions of objects	<b>MA.K.G.2.1</b> Describe, sort and re-sort objects using a variety of attributes such as shape, size, and position.		<b>Assessment:</b> See recommended strategies in the Overview section.  <b>Vocabulary:</b> <u>Shape:</u> circle, triangle, square, rectangle  <u>Size:</u> same, different, as many, more, fewer, big, small, long, short  <u>Position:</u> inside, outside, over, above, under, below, on, on top of, top, middle, bottom, left, right, beside, next to, sort, sorting rules  <b>Technology:</b> <ul style="list-style-type: none"> <li>• Riverdeep<sup>®</sup></li> </ul>



**BIG IDEA 1: Represent, compare, and order whole numbers and join and separate sets.**

**UNIT 3:** Understanding and Working with Numbers 0 to 5

**Pacing Recommendations:** 5 Weeks

**Essential Question(s):** How can using objects help you to count up to five?

**Student Learning Goals:**

After studying this unit the student will:

- Count, read, write and compare numbers up to 5
- Use groups of concrete materials, pictures, and numerals to represent quantities up to 5
- Match the numeral with the number of items in a group
- Model numbers in a variety of ways
- Solve problems involving sets by counting, by using cardinal and ordinal numbers, by comparing, by ordering, and by creating sets up to 5

Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
1. Count numbers up to 5 <ul style="list-style-type: none"> <li>• Rote counting</li> <li>• Use objects such as pennies, geometric shapes, and/or real-life objects such as M&amp;M, etc.</li> </ul> 2. Represent numbers up to 5 <ul style="list-style-type: none"> <li>• Draw pictures</li> <li>• Use counters such as beans</li> <li>• Use objects such as pennies, geometric shapes, and/or real-life objects such as M&amp;M, etc.</li> <li>• Use a number line</li> </ul> 3. Recognize numbers up to 5 <ul style="list-style-type: none"> <li>• Match number with quantity</li> <li>• Verbally identify the symbol</li> <li>• Create sets up to 5</li> </ul> 4. Write numbers up to 5 <ul style="list-style-type: none"> <li>• Trace, dotted, and free hand</li> </ul>	<p><b>MA.K.A.1.1</b> Represent quantities with numbers up to 20, verbally, in writing, and with manipulatives.</p> <p><b>MA.K.A.1.2</b> Solve problems including those involving sets by counting, by using cardinal and ordinal numbers, by comparing, by ordering, and by creating sets up to 20.</p>		<p><b>Assessment:</b> See recommended strategies in the Overview section.</p> <p><b>Vocabulary:</b> zero, one, two, three, four, five, line, number, numeral, count, more, less, order, fewer, same, most, fewest, before, after, fewer than, large, larger, largest, small, smaller, smallest, big, bigger, biggest, as many, none, more than</p> <p><b>Technology:</b> Riverdeep® National Library of Virtual Math Manipulatives <a href="http://nlvm.usu.edu/en/nav/vlibrary.html">http://nlvm.usu.edu/en/nav/vlibrary.html</a></p>



## KINDERGARTEN MATHEMATICS PACING GUIDE

1<sup>st</sup> NINE WEEKS

Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
<p>5. Ordinals Numbers</p> <ul style="list-style-type: none"><li>Ordering numbers backwards and forwards</li></ul> <p>6. Sequence of numbers</p> <ul style="list-style-type: none"><li>Order and compare numbers</li><li>Fill in the missing number</li></ul> <p>Example: <a href="#">MA.K.A.1.2</a></p> <div style="border: 1px solid black; padding: 5px;"><p>Students will compare sets by ordering numbers, by using concrete objects and by using appropriate language such as none, more than, fewer than, same number of, and one more than.</p></div>	<p><b>MA.K.A.1.1</b> Represent quantities with numbers up to 20, verbally, in writing, and with manipulatives.</p> <p><b>MA.K.A.1.2</b> Solve problems including those involving sets by counting, by using cardinal and ordinal numbers, by comparing, by ordering, and by creating sets up to 20.</p>		



**SUPPORTING IDEA: Algebra - Identify and duplicate simple number and non-numeric repeating and growing patterns.**

**UNIT 4:** Pattern Recognition

**Pacing Recommendations:** 2 Weeks

**Essential Question(s):** What classroom objects can you use to make patterns?  
Why are patterns important?

**Student Learning Goals:**

After studying this unit the student will:

- understand that objects that repeat over and over again represent patterns
- use concrete objects to duplicate a pattern
- describe a pattern generally seen or used in the real-world
- identify missing elements in a given pattern
- circle the shape that comes next in a pattern
- identify and describe simple patterns

Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
1. Sound patterns: <ul style="list-style-type: none"> <li>• Identify a pattern</li> <li>• Duplicate a pattern</li> </ul> 2. Physical movements: <ul style="list-style-type: none"> <li>• Identify a pattern</li> <li>• Duplicate a pattern</li> </ul> 3. Objects: <ul style="list-style-type: none"> <li>• Identify a pattern</li> <li>• Duplicate a pattern</li> </ul>	<b>MA.K.A.4.1</b> Identify and duplicate simple number and non-numeric repeating and growing patterns.		<b>Assessment:</b> See recommended strategies in the Overview section.  <b>Vocabulary:</b> pattern, repeating pattern  <b>Technology:</b> Riverdeep®



**BIG IDEA 1: Represent, compare, and order whole numbers and join and separate sets.**

**UNIT 5:** Understanding and Working with Numbers 6 to 10

**Pacing Recommendations:** 4 Weeks

**Essential Question(s):** Where do we see numerals in the real-world?  
Why is comparing sets important?

**Student Learning Goals:**

After studying this unit the student will:

- count, read, write and compare numbers up to 10
- use groups of concrete materials, pictures, and numerals to represent quantities up to 10
- match the numeral with the number of items in a group
- model numbers in a variety of ways
- solve problems involving sets by counting, by using cardinal and ordinal numbers, by comparing, by ordering, and by creating sets up to 10

Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
1. Count numbers up to 10 <ul style="list-style-type: none"> <li>• Rote counting</li> <li>• Use objects such as pennies, geometric shapes, and/or real-life objects such as M&amp;M, etc.</li> <li>•</li> </ul> 2. Represent numbers up to 10 <ul style="list-style-type: none"> <li>• Draw pictures</li> <li>• Use counters such as beans</li> <li>• Use objects such as pennies, geometric shapes, and/or real-life objects such as M&amp;M, etc.</li> <li>• Use a number line</li> </ul> 3. Recognize numbers up to 10 <ul style="list-style-type: none"> <li>• Match number with quantity</li> <li>• Verbally identify the symbol</li> <li>• Create sets up to 10</li> </ul>	<p><b>MA.K.A.1.1</b> Represent quantities with numbers up to 20, verbally, in writing, and with manipulatives.</p> <p><b>MA.K.A.1.2</b> Solve problems including those involving sets by counting, by using cardinal and ordinal numbers, by comparing, by ordering, and by creating sets up to 20.</p>		<p><b>Assessment:</b> See recommended strategies in the Overview section.</p> <p><b>Vocabulary:</b> six, seven, eight, nine, ten, as many, none, same, greater than, more than, less than, fewer than, large, larger, largest, small, smaller, smallest, big, bigger, biggest, same number of, one more than, cup.</p>



## KINDERGARTEN MATHEMATICS PACING GUIDE

2<sup>nd</sup> NINE WEEKS

Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
<p>4. Write numbers up to 10</p> <ul style="list-style-type: none"><li>Trace, dotted, and free hand</li></ul> <p>5. Solve real-world problems using ordinal numbers</p> <p>6. Sequence of numbers</p> <ul style="list-style-type: none"><li>Order and compare numbers</li><li>Fill in the missing number</li></ul> <p><u>Example: MA.K.A.1.1</u></p> <div style="border: 1px solid black; padding: 5px;"><p>Have 10 plastic cups with numbers 1 through 10 on them. Have each student fill one cup with number of beans written on the cup.</p></div> <p><u>Example: MA.K.A.1.2</u></p> <div style="border: 1px solid black; padding: 5px;"><p>Students will compare sets by ordering numbers, by using concrete objects and by using appropriate language such as none, more than, fewer than, same number of, one more than.</p></div>	<p><b>MA.K.A.1.1</b> Represent quantities with numbers up to 20, verbally, in writing, and with manipulatives.</p> <p><b>MA.K.A.1.2</b> Solve problems including those involving sets by counting, by using cardinal and ordinal numbers, by comparing, by ordering, and by creating sets up to 20.</p>		<p><b>Technology:</b> Riverdeep® National Library of Virtual Math Manipulatives <a href="http://nlvm.usu.edu/en/nav/vlibrary.html">http://nlvm.usu.edu/en/nav/vlibrary.html</a></p>



**BIG IDEA 1: Represent, compare, and order whole numbers and join and separate sets.**

**UNIT 6:** Working and Solving Word Problems with Numbers 0 to 10

**Pacing Recommendations:** 3 Weeks

**Essential Question(s):** Can you find how many there are when you put two sets of objects together?  
Can you find what is left when you remove one object from a set?

**Student Learning Goals:**

After studying this unit the student will:

- use counting strategies for sets that have been put together or separated, including zero (empty set)
- use a variety of ways to describe and solve problem situations
- explain story problems that combine, separate and compare sets up to 20
- create number combinations up to 20 and use them to solve word problems

Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
<p>Number sets:</p> <ol style="list-style-type: none"> <li>1. Counting numbers (natural numbers)</li> <li>2. Joining sets</li> <li>3. Separating sets</li> </ol> <p><b>Example: MA.K.A.1.3</b></p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Students will use pictures and manipulatives to solve addition and subtraction problems.</p> </div>	<p><b>MA.K.A.1.3</b> Solve word problems involving simple joining and separating situations.</p>		<p><b>Assessment:</b> See recommended strategies in the Overview section.</p> <p><b>Vocabulary:</b> as many, none, same, greater than, more than, less than, fewer than, large, larger, largest, small, smaller, smallest, big, bigger, biggest, number of, one more than, sets, separate, joining</p> <p><b>Technology:</b> Riverdeep® National Library of Virtual Math Manipulatives <a href="http://nlvm.usu.edu/en/nav/vlibrary.html">http://nlvm.usu.edu/en/nav/vlibrary.html</a></p>



**SUPPORTING IDEAS: Geometry and Measurement - Demonstrate an understanding of the concept of time.**

**UNIT 7:** Measurement - Comparing and Ordering Objects by Length, Height, Weight, and Time

**Pacing Recommendations:** 5 Weeks

**Essential Question(s):**

- When do we use measurement in our daily lives?
- What effect does length of time have on our daily activities?
- What effect does height and weight of objects have on our daily activities?
- How does estimation of length, height, and weight impact our daily lives?

**Student Learning Goals:**

After studying this unit the student will:

- compare the lengths of pencils to find which is the longest
- order students from tallest to shortest or vice versa
- use paper clips or pennies to measure objects
- write about which would be more appropriate to measure the distance in length of the school’s cafeteria, using links or meter sticks
- use a calendar to investigate situations relating to days of the week and months of the year
- relate events that happen daily, weekly, or yearly
- choose appropriate units of measure
- compare standard and nonstandard units
- know how to compare and order objects by weight
- know how to make indirect measure using manipulatives to measure objects in the classroom

Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
1. Compare objects indirectly or directly using attributes: <ul style="list-style-type: none"> <li>• Length</li> <li>• Height</li> <li>• Weight</li> </ul> 2. Order objects indirectly or directly using attributes: <ul style="list-style-type: none"> <li>• Length</li> <li>• Height</li> <li>• Weight</li> </ul> 3. Relate time to activities	<b>MA.K.G.3.1</b> Compare and order objects indirectly or directly using measurable attributes such as length, height, and weight.		<b>Assessment:</b> See recommended strategies in the Overview section.  <b>Vocabulary:</b> as long as, as short as, same length as, as tall as, short, shorter, shortest, tall, taller, tallest, long, longer, longest, measure, about the same, most, least, heavy, heavier, heaviest, light, lighter, lightest, weight



## KINDERGARTEN MATHEMATICS PACING GUIDE

3<sup>rd</sup> NINE WEEKS

Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
<p><b>Example: MA.K.G.3.1</b></p> <ol style="list-style-type: none"><li>1. Direct means that one object is compared to another. Example: The length of two crayons is compared to by placing them next to each other and stating which one is longer or shorter.</li><li>2. Indirect means that a measurement is provided to allow the comparison. Example: One student's height is marked on the wall. Another student's height is marked on the wall. The two marks are compared to determine their relative height.</li><li>3. Relate time to activities: We go to the playground in the afternoon.</li></ol>	<p><b>MA.K.G.5.1</b></p> <p>Demonstrate an understanding of the concept of time using identifiers such as morning, afternoon, day, week, month, year, before/after, and shorter/longer.</p>		<p><b>Technology:</b></p> <p>Riverdeep® National Library of Virtual Math Manipulatives <a href="http://nlvm.usu.edu/en/nav/vlibrary.html">http://nlvm.usu.edu/en/nav/vlibrary.html</a></p>



**BIG IDEA 2: Describe shapes and space.**

**UNIT 8:** Shapes and Space – Two Dimensions

**Pacing Recommendations:** 3 Weeks

**Essential Question(s):** How does knowing spatial relations affect your day-to-day interactions?  
Can you name and describe any two-dimensional shapes?


**Student Learning Goals:**

After studying this unit the student will:

- reproduce shapes by drawing pictures
- recognize two-dimensional shapes by naming and describing them
- use problem solving and visual thinking skills to solve problems
- compare and sort real-world objects
- name and describe basic two-dimensional shapes
- use geometric shapes to create model of real-life objects

Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
<p>1. Identify two dimensional shapes – squares, triangles, circles, rectangles, hexagons, and trapezoids:</p> <ul style="list-style-type: none"> <li>• Identify, name, describe and sort by the number of sides</li> <li>• Identify, name, describe and sort by the number of vertices</li> <li>• Draw shapes</li> <li>• Use appropriate vocabulary</li> </ul> <p><b>Example: MA.K.G.2.2</b></p> <p>Descriptions of attributes of 2-Dimensional shapes include the number of sides and the number of vertices. Students will reproduce the shapes by drawing pictures. Teachers should restrict hexagons and trapezoids to regular hexagons and isosceles trapezoids.</p> <div style="display: flex; align-items: center; margin-top: 10px;"> <span>Regular hexagon</span> </div> <div style="display: flex; align-items: center; margin-top: 10px;"> <span>Isosceles trapezoid</span> </div>	<p><b>MA.K.G.2.2</b> Identify, name, describe and sort basic two-dimensional shapes such as squares, triangles, circles, rectangles, hexagons, and trapezoids.</p> <p><b>MA.K.G.2.4</b> Interpret the physical world with geometric shapes and describe it with corresponding vocabulary.</p>		<p><b>Assessment:</b> See recommended strategies in the Overview section.</p> <p><b>Vocabulary:</b> two dimensions, circle, triangle, square, regular hexagon, rectangle, isosceles, trapezoid, model, geometric, sort, sorting rules, as many, equal, more, fewer, does not belong, vertices, position, rectangle</p> <p><b>Technology:</b> Riverdeep® National Library of Virtual Math Manipulatives <a href="http://nlvm.usu.edu/en/nav/vlibrary.html">http://nlvm.usu.edu/en/nav/vlibrary.html</a></p>



Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
<p>2. Model objects in real-world using shapes:</p> <ul style="list-style-type: none"><li>• Use shapes to fill in a graphic</li><li>• Use shapes to create a real-world object</li><li>• Build a composite figure</li></ul> <p><b>Examples: MA.K.G.2.4</b></p> <p>Students will use everyday examples to represent geometric shapes such as the edge of a clock to represent a circle and the edge of a ceiling tile to represent a rectangle.</p> <p><b>Example: MA.K.G.2.5</b></p> <p>Students will create new objects from a set of given shapes. Students will reproduce a model by selecting the shapes represented in the model. For example, students may choose to create a representation of a house using a square and a triangle.</p> 	<p><b>MA.K.G.2.5</b></p> <p>Use basic shapes, spatial reasoning, and manipulatives to model objects in the environment and to construct more complex shapes.</p>		



**BIG IDEA 2: Describe shapes and space.**

**UNIT 9a:** Shapes and Space – Three Dimensions

**Pacing Recommendations:** 1 Week (1 week in the 3<sup>rd</sup> nine-weeks period and 1 week in the 4<sup>th</sup> nine-weeks period)

**Essential Question(s):** Where in the real-world can I find three-dimensional shapes?  
Why are shapes useful in many careers?

**Student Learning Goals:**

After studying this unit the student will:

- recognize, compare, and sort real-world objects
- categorize the attributes of three-dimensional figures
- know the attributes of spheres, cubes, and cylinders

Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
1. Identify three dimensional shapes – spheres, cubes (blocks) and cylinders: <ul style="list-style-type: none"><li>• Identify, name, describe, and sort</li></ul> 2. Draw three-dimensional shapes 3. Match the outline with the shape	<b>MA.K.G.2.3</b> Identify, name, describe, and sort three-dimensional shapes such as spheres, cubes and cylinders.		<b>Assessment:</b> See recommended strategies in the Overview section.  <b>Vocabulary:</b> three-dimensional, cube cylinder, sphere, cone  <b>Technology:</b> Riverdeep® National Library of Virtual Math Manipulatives <a href="http://nlvm.usu.edu/en/nav/vlibrary.html">http://nlvm.usu.edu/en/nav/vlibrary.html</a>



**BIG IDEA 2: Describe shapes and space.**

**UNIT 9b:** Shapes and Space – Three Dimensions, Model and Problem Solving with 3-D

**Pacing Recommendations:** 1 Week (1 week in the 3<sup>rd</sup> nine-weeks period and 1 week in the 4<sup>th</sup> nine-weeks period)

**Essential Question(s):** Where in the real-world can I find three-dimensional shapes?  
Why are shapes useful in many careers?

**Student Learning Goals:**

After studying this unit the student will:

- model solid objects by building real-life representations
- sort three-dimensional shapes by their various attributes
- use problem solving strategies to make a model and to solve problems

Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
1. Use appropriate vocabulary – spheres, cubes, cylinders, cone  2. Model using real-world objects and manipulatives:  <b>Example: MA.K.G.2.4</b> <div style="border: 1px solid black; padding: 5px; width: fit-content;">                         Students will use everyday examples to represent geometric shapes such as a box to represent a cube                     </div>	<b>MA.K.G.2.4</b> Interpret the physical world with geometric shapes and describe it with corresponding vocabulary.		<b>Assessment:</b> See recommended strategies in the Overview section.  <b>Vocabulary:</b> three-dimensional, cube cylinder, sphere, cone  <b>Technology:</b> Riverdeep® National Library of Virtual Math Manipulatives <a href="http://nlvm.usu.edu/en/nav/vlibrary.html">http://nlvm.usu.edu/en/nav/vlibrary.html</a>



**SUPPORTING IDEA: Algebra - Identify and duplicate simple number and non-numeric repeating and growing patterns.**

**UNIT 10:** Growing and Repeating Patterns

**Pacing Recommendations:** 3 Weeks

**Essential Question(s):** Where in the world would I find patterns?

**Student Learning Goals:**

After studying this unit the student will:

- use the problem solving strategy (find a pattern to solve problems)
- explore number patterns using the hundred chart
- color patterns horizontally and vertically
- extend simple non-numeric repeating patterns

Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
<p>1. Numeric Patterns:</p> <ul style="list-style-type: none"> <li>• Identify a pattern</li> <li>• Duplicate a pattern</li> </ul> <p>2. Non-numeric patterns:</p> <ul style="list-style-type: none"> <li>• Identify a pattern</li> <li>• Duplicate a pattern</li> <li>• Repeating and growing patterns</li> </ul> <p><b>Example: MA.K.A.4.1</b></p> <div style="border: 1px solid black; padding: 5px;"> <p>Students will complete patterns according to shape, size, and color. Consider up to two attributes at a time.</p> </div>	<p><b>MA.K.A.4.1</b> Identify and duplicate simple number and non-numeric repeating and growing patterns.</p>		<p><b>Assessment:</b> See recommended strategies in the Overview section.</p> <p><b>Vocabulary:</b> growing pattern, hundred chart, shape, size, attributes</p> <p><b>Technology:</b> Riverdeep® National Library of Virtual Math Manipulatives <a href="http://nlvm.usu.edu/en/nav/vlibrary.html">http://nlvm.usu.edu/en/nav/vlibrary.html</a></p>



**BIG IDEA 1: Represent, compare, and order whole numbers and join and separate sets.**

**UNIT 11:** Understanding and Working with Numbers 11 to 20

**Pacing Recommendations:** 5 Weeks

**Essential Question(s):** Can you tell without counting that you have more than 16 objects in a set?  
What are some ways that you can compare numbers?

**Student Learning Goals:**

After studying this unit the student will:

- count, read, write and compare numbers up to 20
- use groups of concrete materials, pictures and numerals to represent quantities up to 20
- match the numeral with the number of items in a group
- use a variety of ways to describe and solve problem situations
- explain story problems that combine, separate, and compare sets up to 20
- create number combinations up to 20 and use them to solve word problems

Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
1. Count numbers up to 20 <ul style="list-style-type: none"> <li>• Rote counting</li> <li>• Use objects such as pennies, geometric shapes, and/or real-life objects such as M&amp;M, etc.</li> </ul> 2. Represent numbers up to 20 <ul style="list-style-type: none"> <li>• Draw pictures</li> <li>• Use counters such as beans</li> <li>• Use objects such as pennies, geometric shapes, and/or real-life objects such as M&amp;M, etc.</li> <li>• Use a number line</li> </ul> 3. Recognize numbers up to 20 <ul style="list-style-type: none"> <li>• Match number with quantity</li> <li>• Verbally identify the symbol</li> <li>• Create sets up to 20</li> </ul>	<p><b>MA.K.A.1.1</b> Represent quantities with numbers up to 20, verbally, in writing, and with manipulatives.</p> <p><b>MA.K.A.1.2</b> Solve problems including those involving sets by counting, by using cardinal and ordinal numbers, by comparing, by ordering, and by creating sets up to 20.</p>		<p><b>Assessment:</b> See recommended strategies in the Overview section.</p> <p><b>Vocabulary:</b> count, more, less, order, fewer, same, most, fewest, before, after, forward, backward, greater than, less than, fewer than, large, larger, largest, small, smaller, smallest, big, bigger, biggest, as many, same number of, one more than, joining sets, separating sets, none, more than</p> <p><b>Technology:</b> Riverdeep® National Library of Virtual Math Manipulatives <a href="http://nlvm.usu.edu/en/nav/vlibrary.html">http://nlvm.usu.edu/en/nav/vlibrary.html</a></p>



Essential Content	Benchmarks	Page Number(s)	Assessment & Resources
<p>4. Write numbers up to 20</p> <ul style="list-style-type: none"><li>Trace, dotted, and free hand</li></ul> <p>5. Solve real-world problems using ordinal numbers</p> <p>6. Sequence of numbers</p> <ul style="list-style-type: none"><li>Order and compare numbers</li><li>Fill in the missing number</li></ul> <p>7. Number sets:</p> <ul style="list-style-type: none"><li>Joining sets</li><li>Separating sets</li></ul> <p><b>Examples: MA.K.A.1.1</b></p> <p>Have 20 plastic cups with numbers 1 through 20 on them. Have each student fill one cup with number of beans written on the cup.</p> <p><b>Example: MA.K.A.1.2</b></p> <p>Students will compare sets by ordering numbers, by using concrete objects and by using appropriate language such as none, more than, fewer than, same number of, and one more than.</p> <p><b>Example: MA.K.A.1.3</b></p> <p>Students will use pictures and manipulatives to solve addition and subtraction problems.</p>	<p><b>MA.K.A.1.3</b></p> <p>Solve word problems involving simple joining and separating situations.</p>		