Mathematics Department

Kindergarten

Developed By: Leann Martin and Grade K Teachers
Effective Date: Fall 2020

Scope and Sequence

Month	Kindergarten
September	**Grade K Math Baseline Assessment (by September 15, 2019) Hold off** Chapter 1: Numbers to 5 *Math in Focus* Chapter 1 Test Prep Numbers to 5
October	Finish Chapter 1 Chapter 2: Numbers to 10 *Math in Focus* Chapter 2 Test Prep Numbers to 10
November	Chapter 3: Measurement *Math in Focus* Chapter 3 Test Prep Compare Numbers to 10 **Grade K Benchmark Assessment 1 (by November 30) (Chapters 1, 2 and 3)**
December	Chapter 4: Compare Numbers to 10 *Math in Focus* Chapter 4 Test Prep Compare Numbers to 10
January	Chapter 5 Part 1: Flat Shapes (Lesson 1-Compose and Decompose Positions, and Shape Patterns- with just Flat Shapes) Chapter 5 Part 2: Solid Shapes (Lessons 2 through 6 include both flat and solid shapes) *Math in Focus* Chapter 5 Test Prep Flat and Solid Shapes **Grade K Benchmark Assessment 2 (by January 30) (Chapters 4 and 5)**
February	Chapter 6: Numbers to 20 *Math in Focus* Chapter 6 Test Prep Numbers to 20

March	Chapter 7: Addition *Math in Focus* Chapter 7 Test Prep: Addition Chapter 8: Subtraction *Math in Focus* Chapter 8 Test Prep: Subtraction
April	Finish Ch 8 **Grade K Benchmark Assessment 3 (by April- before) (Chapters 6, 7 and 8)** Chapter 9: Numbers to 100 *Math in Focus* Chapter 9 Test Prep: Numbers to 100
May	Finish Ch 9 **Grade K Math Spring Summative Assessment by May 31 (will assess all Grade K standards up to this point- will include Ch 1 -9)** Chapter 10: Sorting *Math in Focus* Chapter 10 Test Prep: Sorting
June	Finish Ch 10 **If time allows- Review Addition and Subtraction in preparation for Grade 1. Expose to money and time.**

Unit 1
Numbers to 10
Summary and Rationale
Many children come to school with a basic understanding of counting and numbers. Counting is a fundamental skill in the development of number sense and understanding numbers is the beginning of math literacy. In this unit, children first read and write numerals 1 to 5 and investigate how to sort objects using one attribute. They look for sameness and differences with such attributes as size, number, and color. Sorting and classifying skills are necessary as children work with patterns, geometric shapes, and data. These skills help children understand the need for order and organization in daily life. The sorting activities are directly connected to the numerals and quantities 1 through 5. Counting up to 5 objects is the most basic form of numerical capability. Being able to distinguish between same and different characteristics of objects and pictures leads to being able to sort and classify.

Counting and an understanding of one-to-one correspondence represent a child's entrance into the world of mathematics. Through repetition of counting, children develop a visual sense of small quantities and relate those quantities to number words. This unit includes a variety of matching activities in which children will find two groups that have the same number of objects, which will provide practice and reinforcement with counting while developing a visual meaning of number. All children will eventually be able to match groups of equal objects without counting and be able to look at a larger group of objects and estimate the number of objects in the group.

Counting from 0 to 9 is the next step from being able to count from 1 to 5. Being able to deduce one more or one less of a set of objects forms the basis of simple addition and subtraction. As children learn and practice counting skills, they become aware of connections to other math topics such as comparing and ordering of numbers and quantities. Counting is also a key strategy that children use to find the total of combined groups. Later in this unit, children move on to count up to 10 and down from 10. Children use manipulatives and pictures to determine the number that is one more or one less than a given number. Children combine and take away objects, and then count to find the result. These activities help children develop and understanding of the meaning of addition and subtraction, which are introduced in this unit. Composing and decomposing provide a strong foundation for mental addition and subtraction. Counting and comparing numbers build on sequencing and numerical order.

Recommended Pacing

Chapter 1: Numbers to 5: 3 weeks
Chapter 2: Numbers to 10: 2-3 weeks
Chapter 4: Counting and Numbers 0 to 10: 2-3 weeks

Standards

Counting and Cardinality	
K.CC.1	Know number games and the count sequence. Count to 10 by ones.
K.CC.2	Know number names and the count sequence. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
K.CC.3	Know number names and the count sequence. Write numbers from 0 to 10. Represent a number of objects with a written numeral 0-10 (with 0 representing a count of no objects).
K.CC.4a	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.
K.CC.4b	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 are counted.
K.CC.4c	Understand that each successive number name refers to a quantity that is one larger.
K.CC.5	Count to tell the number of objects. Count to answer "how many?" questions with as many as 10 things arranged in a line, a rectangular array, or a circle, or as many as 10 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–10, count out that many objects.

K.CC.6	Compare numbers. 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. (Include groups with up to 10 objects.)
K.CC.7	Compare numbers. Compare two numbers between 1 and 10 presented as written numerals.
Operations & Algebraic Thinking	
K.OA.1	Represent addition and subtraction with objects, fingers, mental images, drawings (drawings need not show details, but should show the mathematics in the problem), sounds (e.g., claps), acting out situations, verbal explanations, expressions or equations.
K.OA.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 by drawing or equation (e.g., 5=2+3 and 5=4+1).
Measurement & Data	
K.MD.1	Describe and compare measurable attributes. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
K.MD.2	Directly and compare two measurable attributes. 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.
Mathematical Practices	
K-12.MP.1	Make sense of problems and persevere in solving them.
K-12.MP.2	Reason abstractly and quantitatively.
K-12.MP.3	Construct viable arguments and critique the reasoning of others.
K-12.MP.4	Model with mathematics.
K-12.MP.5	Use appropriate tools strategically.
K-12.MP.6	Attend to precision.
K-12.MP.7	Look for and make use of structure.
K-12.MP.8	Look for and express regularity in repeated reasoning.
Interdisciplinary Connections	
ELA	
SL.K.1.	Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon norms for discussions (e.g., listening to others with care and taking turns speaking about the topics and texts under discussion). B. Continue a conversation through multiple exchanges.

SL.K.5.	Add drawings or other visual displays to descriptions as desired to provide additional detail.
SL.K.6.	Speak audibly and express thoughts, feelings, and ideas clearly.
Integration of Technology	
8.1.2.A.4	Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).

Instructional Focus

Enduring Understandings:	**Essential Questions:**
Numbers can be used to count, label, order, identify, measure, and describe things. Numbers can be represented in many ways. Numbers can be ordered and compared. When counting, the last number in the sequence is the total of the group of objects. Counting from 0 to 9 is the next step from being able to count from 1 to 5. Manipulatives and pictures can be used to determine the number that is one more or one less than a given number. When counting, the next number in the sequence is one more.	How do we use numbers? Why are numbers important? How can you show various numbers? What is the order of numbers 1-10? Why do we count? When do we count? Can everything be counted? What can we use to help us count up to 10? What can we use to help us countdown from 10? How do you determine one more or one less than a number?

Evidence of Learning (Assessments)

Math in Focus Chapter 1 Test Prep Numbers to 5
Math in Focus Chapter 2 Test Prep Numbers to 10
Math in Focus Chapter 4 Test Prep Counting and Numbers 0 through 10

Benchmark Assessment #1 (Chapters 1 through 4)
Math Spring Summative Assessment
Math Centers
Homework
Classwork
Class Participation

Objectives (SLO)

Students will know:	Students will be able to:
● Number Names: *one, two, three, four, five, six, seven, eight, nine, zero* ● The Count Sequence ● Colors: *blue, green, red, yellow, white, black* ● Comparative words: *same, not the same, different* ● Descriptive words: *big, small, long, short, tall* ● To count up to 5 objects by saying number names in the standard order and saying just one number name for each for each number counted. ● To recognize the relationship between the number of objects and their respective numerals. ● To identify same and different attributes of objects such as color, size, and shape. ● Comparative words: *one more, one less, the same number* ● To count 0 to 9 objects by saying one number name for each object and realizing the last number tells how many. ● To compare two sets of objects, or a set of objects and a numeral, to determine if there is a difference of one more, one less, or the same number of objects. ● To compose and decompose numbers through 5 to build a strong foundation in number facts ● To count up to 10 and compare numerals and sets using terms more, less, fewer, and same number. ● To count how many in all, which is the most basic form of addition. ● The concept of one more. ● The meaning of same, more, and how many more ● The meaning of less and fewer.	● Count from 1 to 9. ● Count groups of 1,2,3,4, and 5. ● Read and write the numerals 1 to 9. ● Match and sort. ● Look for, understand, and identify *sameness, not the same*, and *different*. ● Spot and understand differences. ● Spot differences between two pictures. ● Make subtle differences in two pictures. ● Use 0 to 9 to tell the number of objects. ● Pair number names with numerals. ● Pair up sets of objects with other sets of the same quantity. ● Use *one more, one less,* and *the same number* to describe differences between groups of objects. ● Pair up sets of objects one-to-one with other sets of the same quantity. ● Compose and decompose numbers through 5. ● Pair number names with numerals. ● Order numbers 0 to 10. ● Determine *one more.* ● Show the meaning of *same* and *more*. ● Show the meaning of *less* and *fewer.* ● Use *more* and *less* to compare number values.

Suggested Resources/Technology Tools

Math In Focus Resources Chapter 1: Numbers to 5
Math In Focus Resources Chapter 2: Numbers to 10
Math In Focus Resources Chapter 4: Counting and Numbers 0 through 10
Math In Focus Virtual Manipulatives

Resources and Manipulatives
Student Activity Cards
Teacher Activity Cards
Numeral Cards
Dot Cards
White Boards
Connecting Cubes
Number Cubes
Visual Representations of Numbers and Number of Objects
Counters
Attribute Blocks

Online Resources
Math In Focus Virtual Manipulatives:
https://www-k6.thinkcentral.com/content/hsp/math/mathinfocus/common/itools_pri_9780547673851_/counters.html
Virtual Counters and Cubes for Comparing Sets, Adding, and Subtracting
www.morestarfall.com
www.youtube.com/harrykindergarten
https://www.mathgames.com/kindergarten Grade K Concepts by Topic
https://www.ixl.com/math/kindergarten Grade K Concepts by Topic
https://www.splashmath.com/counting-games-for-kindergarteners Counting Games
https://www.splashmath.com/number-games-for-kindergarteners Number Games
http://www.abcya.com/kindergarten_counting.htm Counting Game
http://www.abcya.com/counting_fish.htm Counting Fish
http://www.abcya.com/numerical_order.htm Numerical Order
https://www.youtube.com/watch?v=QyIoGYQHOFA Jack Hartmann Counting to 5 Video
https://www.youtube.com/watch?v=DR-cfDsHCGA Counting to 10 Video

Literacy Connections
Math Journal
Ten Black Dots by Donald Crews

Modifications

*These are only suggested ideas to modify instruction, modifications and accommodations should be tailored to each student's IEP and needs. Also, see textbook for Differentiated Instruction ideas in each chapter.

Special Education - Extra Practice pages, anchor charts, scaffolded explanations of topics, manipulatives, extra time for work, group work, visual aids, modeling, hands-on learning activities, small group work for more individualized attention
ELL - Using simplified language, modeling, visual aids, manipulatives, vocabulary with images and examples
Gifted and Talented - Enrichment book, higher-level questions, challenge packets, KenKen and other puzzles, leading group work
504 - Extra Practice pages, anchor charts, scaffolded explanations of topics, manipulatives, extra time for work, group work, visual aids, modeling, hands-on learning activities, small group work for more individualized attention

21ST CENTURY LIFE AND CAREER STANDARDS

Please select all standards that apply to this unit of study:

- ❑ Act as a responsible and contributing citizen and employee.
- ❑ Apply appropriate academic and technical skills.
- ❑ Attend to personal health and financial well being.
- ❑ Communicate clearly and effectively and with reason.
- ❑ Consider the environmental social and economics impacts of decisions.
- ❑ Demonstrate creativity and innovation.
- ❑ Employ valid and reliable research strategies.
- ❑ Utilize critical thinking to make sense of problems and persevere in solving them.
- ❑ Model integrity, ethical leadership, and effective management.
- ❑ Plan education and career paths aligned to personal goals.
- ❑ Use technology to enhance productivity.
- ❑ Work productively in teams while using cultural global competence.

Suggestions on integrating these standards can be found at: http://www.state.nj.us/education/cccs/2014/career/9.pdf

LINKS TO CAREERS:

Unit 2

Numbers to 20 and Beyond

Summary and Rationale

Children learn to count in increments, first to 5 or 10, and then to 20. The understanding of one-to-one correspondence is developed by asking children to point to each object and say the number word. It is also crucial for children to understand that each number that they say is one more than the number before it, which leads to the understanding of *one more* and *one less*. It is also important for children to realize that when counting, the last number in the sequence is the total of the group of objects, which will help later when learning addition. Counting up to 20 serves as an introduction to counting two-digit numbers. Mastering knowledge of numerical sense up to 20, as well as its sequence, is the stepping stone to counting numbers up to 100.

Skip-counting is a skill that can help children connect many mathematics topics. It provides a shorter way to count objects when objects are grouped in twos, fives, or tens. Skip-counting can lead to addition of two, five, or ten, and is

also related to future topics such as multiplication, number patterns, and functions. In this unit, children also explore the basics of place value, which is the foundation of the number system. As they use concrete models to explore numbers through 100, they will learn to use groups of tens and ones to represent and name these greater numbers. This leads to the beginning of an understanding of two-digit numbers and their magnitudes, as well as to the discovery of number patterns in the hundred-chart and useful counting skills. Counting by 2s, 5s, and 10s lends to the foundation to simple multiplication. Mastering two-digit numbers up to 100 allows for development of place value knowledge.

As students continue to develop counting skills, their number sense becomes stronger and they are soon ready to compare quantities. Through one-to-one correspondence activities, children are able to identify a number that is greater or less than another and further learn how much more or less one number is than another. These concepts pave the way to an understanding of addition and subtraction. Comparing sets is the most basic form of subtraction. Combining sets lays the foundations for addition.

In this unit, children learn the counting on and counting back strategies for problem solving. Within the context of these activities, children build an understanding of, and familiarity with, number pairs that make ten. The activities in this unit also increase awareness of addition and subtraction. Counting on and counting back helps in the familiarity of number facts. This in turn helps with mental math and simple addition and subtraction.

Children extend their counting abilities by counting and combining groups of objects and counting on to find differences, which are both important readiness skills for addition and subtraction. Activities that require children to count groups of objects and then find out how many more are needed to make 10 not only provides a foundation for addition and subtraction, but can also lead an understanding that 10 is the basis of our numeration system. Counting and grouping tens is a basic place-value concept. Number bonds are introduced in this unit to create a mental picture of the relationship between a number and the parts that combine to make it, and also provide a visualization of the composing and decomposing of a number. Number bonds lay the foundation for basic number facts, and especially for solving problems that involve missing addends. Combining sets, composing and decomposing, as well as counting on all play a part in familiarizing the child with number facts. They also form the background for addition and subtraction.

Recommended Pacing

Chapter 6: Numbers 0 to 20: 2 weeks
Chapter 8: Skip Counting to 100: 2 weeks
Chapter 9: Comparing Sets: 2 weeks
Chapter 12: Counting On and Counting Back: 1-2 weeks
Chapter 14: Number Facts: 2 weeks

Standards

Counting and Cardinality	
K.CC.1	Know number games and the count sequence. Count to 100 by ones and by tens.
K.CC.2	Know number names and the count sequence. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
K.CC.3	Know number names and the count sequence. 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).
K.CC.4a	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.
K.CC.4b	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 are counted.
K.CC.4c	Understand that each successive number name refers to a quantity that is one larger.
K.CC.5	Count to tell the number of objects. Count to answer "how many?" questions with as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
K.CC.6	Compare numbers. 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. (Include groups with up to 10 objects.)
K.CC.7	Compare numbers. Compare two numbers between 1 and 10 presented as written numerals.
Operations & Algebraic Thinking	
K.OA.1	Represent addition and subtraction with objects, fingers, mental images, drawings (drawings need not show details, but should show the mathematics in the problem), sounds (e.g., claps), acting out situations, verbal explanations, expressions or equations.
K.OA.2	Solve addition and subtraction word problems and add and subtract within 10, by using objects or drawings to represent the problem.
K.OA.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 by drawing or equation (e.g., 5=2+3 and 5=4+1).
K.OA.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.
K.OA.5	Fluently add and subtract within 5.
Numbers & Operations in Base Ten	
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 composition or decomposition by a drawing or equation (such as 18=10+8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.
Mathematical Practices	
K-12.MP.1	Make sense of problems and persevere in solving them.
K-12.MP.2	Reason abstractly and quantitatively.

K-12.MP.4	Model with mathematics.
K-12.MP.5	Use appropriate tools strategically.
K-12.MP.6	Attend to precision.
K-12.MP.7	Look for and make use of structure.
Interdisciplinary Connections	
ELA	
SL.K.1.	Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon norms for discussions (e.g., listening to others with care and taking turns speaking about the topics and texts under discussion). B. Continue a conversation through multiple exchanges.
SL.K.5.	Add drawings or other visual displays to descriptions as desired to provide additional detail.
SL.K.6.	Speak audibly and express thoughts, feelings, and ideas clearly.
Integration of Technology	
8.1.2.A.4	Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).

Instructional Focus

Enduring Understandings:	Essential Questions:
Numbers can be used to count, label, order, identify, measure, and describe things. Numbers can be represented in many ways. Numbers can be ordered and compared. When counting, the last number in the sequence is the total of the group of objects. Manipulatives and pictures can be used to determine the number that is one more or one less than a given number. When counting by ones, the next number in the sequence is one more and the previous number in the sequence is one less.	How do we use numbers? Why are numbers important? How can you show various numbers? What is the order of numbers 11-20? Why do we count? When do we count? Can everything be counted? How do you determine one more or one less than a number? How can we compare numbers? What is skip-counting?

When counting by tens, the next number in the sequence is “ten more” (or one more group of ten). Counting is a strategy for finding the total of combined groups. One number can be represented by combining two smaller numbers. Numbers can be composed and decomposed using five and ten-frames. A number line can be helpful when counting on. A difference between two numbers can be found by counting on.	Why do we skip-count? How can we compare groups of objects? What happens when we combine groups or sets? When do we count on? When do we count back? In what ways can a number be represented using two other numbers? What is a strategy for finding the difference between two numbers?

Evidence of Learning (Assessments)

Math in Focus Chapter 6 Test Prep Numbers to 20
Math in Focus Chapter 8 Test Prep Numbers to 100 ***This assessment contains above grade level questions that can be used to identify Level 4 student performance.***
Math in Focus Chapter 9 Test Prep Comparing Sets
Math in Focus Chapter 12 Test Prep Counting On and Counting Back
Math in Focus Chapter 14 Test Prep Number Facts

Benchmark Assessment #2 (Chapters 5 through 8)
Benchmark Assessment #3 (Chapters 9, 12, 14)
Math Spring Summative Assessment
Math Centers
Homework
Classwork
Class Participation

Objectives (SLO)

Students will know:	Students will be able to:
Number Names: *ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty* ● Comparative Words: *more, fewer, greater than, less than* ● How to count up to 20 objects by using one-to-one correspondence. ● How to compare and sequence numbers to 20.	● Count to 10. ● Read and write the numeral 10. ● Count from 10 to 20. ● Use ten-frames to count on. ● Read and write the numerals from 10 to 20. ● Compare and order groups of up to 20 objects. ● Recognize and use pairs for counting. ● Count by 2s, 5s, and 10s up to 20. ● Use the counting by 2s sequence to count up to 20 objects.

- Number Names: *ten, twenty, thirty, forty, fifty, sixty, seventy, eighty, ninety, hundred*
- Counting words: *pairs, twos, fives, tens, tally*
- Comparative words: *fewer, less, more, most, fewest*.
- How to compare sets of up to 20 to find the difference between the two sets.
- How to compare countable sets using the terms *fewer* and *more*, and uncountable sets using the terms *less* and *more*.
- How to combine sets to find how many in all.
- Number Trains
- How to count on and count back.
- How to find the difference between two sets using several strategies such as finger counting and one-to-one correspondence.
- Number facts to 10.
- How to combine sets and to see how many more are needed for values up to 15.
- How to compose and decompose numbers up to 20 by counting on and other strategies.

- Keep count of numbers using tallies.
- Count to 49, to 79, to 100.
- Count by 2s, 5s, and 10s up to 100.
- Count from any given number to 49, to 79, to 100.
- Compare sets of up to 20 objects.
- Use and understand fewer, less, more, most, and fewest.
- Recognize and understand number trains.
- Count the difference through comparing sets in one-to-one correspondence.
- Count back using concrete representations.
- Count up and back to find the difference between two sets.
- Compose and decompose numbers through 10.
- Combine sets to make 5, 6, 7, 8, 9, and 10.
- Compose and decompose numbers to 20 with five-frames and ten-frames.
- Count on using a number line.
- Count on to find the difference.
- Combine two sets to find how many more for sums through 15.

Suggested Resources/Technology Tools

Math In Focus Resources Chapter 6: Numbers 0 to 20
Math In Focus Resources Chapter 8: Skip Counting to 100
Math In Focus Resources Chapter 9: Comparing Sets
Math In Focus Resources Chapter 12: Counting On and Counting Back
Math In Focus Resources Chapter 14: Number Facts

<u>Resources and Manipulatives</u>
Math In Focus Virtual Manipulatives
Teacher Activity Cards
Numeral Cards
Dot Cards
White Boards
Connecting Cubes
Counters
Interactive Hundred Chart
Visual Representation of Numbers and Number of Objects
Number Cubes

<u>Online Resources</u>
Math In Focus Virtual Manipulatives:
https://www-k6.thinkcentral.com/content/hsp/math/mathinfocus/common/itools_pri_9780547673851_/counters.html
Virtual Counters and Cubes for Comparing Sets, Adding, and Subtracting

www.abcya.com
www.softschools.com
https://www.mathgames.com/kindergarten Grade K Concepts by Topic
https://www.ixl.com/math/kindergarten Grade K Concepts by Topic
https://www.splashmath.com/counting-games-for-kindergarteners Counting Games
http://www.abcya.com/number_bubble_skip_counting.htm Skip Counting
http://www.abcya.com/one_hundred_number_chart_game.htm Hundred Chart
https://www.youtube.com/watch?v=By2hmo323xM Counting to 20 Video
https://www.youtube.com/watch?v=63-mmHVfFn4 How to Write Numbers to 20
https://jr.brainpop.com/math/numbersense/onehundred/ One Hundred Video
https://www.youtube.com/watch?v=QbHobZOKY5w Jack Hartmann Count to 100 Video
https://www.youtube.com/watch?v=OCxvNtrcDIs Jack Hartmann Count to 100 by 2s Video
https://www.youtube.com/watch?v=amxVL9KUmq8&disable_polymer=true Jack Hartmann Skip Count to 100 by 5s Video
https://www.youtube.com/watch?v=7stosHbZZZg&disable_polymer=true Jack Hartmann Skip Count to 100 by 10s Video
https://jr.brainpop.com/math/additionandsubtraction/countingon/ Counting On Video
https://www.mathplayground.com/video_skip_counting.html Skip Counting Video

Literacy Connections
Math Journal

Art Connections
100 chart color pictures

Science Connections
Thermometers- temperature reading

Modifications

*These are only suggested ideas to modify instruction, modifications and accommodations should be tailored to each student's IEP and needs. Also, see textbook for Differentiated Instruction ideas in each chapter.

Special Education - Extra Practice pages, anchor charts, scaffolded explanations of topics, manipulatives, extra time for work, group work, visual aids, modeling, hands-on learning activities, small group work for more individualized attention
ELL - Using simplified language, modeling, visual aids, manipulatives, vocabulary with images and examples
Gifted and Talented - Enrichment book, higher-level questions, challenge packets, KenKen and other puzzles, leading group work
504 - Extra Practice pages, anchor charts, scaffolded explanations of topics, manipulatives, extra time for work, group work, visual aids, modeling, hands-on learning activities, small group work for more individualized attention

21ST CENTURY LIFE AND CAREER STANDARDS

Please select all standards that apply to this unit of study:

- ❑ Act as a responsible and contributing citizen and employee.
- ❑ Apply appropriate academic and technical skills.
- ❑ Attend to personal health and financial well being.
- ❑ Communicate clearly and effectively and with reason.
- ❑ Consider the environmental social and economics impacts of decisions.
- ❑ Demonstrate creativity and innovation.
- ❑ Employ valid and reliable research strategies.
- ❑ Utilize critical thinking to make sense of problems and persevere in solving them.
- ❑ Model integrity, ethical leadership, and effective management.
- ❑ Plan education and career paths aligned to personal goals.
- ❑ Use technology to enhance productivity.
- ❑ Work productively in teams while using cultural global competence.

Suggestions on integrating these standards can be found at: http://www.state.nj.us/education/cccs/2014/career/9.pdf

LINKS TO CAREERS:

Unit 3

Measurement & Data

Summary and Rationale

Measurement applies mathematics in a way that young children can easily understand and relate to real-world experiences. Children begin by touching, examining, and comparing objects to develop awareness of attributes, such as length, size, and weight. Children can see and feel these differences, which leads to comparing and ordering objects based on their attributes. Using tools to measure length and weight connects the geometry of physical objects to numbers. In this unit, children begin to measure by comparing visually and by feel, laying the foundation for using non-standard units in later grades.

In order to find their way around the home, neighborhood, and school, children must acquire spatial skills. In this unit, children begin to describe objects and their relative position to one another by identifying objects that are on top of, under, next to, behind, in front of, and inside other objects. Children will eventually learn to distinguish between left and right and give more precise descriptions of location. Size and fit forms the basis to understanding capacity and positional words allow for acquisition of spatial skills. Ordering events allows for the development of understanding order and time.

Measuring length has a variety of applications in the real world. Measurement also connects ideas in the number strand with geometry concepts. In this unit, children are introduced to measuring lengths and heights using nonstandard units instead of rulers to get at the idea that any length can be measured with any same-sized unit. Measuring lengths and heights using nonstandard units paves the way not only for geometry, bust also exposes the child to the skill of

estimation.

Once the basis of measurement is developed through comparing objects and situations, children engage using actual measurement tools during physical activities, such as comparing the weights of two objects on a balance. Children continue the uses of nonstandard units to allow them to think about the effect of the size of the units on the final measure. Measurement involving nonstandard units reinforces the skill of estimation. Introducing capacities and time also forms the basis of volume and more complex duration situations in the future.

Recommended Pacing

Chapter 3: Measurement
Chapter 10: Sorting

Standards

Measurement & Data	
K.MD.1	Describe and compare measurable attributes. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
K.MD.2	Directly and compare two measurable attributes. 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.
K.MD.3	Classify objects and count the number of objects in each category. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (Limit category counts to be less than or equal to 10.)
Counting & Cardinality	
K.CC.1	Know number games and the count sequence. Count to 100 by ones and by tens.
K.CC.3	Know number names and the count sequence. 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).
K.CC.4a	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.
K.CC.4b	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 are counted.
K.CC.4c	Understand that each successive number name refers to a quantity that is one larger.
K.CC.5	Count to tell the number of objects. Count to answer “how many?” questions with as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.

K.CC.6	Compare numbers. 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. (Include groups with up to 10 objects.)
Operations & Algebraic Thinking	
K.OA.1	Represent addition with objects, fingers, mental images, drawings (drawings need not show details, but should show the mathematics in the problem), sounds (e.g., claps), acting out situations, verbal explanations, expressions or equations.
K.OA.2	Solve addition and subtraction word problems, and add and subtract within 10,e.g.,by using objects or drawing to represent the problem.
Geometry	
K.G.1	Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). 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.
Mathematical Practices	
K-12.MP.2	Reason abstractly and quantitatively.
K-12.MP.4	Model with mathematics.
K-12.MP.5	Use appropriate tools strategically.
K-12.MP.6	Attend to precision.
K-12.MP.7	Look for and make use of structure.
Interdisciplinary Connections	
ELA	
RL.K.7.	With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).
SL.K.1.	Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon norms for discussions (e.g., listening to others with care and taking turns speaking about the topics and texts under discussion). B. Continue a conversation through multiple exchanges.
SL.K.5.	Add drawings or other visual displays to descriptions as desired to provide additional detail.
SL.K.6.	Speak audibly and express thoughts, feelings, and ideas clearly.
Integration of Technology	
8.1.2.A.4	Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).

Instructional Focus	
Enduring Understandings:	**Essential Questions:**
Groups of objects can be compared and ordered by length, size, and weight. Ordering and comparing objects form the basics of measurement. Objects can be described and classified by size. Descriptive words can be used to describe positions and movement of objects. Measuring length has a variety of applications in the real world. Any length can be measured with any same-sized unit. It takes a number and a unit to express a measurement. More units are needed to measure a longer or taller object than a shorter object. Measurements change depending on the size of the unit. When comparing two lengths, one end of each length must match. When measuring, length or height start at the beginning of the object and finish measuring at the end of the object. Weight cannot always be judged by size. Larger does not always mean heavier.	How do we order and compare numbers? How do we order and compare objects? What do we look for when comparing and ordering objects? How are objects alike, different, and the same? How are objects alike, different, and the same? What words can we use to describe size? Why do we use positional words? How do we tell which object is longer? How do we tell which object is taller? How do we tell which object is heavier? Does a larger size always lead to a heavier object?
Evidence of Learning (Assessments)	
Math in Focus Chapter 3 Test Prep Order by Size, Length, or Weight *Math in Focus* Chapter 5 Test Prep Size and Position *Math in Focus* Chapter 15 Test Prep Length and Height ****This assessment contains above grade level questions that can be used to identify Level 4 student performance.***	

Math in Focus Chapter 19 Test Prep Measurement

Benchmark Assessment #1 (Chapters 1 through 4)
Benchmark Assessment #2 (Chapters 5 through 8)
Math Spring Summative Assessment
Math Centers
Homework
Classwork
Class Participation

Objectives (SLO)

Students will know:

- Comparative words: *same size, different size, bigger than, taller than, smaller than, shorter than, heavier, lighter*
- Words to describe Order: *biggest, middle-sized, smallest, longest, shortest, heaviest, lightest, heavier, lighter*
- How to order objects from smallest to biggest, shortest to longest, and lightest to heaviest.
- How to estimate measurable attributes such as weight through visual aids.
- How to use comparative vocabulary to express differences in size, length, and weight.
- Descriptive words: *big, small, long*
- Comparative words: *bigger, smaller, same size*
- How to estimate whether objects can fit into containers of various sizes.
- Positional vocabulary which will allow them to describe the location of an object in a spatial arrangement: *on top of, under, next to, behind, between, beside, in front of, in back of, inside, outside*
- How to order events using the terms *before* and *after*.
- How to compare lengths of objects using the terms *long, short, longer, shorter, longest*, *tallest* and *shortest*.
- How to compare lengths and heights of objects using nonstandard units of measurement, such as connecting cubes and paper clips.

Students will be able to:

- Pair up sets of objects.
- Order objects by size.
- Use comparing words.
- Order objects according to length.
- Order objects according to weight.
- Use size comparisons such as big or small.
- Explore the idea that only a few big objects fit into small spaces, however many small objects fit into big spaces.
- Identify positions of objects in space.
- Use appropriate positional language to describe and compare.
- Use language such as *before* or *after* to describe relative position in a sequence of events.
- Compare lengths.
- Use nonstandard units to measure and compare lengths and heights.
- Find differences in lengths using nonstandard units.
- Use the terms tallest and shortest in terms of height.
- Compare weights using nonstandard units.
  Compare containers according to capacity
- Use the terms *holds more, holds less, and hold the same amount.*
- Compare events according to duration.

- How to find the difference in lengths in terms of nonstandard units.
- How to compare weights of objects by using a balance scale.
- How to measure and compare weights using nonstandard units.
- How to compare capacities of containers using the terms *holds more, holds less*, and *hold the same amount.*
- How to compare events and decide which takes more or less time.

Suggested Resources/Technology Tools

Math In Focus Resources Chapter 3: Order by Length or Weight
Math In Focus Resources Chapter 5: Size & Position
Math In Focus Resources Chapter 15: Length & Height
Math In Focus Resources Chapter 19: Measurement
Math In Focus Virtual Manipulatives

Resources and Manipulatives
Student Activity Cards
White Boards
Connecting Cubes
Paper lips
Other Non-Standard Units
Counters
Numeral Cards
Balance Scale

Online Resources
Math In Focus Virtual Manipulatives
www.morestarfall.com
www.youtube.com/harrykindergarten
https://www.mathgames.com/kindergarten Grade K Concepts by Topic
https://www.ixl.com/math/kindergarten Grade K Concepts by Topic
https://www.splashmath.com/measurement-games-for-kindergarteners Measurement Games

Literacy Connections
Math Journal
Before & After (Sequence of Events in a story)
A Pig is Big by Douglas Florian
Big and Little by Steve Jenkins
Biggest, Strongest, Fastest by Steve Jenkins
Inch by Inch by Leo Lionni

Art Connections
Draw objects to compare sizes (tall flower and short flower)

Science Connections
Measure ingredients for experiments-measure objects for theme of the month (ex. Insects-flowers)

Modifications

*These are only suggested ideas to modify instruction, modifications and accommodations should be tailored to each student's IEP and needs. Also, see textbook for Differentiated Instruction ideas in each chapter.

Special Education - Extra Practice pages, anchor charts, scaffolded explanations of topics, manipulatives, extra time for work, group work, visual aids, modeling, hands-on learning activities, small group work for more individualized attention
ELL - Using simplified language, modeling, visual aids, manipulatives, vocabulary with images and examples
Gifted and Talented - Enrichment book, higher-level questions, challenge packets, KenKen and other puzzles, leading group work
504 - Extra Practice pages, anchor charts, scaffolded explanations of topics, manipulatives, extra time for work, group work, visual aids, modeling, hands-on learning activities, small group work for more individualized attention

21ST CENTURY LIFE AND CAREER STANDARDS

Please select all standards that apply to this unit of study:

- ❑ Act as a responsible and contributing citizen and employee.
- ❑ Apply appropriate academic and technical skills.
- ❑ Attend to personal health and financial well being.
- ❑ Communicate clearly and effectively and with reason.
- ❑ Consider the environmental social and economics impacts of decisions.
- ❑ Demonstrate creativity and innovation.
- ❑ Employ valid and reliable research strategies.
- ❑ Utilize critical thinking to make sense of problems and persevere in solving them.
- ❑ Model integrity, ethical leadership, and effective management.
- ❑ Plan education and career paths aligned to personal goals.
- ❑ Use technology to enhance productivity.
- ❑ Work productively in teams while using cultural global competence.

Suggestions on integrating these standards can be found at: http://www.state.nj.us/education/cccs/2014/career/9.pdf

LINKS TO CAREERS:

Unit 4

Geometry

Summary and Rationale

Geometry helps children describe the world around them. In kindergarten, geometry instruction focuses on expanding and enhancing children's prior knowledge and understanding of shapes that they have acquired by observing that the world that surrounds them. Children learn more precise names for shapes and how to describe them, and begin to compare and contrast them. It is helpful to provide many concrete examples of flat and solid shapes to help children make real-world connections and it is crucial that they are able to identify examples and non-examples of different shapes. Knowing the basic properties of two and three-dimensional shapes is the first step to understanding geometry. Creating patterns using shapes will enable children to later better understand more complex patterns such as number patterns.

Sorting and classifying skills help children to identify patterns, describe geometric objects, and analyze data. When children classify and sort, they develop skills that will help them with other mathematical strands. Classifying and sorting objects by one, two, and three attributes exposes children to a wide variety of color, shape, size, and pattern-related vocabulary. It also lays the foundation to learning about graphs in the future.

Recommended Pacing

Chapter 7: Solid and Flat Shapes: 1-2 weeks
Chapter 16: Classifying and Sorting: 1 week

Standards

Geometry

K.G.1	Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). 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.
K.G.2	Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). Correctly name shapes regardless of their orientations or overall size.
K.G.3	Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres). Identify shapes as two-dimensional (lying in a plane, "flat").
Measurement & Data	
K.MD.1	Describe and compare measurable attributes. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
K.MD.2	Directly and compare two measurable attributes. 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.
K.MD.3	Classify objects and count the number of objects in each category. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (Limit category counts to be less than or equal to 10.)
Mathematical Practices	
K-12.MP.1	Make sense of problems and persevere in solving them.
K-12.MP.2	Reason abstractly and quantitatively.
K-12.MP.3	Construct viable arguments and critique the reasoning of others.
K-12.MP.4	Model with mathematics.
K-12.MP.5	Use appropriate tools strategically.
K-12.MP.6	Attend to precision.
K-12.MP.7	Look for and make use of structure.
K-12.MP.8	Look for and express regularity in repeated reasoning.
Interdisciplinary Connections	
ELA	
SL.K.1.	Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon norms for discussions (e.g., listening to others with care and taking turns speaking about the topics and texts under discussion). B. Continue a conversation through multiple exchanges.

SL.K.5.	Add drawings or other visual displays to descriptions as desired to provide additional detail.
SL.K.6.	Speak audibly and express thoughts, feelings, and ideas clearly.
Integration of Technology	
8.1.2.A.4	Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).

Instructional Focus

Enduring Understandings:	**Essential Questions:**
Shapes can be described, identified, compared, and classified. Some shapes have flat faces, edges, and corners, and some do not. Shapes and objects can be classified using one, two, or three attributes such as color, size, shape, and other special features. Shapes and objects can be sorted using one or two attributes such as color, size, shape, and other special features.	What are the names of some shapes? Where do we find flat shapes around us? In what ways can geometric solids be matched to real-life objects? How can I put shapes together and take them apart to form other shapes? Why do we classify shapes and objects? How do we classify shapes and objects? Why and how do we sort shapes and objects?

Evidence of Learning (Assessments)

Math in Focus Chapter 7 Test Prep Solid and Flat Shapes
Math in Focus Chapter 16 Test Prep Classifying and Sorting

Benchmark Assessment #2 (Chapters 5 through 8)
Math Spring Summative Assessment
Homework
Classwork
Class Participation

Objectives (SLO)	
Students will know: ● Parts of a Shape: *face, edge, corner* ● Solid Shape Names: *cube, cone, cylinder, sphere, pyramid* ● Flat Shape Names: *circle, triangle, square, rectangle, hexagon*	Students will be able to: ● Recognize and name basic solid and flat shapes. ● Describe basic solid and flat shapes. ● Recognize the relationship between solid and flat shapes. ● Draw flat shapes.

• Descriptive Words: *big, small* • Shape patterns • Some shapes have flat faces, edges, and corners, and some do not. • How to *sort.* • How to identify attributes and pick out the"odd one out" in a set of shapes or objects. • How to sort and classify shapes or objects according to up to three attributes.	• Identify basic flat shapes within a scene. • Make a picture using basic flat shapes. • Identify and extend a shape pattern. • Classify shapes or objects using one attribute, two attributes, and three attributes. (color, size, shape, special features) • Identify shapes and objects that do not belong to a set. • Sort shapes and objects using one attribute or two attributes. (color, size, shape, special features

Suggested Resources/Technology Tools

Math In Focus Resources Chapter 7: Solid and Flat Shapes
Math In Focus Resources Chapter 16: Classifying and Sorting
Math In Focus Virtual Manipulatives

Resources and Manipulatives
Student Activity Cards
Plane Shapes
Solid Shapes
Attribute Blocks

Online Resources
Math In Focus Virtual Manipulatives:
https://www-k6.thinkcentral.com/content/hsp/math/mathinfocus/common/itools_pri_9780547673851_/geometricfigures.html Virtual Solids, Plane Figures, Composite Shapes with Solids
www.morestarfall.com
https://www.mathgames.com/kindergarten Grade K Concepts by Topic
https://www.ixl.com/math/kindergarten Grade K Concepts by Topic
https://www.splashmath.com/geometry-games-for-kindergarteners Geometry Games
http://www.abcya.com/fuzz_bugs_patterns.htm Patterns
https://www.youtube.com/watch?v=svrkthG2950&disable_polymer=true Jack Hartmann Name the Shapes Video
https://jr.brainpop.com/math/geometry/solidshapes/ Solid Shapes Video
https://www.youtube.com/watch?v=guNdJ5MtX1A Solid Shapes Video
https://jr.brainpop.com/math/geometry/planeshapes/ Plane Shapes Video
https://www.youtube.com/watch?v=xJxq0kR8yNc Plane Shapes Video
https://www.youtube.com/watch?v=zPZegz690Mg Jack Hartmann Solid Shapes Video

Literacy Connections
Math Journal
The Wings on a Flea: A Book about Shapes by Ed Emberly
What is a Square? By Rebecca Kai Dotlich
Cubes, Cones, Cylinders, and Spheres by Tana Hoban
The Shape of Things by Dayle Ann Dodds

Art Connections

Make shape collages and sculptures

Modifications

*These are only suggested ideas to modify instruction, modifications and accommodations should be tailored to each student's IEP and needs. Also, see textbook for Differentiated Instruction ideas in each chapter.

Special Education - Extra Practice pages, anchor charts, scaffolded explanations of topics, manipulatives, extra time for work, group work, visual aids, modeling, hands-on learning activities, small group work for more individualized attention

ELL - Using simplified language, modeling, visual aids, manipulatives, vocabulary with images and examples

Gifted and Talented - Enrichment book, higher-level questions, challenge packets, KenKen and other puzzles, leading group work

504 - Extra Practice pages, anchor charts, scaffolded explanations of topics, manipulatives, extra time for work, group work, visual aids, modeling, hands-on learning activities, small group work for more individualized attention

21ST CENTURY LIFE AND CAREER STANDARDS

Please select all standards that apply to this unit of study:

- ❑ Act as a responsible and contributing citizen and employee.
- ❑ Apply appropriate academic and technical skills.
- ❑ Attend to personal health and financial well being.
- ❑ Communicate clearly and effectively and with reason.
- ❑ Consider the environmental social and economics impacts of decisions.
- ❑ Demonstrate creativity and innovation.
- ❑ Employ valid and reliable research strategies.
- ❑ Utilize critical thinking to make sense of problems and persevere in solving them.
- ❑ Model integrity, ethical leadership, and effective management.
- ❑ Plan education and career paths aligned to personal goals.
- ❑ Use technology to enhance productivity.
- ❑ Work productively in teams while using cultural global competence.

Suggestions on integrating these standards can be found at: http://www.state.nj.us/education/cccs/2014/career/9.pdf

LINKS TO CAREERS:

Unit 5

Addition & Subtraction

Summary and Rationale

In this unit, children learn to show addition using objects, pictures, models, numbers, and words. Using symbols to represent mathematical situations is one of the beginning skills of algebra.

Addition is one of four number operations in mathematics. Simple addition and interpreting number sentences from numbers stories forms the basis to more complex addition situations that include three or more addends.

Story problems are a common context for applying subtraction ideas. Subtraction stories provide children with opportunities to demonstrate understanding of simple separating and comparison subtraction problems. The activities in this unit connect and continue to develop basic concepts in number, algebra, and problem solving strands.

Subtraction is one of the four number operations in mathematics. Simple subtraction and interpreting number sentences form number stories forms the basis to more complex subtraction situations.

Recommended Pacing

Chapter 17: Addition Stories: 1 week
Chapter 18: Subtraction Stories: 1-2 weeks

Standards

Counting and Cardinality

K.CC.1	Know number games and the count sequence. Count to 100 by ones and by tens.
K.CC.3	Know number names and the count sequence. 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).
K.CC.4	Understand the relationship between numbers and quantities; connecting counting to cardinality.
K.CC.6	Compare numbers. 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. (Include groups with up to 10 objects.)
Operations & Algebraic Thinking	
K.OA.1	Represent addition with objects, fingers, mental images, drawings (drawings need not show details, but should show the mathematics in the problem), sounds (e.g., claps), acting out situations, verbal explanations, expressions or equations.
K.OA.2	Solve addition and subtraction word problems, and add and subtract within 10,e.g.,by using objects or drawing to represent the problem.
K.OA.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 by drawing or equation (e.g., 5=2+3 and 5=4+1).
K.OA.5	Fluently add and subtract within 5.
Mathematical Practices	
K-12.MP.1	Make sense of problems and persevere in solving them.
K-12.MP.2	Reason abstractly and quantitatively.
K-12.MP.4	Model with mathematics.
K-12.MP.6	Attend to precision.
K-12.MP.8	Look for and express regularity in repeated reasoning.
Interdisciplinary Connections	
ELA	
SL.K.1.	Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon norms for discussions (e.g., listening to others with care and taking turns speaking about the topics and texts under discussion). B. Continue a conversation through multiple exchanges.
SL.K.5.	Add drawings or other visual displays to descriptions as desired to provide additional detail.
SL.K.6.	Speak audibly and express thoughts, feelings, and ideas clearly.
Integration of Technology	

8.1.2.A.4	Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).

Instructional Focus

Enduring Understandings:	Essential Questions:
Addition is the joining of two sets. Pictures and manipulatives can be used to model addition. Subtraction describes the process of separating from a whole. Pictures and manipulatives can be used to model subtraction.	What happens when we combine groups or sets? Why do I need to know how to add? What happens when we take items away from a group? Why do I need to know how to subtract?

Evidence of Learning (Assessments)

Math in Focus Chapter 17 Test Prep Addition Stories
Math in Focus Chapter 18 Test Prep Subtraction Stories

Math Spring Summative Assessment
Math Centers
Homework
Classwork
Class Participation

Objectives (SLO)

Students will know:	Students will be able to:
● How to deduce addition sentences from addition stories and write them using the symbols + and =. ● Mathematical vocabulary: *plus, is equal to, numbers sentence* ● Fluency with addition facts to 5. ● How to form subtraction sentences from subtraction stories and write them using the symbols - and =. ● Mathematical vocabulary: *minus, left, how many more* ● Compare sets by one-to-one correspondence, and then write subtraction sentences to represent the subtraction situation. ● Fluency with subtraction facts to 5.	● Use symbols and numerals to write number sentences. ● Represent addition stories with addition sentences. ● Use symbols and numerals to write number sentences. ● Represent subtraction stories with subtraction sentences. ● Compare two sets and show the number sentence to answer *how many more*.

Suggested Resources/Technology Tools

Math In Focus Resources Chapter 17: Addition Stories
Math In Focus Resources Chapter 18: Subtraction Stories
Math In Focus Virtual Manipulatives

Resources and Manipulatives
Numeral Cards
Symbol Cards
White Boards
Connecting Cubes
Counters

Online Resources
Math In Focus Virtual Manipulatives:
https://www-k6.thinkcentral.com/content/hsp/math/mathinfocus/common/itools_pri_9780547673851_/counters.html
Virtual Counters and Cubes for Comparing Sets, Adding, and Subtracting
https://www.mathgames.com/kindergarten Grade K Concepts by Topic
https://www.ixl.com/math/kindergarten Grade K Concepts by Topic
https://www.splashmath.com/addition-games-for-kindergarteners Addition Games
https://www.splashmath.com/subtraction-games-for-kindergarteners Subtraction Games
http://www.abcya.com/subtraction_game.htm Balloon Pop Subtraction
http://www.abcya.com/kindergarten_word_problems_add_subtract.htm Add and Subtract to 10
http://www.abcya.com/sum_of_all_dice.htm Add the Sum of the Dice
http://www.abcya.com/addition.htm Marble Addition
https://www.mathplayground.com/math_monster_addition.html Addition to 10
https://www.mathplayground.com/puzzle_pics_subtraction_facts_to_20.html Subtraction to 10
https://jr.brainpop.com/math/additionandsubtraction/basicadding/ Basic Adding Video
https://jr.brainpop.com/math/additionandsubtraction/basicsubtraction/ Basic Subtraction Video

Literacy Connections
Math Journal
The Napping House by Audrey Wood
One Monday Morning by Uri Shulevitz
Quack and Count by Keith Baker
12 Ways to Get to 11 by Eve Merriam
Ten In the Bed by Penny Dale
Five Little Monkeys jumping on the Bed by Eileen Christelow
Dr. Seuss- use stories for subtraction manipulatives or to write number sentences (ex. Fox in Sox)

Art Connections
Draw number stories

Modifications

*These are only suggested ideas to modify instruction, modifications and accommodations should be tailored to each student's IEP and needs. Also, see textbook for Differentiated Instruction ideas in each chapter.

Special Education - Extra Practice pages, anchor charts, scaffolded explanations of topics, manipulatives, extra time for work, group work, visual aids, modeling, hands-on learning activities, small group work for more individualized attention

ELL - Using simplified language, modeling, visual aids, manipulatives, vocabulary with images and examples

Gifted and Talented - Enrichment book, higher-level questions, challenge packets, KenKen and other puzzles, leading group work

504 - Extra Practice pages, anchor charts, scaffolded explanations of topics, manipulatives, extra time for work, group work, visual aids, modeling, hands-on learning activities, small group work for more individualized attention

21ST CENTURY LIFE AND CAREER STANDARDS

Please select all standards that apply to this unit of study:

- ❑ Act as a responsible and contributing citizen and employee.
- ❑ Apply appropriate academic and technical skills.
- ❑ Attend to personal health and financial well being.
- ❑ Communicate clearly and effectively and with reason.
- ❑ Consider the environmental social and economics impacts of decisions.
- ❑ Demonstrate creativity and innovation.
- ❑ Employ valid and reliable research strategies.
- ❑ Utilize critical thinking to make sense of problems and persevere in solving them.
- ❑ Model integrity, ethical leadership, and effective management.
- ❑ Plan education and career paths aligned to personal goals.
- ❑ Use technology to enhance productivity.
- ❑ Work productively in teams while using cultural global competence.

Suggestions on integrating these standards can be found at: http://www.state.nj.us/education/cccs/2014/career/9.pdf

LINKS TO CAREERS:

Unit 6
Everyday Math
Summary and Rationale
Sequence and order are important concepts in all school subjects and in daily life. When children learn to count, they learn that numbers follow sequential order. Numbers can be used for different purposes and they can also be represented in different ways. One example is the relationship between cardinal and ordinal numbers. Learning to order things, be it events, physical position, or preferences, sets the pace for basic understanding of sequence and patterns. The unit presents another application of sequence- the days of the week and the months of the year. Everything children do, from attending school, to playing sports, to watching television, is related to the concept of time. Children should recognize the names of the days of the week and the months of the year and understand their relationship. The dates in a month also help strengthen numerical sense. Knowing the days of the week and the months of the year is the most basic form of time awareness. Kindergarten children should be encouraged to look for patterns in their environment, such as tile patterns or the patterns in routine events. Most kindergarteners already recognize simple patterns and many find them appealing because of their need for organization and structure. The simple patterns children use and create in kindergarten provide a basis for increasingly complex patterns. Extending and creating patterns not only reinforces the properties of shapes, but also sets the foundation for more complex patterns such as number patterns. Using money is a real-world application of concepts taught in the numbers and operations strand of mathematics. In this unit, children apply counting strategies when counting coins such as pennies, nickels, and dimes. Learning to count coins also complements what children already know about sorting, likeness, and differences, counting, adding, subtracting, and using number sentences.

Recommended Pacing

Chapter 10: Ordinal Numbers Chapter 11: Calendar Patterns, Chapter 13 Patterns and Chapter 20: Money: No K standards addressed. Infuse throughout the year during Calendar Math and centers.

Standards

Mathematical Practices	
K-12.MP.1	Make sense of problems and persevere in solving them.
K-12.MP.3	Construct viable arguments and critique the reasoning of others.
K-12.MP.4	Model with mathematics.
K-12.MP.5	Use appropriate tools strategically.
K-12.MP.6	Attend to precision.
K-12.MP.7	Look for and make use of structure.
Interdisciplinary Connections	
ELA	
SL.K.1.	Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. A. Follow agreed-upon norms for discussions (e.g., listening to others with care and taking turns speaking about the topics and texts under discussion). B. Continue a conversation through multiple exchanges.
SL.K.5.	Add drawings or other visual displays to descriptions as desired to provide additional detail.
SL.K.6.	Speak audibly and express thoughts, feelings, and ideas clearly.
Integration of Technology	
8.1.2.A.4	Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).

Instructional Focus

Enduring Understandings:	Essential Questions:
Ordinal words can be used to sequence events. Examples are first, next, last, first, second, third, before and after. Ordinal words can be used to describe physical position and ranks of preference.	What words can be used to describe physical position? What words can be used to sequence events? Why is sequencing events important? What are the days of the week?

Calendars are used to show days, weeks, and months of a year. Patterns are used everywhere Examples are word patterns, art patterns, math patterns, and behavior patterns. Patterns can be described, reproduced, extended, and created. Each coin represents a specific money value. Coins have values and are combined to create larger amounts of money.	What are the months of the year? How can the months of the year be compared? What is a pattern? How do we make patterns? How do we determine what comes next in a given pattern? Why is it important to identify the coins? Why do I need to know how to count the value of coins? Why do we have money?

Evidence of Learning (Assessments)

Calendar Math Activities
Math Centers
Homework
Classwork
Class Participation

Also Available:
Math in Focus Chapter 10 Test Prep Ordinal Numbers
Math in Focus Chapter 11 Test Prep Calendar Patterns
Math in Focus Chapter 13 Test Prep Patterns
Math in Focus Chapter 20 Test Prep Money ****This assessment contains above grade level questions that can be used to identify Level 4 student performance. (2.MD.8)***

Objectives (SLO)

Students will know: ● How to order 3- and 4-step events using the terms *first, next, last, second*, and *third*. ● How to order physical position as well as relate order to the terms *before* and *after*. ● How to order their preferences, make picture graphs, and make deductions based on the picture graphs. ● How to name and order the days of the week ● How to name and order the months of the year ● Other terms related to time: *day, week, year, today, tomorrow, yesterday*	Students will be able to: ● Sequence events. ● Use and understand *first, next,* and *last* to sequence events. ● Use and understand *first, second*, and *third* to sequence events, in terms of physical position, and to rank personal preferences. ● Understand *before* and *after i*n terms of physical position. ● Make picture graphs based on preferences. ● Name and know the days of the week and the months of the year and how many there are. ● Use and understand *today, tomorrow*, and *yesterday.*

- Comparative words: *warmer, cooler*
- Pattern Unit
- Repeating Patterns
- How to create and extend repeating patterns by identifying the pattern unit and duplicating it.
- How to identify coins by appearance and value*: penny, nickel, dime, quarter*
- Other vocabulary: *cent, change*
- How to add coins to pay for objects with a combined value of up to 10 cents.
- The concept of receiving change for a payment.

- Read and understand a weekly calendar.
- Order the days of the week and the months of a year.
- Make and interpret pictographs.
  Recognize, extend, and create a repeating pattern.
- Identify a missing portion of a repeating pattern.
- Create ABABAB, AABAAB, ABBABB, and ABCABC repeating patterns.
- Identify penny, nickel, dime, and quarter and the value of each coin.
- Add coins up to 10 cents.
- Use pennies to buy up to three objects (up to 10 cents).
- Identify and recognize different combinations of coins that make up 10 cents.

Suggested Resources/Technology Tools

Math In Focus Resources Chapter 10: Ordinal Numbers
Math In Focus Resources Chapter 11: Calendar Patterns
Math In Focus Resources Chapter 13: Patterns
Math In Focus Resources Chapter 20: Money

Resources and Manipulatives
Student Activity Cards
Attribute Blocks
Teacher Activity Cards
Plastic Coins
Calendar

Online Resources
Math In Focus Virtual Manipulatives
www.moneyinstructor.com
www.usmint.gov
https://www.mathgames.com/kindergarten Grade K Concepts by Topic
https://www.ixl.com/math/kindergarten Grade K Concepts by Topic
http://www.abcya.com/learning_coins.htm Learning and Sorting Coins
https://jr.brainpop.com/math/time/calendaranddates/ Calendar Video
https://jr.brainpop.com/math/money/dollarsandcents/ Dollars and Cents Video
https://www.youtube.com/watch?v=pnXJGNo08v0&list=PLQK2XiUY9C2gXua-_3AB_nI49hpPVq01y&index=17&t=0s Coins Video
https://jr.brainpop.com/math/geometry/patterns/ Patterns Video

Literacy Connections
Math Journal
The Grouchy Ladybug by Eric Carle
What Time is it Mr. Crocodile? By Judy Sierra
Pattern Fish by Trudy Harris
The Coin Counting Book by Rozanne Williams

Benny's Pennies by Pat Brisson
Henry's Pennies by Louise Greep McNamara

Modifications

*These are only suggested ideas to modify instruction, modifications and accommodations should be tailored to each student's IEP and needs. Also, see textbook for Differentiated Instruction ideas in each chapter.

Special Education - Extra Practice pages, anchor charts, scaffolded explanations of topics, manipulatives, extra time for work, group work, visual aids, modeling, hands-on learning activities, small group work for more individualized attention
ELL - Using simplified language, modeling, visual aids, manipulatives, vocabulary with images and examples
Gifted and Talented - Enrichment book, higher-level questions, challenge packets, KenKen and other puzzles, leading group work
504 - Extra Practice pages, anchor charts, scaffolded explanations of topics, manipulatives, extra time for work, group work, visual aids, modeling, hands-on learning activities, small group work for more individualized attention

21ST CENTURY LIFE AND CAREER STANDARDS

Please select all standards that apply to this unit of study:

- ❑ Act as a responsible and contributing citizen and employee.
- ❑ Apply appropriate academic and technical skills.
- ❑ Attend to personal health and financial well being.
- ❑ Communicate clearly and effectively and with reason.
- ❑ Consider the environmental social and economics impacts of decisions.
- ❑ Demonstrate creativity and innovation.
- ❑ Employ valid and reliable research strategies.
- ❑ Utilize critical thinking to make sense of problems and persevere in solving them.
- ❑ Model integrity, ethical leadership, and effective management.
- ❑ Plan education and career paths aligned to personal goals.
- ❑ Use technology to enhance productivity.
- ❑ Work productively in teams while using cultural global competence.

Suggestions on integrating these standards can be found at: http://www.state.nj.us/education/cccs/2014/career/9.pdf

LINKS TO CAREERS: