Washington Township School District

The mission of the Washington Township Public Schools *is to provide a safe educational environment for all students to attain the skills and knowledge specified in the New Jersey Core Curriculum Content Standards at all grade levels so as to ensure their full participation in our global society as responsible, self-directed, and civic-minded citizens.*

Course Title:	**Everyday Mathmatics**
Grade Level(s):	**Kindergarten**

Duration:	*Full Year:*	**X**	*Semester:*		*Marking Period:*	

Course Description:	The Everday Mathematics curriculum is structured as an ongoing spiral to provide multiple exposure to topics, and frequent opportunities to review and practice skills. A concept or skill that is informally introduced is revisted, developed, and extended in a variety of contexts throughtout the year and into later grades. • **Real-Life Problem Solving-** Everyday Mathematics emphazies the apllication of mathematics to real world situations. Numbers, skills and mathematical concepts are not presented in isolation, but are linked to situations and contexts that are relevant to everyday lives. The curriculm also provides numerous suggestions for incorporating mathematics into daily classroom routines and other subject areas. • **Balenced Instruction-** Each Everyday Mathematics lesson includes time for whole-group instruction as well as small group, partner or individual activities. These activities balance teacher-directed instruction with opportunites for open response and re-engagement lessons, hands-on explorations, long-term projects and on-going practice. • **Technology Component-** Everyday Mathematics includes integrated virtual manipulatives for whole-class demonstrations and individual student explorations. Embedded in this program are digital tools to allows the teacher to monitor student progress through assignments and assessments. Digital games also provide differentiation for all students levels and abiltities. • **Multiple Methods for Basic Skills Practice-** Everyday Mathematics provides numerous methods for basic skills practice and review. These include games as well as activities that span throughout the subjects.
Grading Procedures:	Ongoing formative assessments Standards Based Math Assessments Beginning, Developing, and Secure Skills
Primary Resources:	Everyday Mathematics Teacher Lesson Guide 1**,** Everyday Mathematics Teacher Lesson Guide 2, Everyday Mathematics Assessment Handbook, Everyday Mathematics Math Masters, Everyday Mathematics Resources for the Kindergarten Classroom, Everyday Mathematics Manipulatives Kit, Everyday Mathematics Activity Cards.

Washington Township Principles for Effective Teaching and Learning

- Implementing a standards-based curriculum
- Facilitating a learner-centered environment
- Using academic target language and providing comprehensible instruction
- Adapting and using age-appropriate authentic materials
- Providing performance-based assessment experiences
- Infusing 21st century skills for College and Career Readiness in a global society

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Under the Direction of:	Gretchen Gerber

Written: _Summer 2016_____ _____

Revised: _____

BOE Approval: _____

Unit Title: Unit 1 Overview

Unit Description:
Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; and comparing sets or numerals. Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

Routines are introduced that will be followed both throughout the school year and in later grades. These routines provide classroom structure for teachers and children to begin working on a number of rich mathematical acitivites together.

Unit Duration: 13 lessons

Desired Results

Standard(s):
2016 SLS: Mathematics
Kindergarten
Counting & Cardinality
K.CC.A. Know number names and the count sequence.
K.CC.A.1. Count to 100 by ones and by tens.
K.CC.A.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
K.CC.B. Count to tell the number of objects.
K.CC.B.4. Understand the relationship between numbers and quantities; connect counting to cardinality.
K.CC.B.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.B.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 were counted.
K.CC.B.4c. Understand that each successive number name refers to a quantity that is one larger.
K.CC.B.5. Count to answer “how many?” questions about 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.
Measurement & Data
K.MD.B. Classify objects and count the number of objects in each category.
K.MD.B.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

Geometry
K.G.A. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).
K.G.A.1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.
K.G.A.2. Correctly name shapes regardless of their orientations or overall size.

Mathematical Practice
MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.
MP.2. Reason abstractly and quantitatively.

MP.3. Construct viable arguments and critique the reasoning of others.
MP.4. Model with mathematics.
MP.5. Use appropriate tools strategically.
MP.7. Look for and make use of structure

Indicators:

- Students will know number names and the count sequence.
- Students will count to tell the number of objects
- Students will classify objects and count the number of objects in each category.
- Students will identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).
- Students will indetify and describe shapes in the context of repeating and growing patterns.

Understandings:	**Essential Questions:**
Students will understand that… • I count to know number names and the count sequence. • I count to tell the number of objects • I count to compare numbers. • I classify objects and count the number of objects into categories to describe and compare them. • I describe and compare measurable attributes of shapes to identify and describe them.	• Why do I count? • How do I describe and compare objects? • How do I identify and describe shapes?

Assessment Evidence	
Performance Tasks: **CC: Know number names and the count sequence** • Can the children count to the number of the day on the Growing Number Line by 1s? By 10s? (K.CC.1, SMP2, SMP7) • Can they count on (or back) for the number of the day? (K.CC.2) • Can the children read numbers on the Growing Number Line? Can they write (or tell you how to write) the next number on the Growing Number Line? (K.CC.3, SMP2, SMP7) • Can children use count-sequence clues to find a given date or dates on the calendar? (K.CC.1, K.CC.4c, SMP4) • Can they say what number comes next in the date sequence? (K.CC.2, K.CC.4c, SMP5) • Can children read the numbers on the calendar? (K.CC.3) **CC: Count to Tell the Number of Objects** • Can children count the objects in the Concrete Number Count? Do they understand that the last number they say tells the number of objects in the collection? (K.CC.4a, K.CC.4b, K.CC.5) • Do they recognize that the number does not change if the objects are moved or rearranged? (K.CC.4b, K.CC.5) • Can they figure out what "one more" would be in the Concrete Number Count collection or on the Growing Number Line without counting? (K.CC.4c, SMP2, SMP7) • Can children figure out how many are present (or absent) by counting name cards on the attendence chart, counting marks (or empt spaces) on the sign-in grid, and/or counting actual children? (K.CC.4a, K.CC.4b, K.CC.5, SMP4, SMP6) • Do children understand that the last number they say tells the totally number of children present (or absent)? (K.CC.4b) • Do children undetsand that the number is the same regardless of the order in which they count the objects (cards, marks or children)? (K.CC.4b) • Can children count the number of days of each type of weather or temperature zone? Do they understand the last number said tells the number of days of each type of weather or temperature zone? (K.CC.4a, K.CC.4b, K.CC.5, K.MD.3)	**Other Evidence:** **SMP: Model with Mathematics** • Can children use the attendence chart to answer real-world questions, such as whether a particular child is present or absent, how many total children are present or absent? (SMP4) **SMP: Solve Problems; Use Models and Tools; Attend to Precision** • Can children use day-of-the-week, time-of-day, and sequencing concepts to set up and read the daily schedule to get information? (SMP4, SMP5, SMP6) • Can they use the calendar to find and name the correct month, day and date number? Can they find a given date using the day of the week or similar clues? Can they use the calendar to answer questions about events in time? (SMP1, SMP4, SMP5) • Can children solves problems and answer other questions based on survey charts and graphs? (SMP1, SMP4) **SMP: Construct viable arguments. Look for and make use of structure.** • Can children use the weather or temperature data to make, explain, and justify conjectures about weather or temperature patterns or trends? (SMP3, SMP7) **SMP: Use appropriate tools.** • Do children recognize that the thermometer is a tool for measuring temperature? Can they use the color zones to "read" the thermometer and interpret the meaning (Warm, cold)? (SMP5)

- Do they recognize that the number in each catergory does not change regarless of the order in which they are counted? (k.CC.4b, K.CC.5)
- Can children count the number of each type of response on the survey? Do they understand that the last number they say tells the number of responses? (K.CC.4a-b, K.CC.5, SMP4)
- Do they recognize that the number of responses does not change regarless of the order in which they are counted? (K.CC.4b, K.CC.5)

CC: Compare Numbers

- Can children answer comprehension questions (using more, less, most, least, greatest, fewest, and how many more/fewer) based on the attendence chart? (K.CC.6, K.CC.7, SMP1, SMP4)
- Can they use the weather or temperature data to compare and conclude whether one type of weather or one temperature zone had more, fewer, or the same number of days as another? Can they figure out how many more or fewer days there were? (K.CC.6, K.CC.7, K.MD.3, SMP1, SMP4)
- Can children answer comparison questions (using more, fewer, most, fewest and how many) based off of the survey chart? Can they determine how many more (or fewer) responses one response had than another? (K.CC.6-7, K.MD.3, SMP1, SMP4)

Benchmarks:

- Teacher Observations and student work samples

Learning Plan

Learning Activities:
Ongoing Daily Routines:
1. Number of the Day and Using the Growing Number Line
2. Attendance
3. Daily Schedule and Monthly Calendar
4. Weather and Temperature Observation,
5. Daily Survey

Unit 1 Lessons:
1-1: Partner Match: Matching Lengths (Activity Card 1)
1-2: Introduction to Pattern Blocks: Exploring Pattern Blocks (Activity Card 2)
1-3: Gotcha (A Counting Game)
1-4: A Number Walk
1-5: Getting to Know Numbers: Making Number Posters (Activity Card 3)
1-6: Count and Sit
1-7: Class Birthdays: Sorting Candles
1-8:Class Age Graph
1-9: Number Stations: Number Stations (Acitivty Card 4)
1-10: Quick Looks
1-11:Five Frames: Five Frames (Activity Card 5)
1-12: Describing Shapes: Sorting Shape Cards (Acitvity Card 6)
1-13: Shape Patterns: Patterns with Natural Objects (Activity Card 7), Patterns with Partners (Activity Card 8)

Resources:
Teacher's Lesson Guide (Volume 1), eToolkit, Math Masters, Minute Math, Math at Home Books, Everyday Math Journal, Games, Tool Kit with Manipulatives, Class Number Line, Class Number Grid

Unit Learning Goal and Scale

(Level 2.0 reflects a minimal level of proficiency)

Standard(s):Goal for Mathematical Practice: Create and justify rules, shortcuts and generalizations

4.0	Students will be able to: • Sort a collection of objects by using multiple rules
3.0	Students will be able to: • Sort all objects correctly into clear categories and states a sorting rule that describes the catergories accurately
2.0	Students will be able to: • Sort most of the objects into clear catergories but places some objects incorrectly and cannot state the sorting rule.
1.0	With help, partial success at level 2.0 content and level 3.0 content: Does not use a sorting rule to classify objects.
0.0	Even with help, no success

Standard(s): Goal for Mathematical Practice: Create mathematical representations using numbers, words, pictures, symbols, gestures, tables, graphs and concrete objects	
4.0	Students will be able to: • Meet expectations and creates more representations of an assigned number
3.0	Students will be able to: • Create four different accurate representations of an assigned number
2.0	Students will be able to: • Create two or three different accurate representations of an assigned number
1.0	With help, partial success at level 2.0 content and level 3.0 content: Creates zero representations of an assigned number
0.0	Even with help, no success

Standard(s): Goal for Mathematical Practice: Make mathematical conjectures and arguements	
4.0	Students will be able to: • Meet expectations and provides an argument in two or three representations (dictation, drawings or numbers) each of which makes an adequate argument indenpendently
3.0	Students will be able to: • Provide an adequate argument and may use one or a combination of representations (dictation and drawing that together make an adequate argument)
2.0	Students will be able to: • May use accurate numbers but does not connect them to an argument
1.0	With help, partial success at level 2.0 content and level 3.0 content: Can write or draw a representation but cannot give an argument
0.0	Even with help, no success

Standard(s):Goal for Mathematical Practice: Solve Problems in more than one way.	
4.0	Students will be able to: • Find more than six different solutions
3.0	Students will be able to: • Find five or six different solutions
2.0	Students will be able to: • Find two, three or four different solutions
1.0	With help, partial success at level 2.0 content and level 3.0 content: Find no solution or one solution
0.0	Even with help, no success

Unit Modifications for Special Population Students	
Advanced Learners	• If a student already can match based off of length have them match objects by other attributes. • Have children who are proficient with counting small sets of objects count larger sets. • Children who have number mastery could work together to form a simple map of the Number Walk route (Lesson 1-4)
Struggling Learners	• Children who struggle with the daily schedule or tranisitons between acitivties may benefit from having an individualized daily schedule in a folder, on a clipboard or taped to their table. • For students struggling with the main focus acitivty have them revisit the activity in centers using the math Activity cards. • Provide ample opportunities for choral, small group and partner counting practice. • For the number walk in Lesson 1-4, provide small 0-9 number strips to help the students who confuse letters and numbers. • Provide a number strip for children who struggle to count out objects. • Have the students practice “back and forth” counting with a partner with a number line for reference.
English Language Learners	• Number Line: illistrate the word growing by showing the children pictures of plants that has grown over time. Prompt them to use growing to describe other things that grow. • Attendance: Use the terms here and not here interchangeably with present and absent to help children learn the latter terms. • Display pictures of weather along with the weather word. • Provide ample opportunities for choral, small group and partner counting practice. • For the number walk in Lesson 1-4, pair the student with a student who can reinforce and model number words. • Have the children recite numbers in unison, in small groups and in pairs before asking them to recite the number names individually. • Use prompts and pictures to demonstrate and reinforce the terms same, alike, and different.
Special Needs Learners	• Children who struggle with the daily schedule or tranisitons between acitivties may benefit from having an individualized daily schedule in a folder, on a clipboard or taped to their table. • Point to each object when counting to reinforce one-to one correspondence. Restating the last number in the set and gesturing to encompass the whole set reinforces the cardinal principle. • Encourage children when counting on from a number to count along from 1 silently in their heads (or in a whisper) until it is their turn.

Interdisciplinary Connections

Indicators:

Literacy and Art: After Lesson 1-2 read The Quilt by Ann Jonas or Selina and the Bear Paw Quilt by Barbara Smucker. Discuss the similiarity between the quilt designs and the children's pattern block designs.

Literacy: Show and Discuss "City by Numbers" by Stephen T. Johnson (Lesson 1-4). Read and discuss a book about reflecting on age from a child's prespective such as "When I Was Five" by Arthur Howard. Do quick looks with other number picture books by flashing the children the page for 3-5 seconds and see how many objects they can count and what they notice. (Lesson 1-10)
Read "Pattern Fish" by Trudy Harris and have the children describe the patterns they notice in the book and join in when you read the repeated parts.

Music: Sing the counting songs such as "Five Green and Speckled Frogs", "Ten in the Bed" or another song. Have the children use their fingers to represent the number in each verse. (Lesson 1-3)
Sing "This Old Man" with the class and display the correct numeral as you sing each verse to help support numeral recognition. (Lesson 1-4)
Learn birthday songs from other countries. (Lesson 1-7)
Sing the song "Five Green and Speckled Frogs" have the children act it out with manipulatives or small toys and note how the total is always 5.

Art: Give children simple dot-to-dot pictures to complete to provide practice with the number sequence.

Integration of 21st Century Skills

Indicators:
9.1.4.G.1 : Describe how valuable items might be damaged or lost and ways to protect them.
* In the teaching of rules and procedures, students will learn the use of resources as tools for mathematics.
9.2.4.A.4 : Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career
success.
* As students develop problem solving skills it will assist them in working through difficult problems and require them to employ the strategies they learned.
9.3.12.AC-DES.2 : Use effective communication skills and strategies (listening, speaking, reading, writing and graphic
communications) to work with clients and colleagues.
* In partner talk, small group, and one to one work, students will develop necessary skills to communicate effectively.
9.3.12.ED.1 : Apply communication skills with students, parents and other groups to enhance learning and a commitment to learning.
* In the development of math routines the students will learn how to quantify and express their knowledge.
9.3.12.ED-ADM.1 : Use research-based practices to develop, communicate and enlist support for a vision of success for all learners.
* Everyday Mathematics is a researched based practice to support the learning of mathematics to a variety of students.
9.3.12.ED-ADM.2 : Identify behaviors necessary for developing and sustaining a positive learning culture.
* Students will work in partnerships within the classroom and in small groups as well as within whole group conversations that support a positive learning environment.
9.3.12.ED-PS.1 : Identify strategies, techniques and tools used to determine the needs of diverse learners.
* Resources can be used throughout small group, strategy group, and whole group lessons to support individual student needs.
9.3.12.ED-PS.2 : Implement methods to enhance learner success. * Teaching students where they are ad to identify if they need help will enable success in all learners and at various levels.
9.3.12.ED-PS.3 : Identify resources and support services to meet learners' needs. * Resources and methods can be used in the instruction of students on a one to one or small group basis.

Technology: Use computer games that provide practice with different math skills. Use the digital tools provided at connected.mcgraw-hill.com:
-Student Learning Center
-eToolkit
-Home Connection

Unit Title: Unit 2

Unit Description: Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals. Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

Unit Duration: 14 Lessons

Desired Results

Standard(s): 2016 SLS: Mathematics
Kindergarten

Counting & Cardinality

K.CC.A. Know number names and the count sequence.
K.CC.A.1. Count to 100 by ones and by tens.
K.CC.A.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
K.CC.B. Count to tell the number of objects.
K.CC.B.4. Understand the relationship between numbers and quantities; connect counting to cardinality.
K.CC.B.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.B.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 were counted.
K.CC.B.4c. Understand that each successive number name refers to a quantity that is one larger.
K.CC.B.5. Count to answer “how many?” questions about 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.C. Compare numbers.
K.CC.C.6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.
K.CC.C.7. Compare two numbers between 1 and 10 presented as written numerals.

Measurement & Data

K.MD.A. Describe and compare measurable attributes.
K.MD.A.1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
K.MD.A.2. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference.
K.MD.B. Classify objects and count the number of objects in each category.
K.MD.B.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

Mathematical Practice

MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.
MP.1. Make sense of problems and persevere in solving them.
MP.2. Reason abstractly and quantitatively.
MP.3. Construct viable arguments and critique the reasoning of others.
MP.4. Model with mathematics.
MP.5. Use appropriate tools strategically.
MP.6. Attend to precision.
MP.8. Look for and express regularity in repeated reasoning

Indicators:

- I count to know number names and the count sequence.
- I count to tell the number of objects.
- I count to compare numbers.
- I classify objects and count the number of objects into categories to describe and compare them.
- I can determine the number of objects in a set when one object is added.

Understandings:

Students will understand that…

- I can represent end-unknown addition and subtraction situations within 5 concretely (using objects, fingers, drawings or acting out).
- I can solve end-unknown addition and subtraction problems using direct modeling.
- I can sort objects into catergories using obvious attributes, such as color or shape and count up to 5 objects in each catergory.
- I can identify and name some triangles, circles and rectangles (including squares) in different sizes and orientations.
- I can use informal language to describe some similiarites, differences, parts and other attributes of triangles, circles, and rectangles (including squares) in different sizes and orientations.

Essential Questions:

- Why do I count?
- How do I describe and compare objects?

Assessment Evidence

Performance Tasks:

Comparing Collections

- How many more (or fewer) are in one collection than another? Why? (K.CC.4a-c, K.CC.5, K.CC.6)

Top It with Dot Cards

- How do you know how many dots each card has? How can you figure out which card has more, or a greater number of dots? How can you be sure? (K.CC.4a, K.CC.4b, K.CC.5, K.CC.6)

Getting to Know Triangles

- How many sides does this triangle have? How many vertices does it have? Are the sides straight or curved? How are shapes alike and different? (K.G.1, K.G.2, K.G.4)

Building a Number Board

- What would the next number on the board be? What would the next row of objects look like?

Counting Collections

- Was it harder to count children when they were in a circle or in a row? Why? (K.CC.4a, K.CC.4b, K.CC.5)

Getting to Know Rectangles

- How are rectangles alike? How are rectangles different from each other? How can all these shapes be rectangles when they look different from one another? What other shapes have we learned about that have lots of different types? (K.G.1, K.G.2, K.G.4)

Telling and Acting out Number Stories

- Can you show and explain how you figured out the number story? Did you solve it in the same way as another classmate? What is a different way to solve it? (K.OA.1-2)

Exploring More Number Stories

- Do you understand what the story is asking? What can you do if you do not understand a number story? (K.OA.1, K.OA.2)

How do you know? (K.CC.3, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.5)

Solving Pocket Problems

- Are there more or fewer counters in your pocket when you add counters to it? Are there more or fewer counters in your pocket when you take counters out of it? How does this help you think about whether your answers to pocket problems make sense? (K.OA.1, K.OA.2)

How many now?

- How many counters do we have? How do you know? Does our answer make sense? Why or Why not? (K.CC.2, K.CC.4a, K.CC.4b, K.CC.4c, K.CC.5)

Solving the Open Response Questions

- How would you describe this group of objects you created? What is the same about the objects in this group? What is different between this group and that group of objects? What is your rule for sorting your objects? How many objects are in each group? Which has the most? The fewest? (K.MD.1, K.MD.3)

Reengaging in the Problem

- Could I have done something differently? How did other groups sort their objects? (K.MD.1, K.MD.3)

Getting to Know Circles

- Does it have straigjt sides or are parts of it curved or round? How many verticies does it have? How is it different from a triangle? (K.G.1, K.G.2, K.G.4)

Ten Frames

-What do you notice about this tool? Why do you think it is called a Ten Frame? How is a ten frame similar to a five frame? How is it different from a five frame? (K.CC.4a, K.CC.4b, K.CC.5, K.OA.3, K.OA.4)

Benchmarks:

Teacher Observation: Observe whether children recognize triangles in different sizes and orientation (K.G.2)

Teacher Observation: Note whether children use and understand the correct count sequence, one-to-one correspondence, and the cardinal principle as they fill in number boards. (K.CC.4a, K.CC.4b, K.CC.4c, K.CC.5)

Teacher Observation: Observe children's abilities to represent and solve simple nonverbal addition and subtraction situations. (K.OA.1, K.OA.2)

Teacher Observation: Observe whether children can apply the successor function to determine how many are in a set after one more is added. (K.CC.4c)

Teacher Observation: Observe whether children can identify and name circles of different sizes.

Teacher Observation: Observe children as they represent 6 on their ten frames.

Teacher Observation: Observe if children understand that the number of objects in a set does not change if the set is rearranged. (K.CC.4b, K.CC.5)

Teacher Observation: Observe whether children recognize rectangles in different sizes and orientations. (K.G.2)

Teacher Observation: Note the strategies the students use to solve the number stories (direct modeling, counting or applied facts) and if they are successful in completing the number stories. (K.OA.1, K.OA.2)

Learning Plan

Learning Activities:
2-1: Match Up with Dot Cards: Comparing Collections, Match Up with Dot Cards (Activity Card 9)
2-2:Top-It with Dot Cards: Top-It with Dot Cards (Activity Card 10)
2-3: Getting to Know Triangles
2-4: Number Board: Building a Number Board, Bean Count (Activity Card 11)
2-5:Pocket Problems: Solving Pocket Problems
2-6:How Many Now?: How Many Now? (Acitivity Card 12)
2-7: Day 1: Solving the Open Response Question
2-7: Day 2: Reengaging in the Problem: Sorting Collections (Activity Card 13)
2-8: Getting to Know Circles
2-9:Ten Frames: Ten Frames (Activity Card 14)
2-10: Counting Collections: Counting Fish (Activity Card 15)
2-11: Getting to Know Rectangles
2-12:Number Stories: Making Number Stories (Activity Card 16)
2-13: More Number Stories.

Resources: Teacher's Lesson Guide (Volume 1), eToolkit, Math Masters, Minute Math, Math at Home Books, Everyday Math Journal, Games, Tool Kit with Manipulatives, Class Number Line, Class Number Grid

Interdisciplinary Connections

Indicators:

Literacy: Read "Rooster is Off to See the World" by Eric Carle. Have the children discover the pattern in the number of animals and draw connections and conclusions.
Read "A Pocket for Corduroy" by Don Freeman and discuss how pockets are useful. (Lesson 2-5)
Read "Round is a Mooncake" by Roseanne Thong. On each page have the children discuss which round objects are really circles and which ones are other shapes such as ovals and spheres.
Read "Round is a Mooncake" by Roseanne Thong and have the students find the rectangles and squares. (Lesson 2-11)
Have children use counters to model number stories based on picture books such as "Splash!" by Ann Jonas. (Lesson 2-12)

Literacy and Art: Read “Ten Black Dots” by Donald Crews and have the children count the dots and discuss the pictures the dots make. (Lesson 2-1)

Art: Cut sponges into fish shapes and have children dip the “fish” into paint on plates and then press them onto paper. Children can create paintings of 10 or fewer fish in scattered arrangements. Have children count the fish in each others paintings. (Lesson 2-10)

Science: Encoruage the children to look for and share natural objects that resemble triangles. Talk about whether they are exactly triangular or just triangle like.

Dramatic Play: Provide counters or coins and some old wallets or purses for children to use for pocket play in the Dramatic Play Center. Children can pretend to shop, practice giving and taking coins or counters. Encourage them to record the amounts on a notepad for number-writing practice. (Lesson 2-5)
Drama: Have children act out number stories using costumes and props. After they perform the story, give the audience time to solve the number story.

Music: Sing “one more” songs such as “Old Man Went to Mow”. From time to time pause before a verse and have the children predict the next number in the sequence.
Sing “Ten in the Bed” and have the children move a counter off a full ten frame each time someone falls off the bed. Periodically pause and count how many are on and off the bed. (Lesson 2-9)
Sing “Baa Baa Black Sheep” and have the children use counters to model the number story. (Lesson 2-12)

Unit Modifications for Special Population Students	
Advanced Learners	When playing Top-It with Dot cards have the students play with deck sets E and F. Have these students play Bottom-It which practices the concept of fewer. If the students have mastered the number boards 0-10 have them create a number board 1-20. (Lesson 2-4) When playing pocket problems challenge the children who are ready by adding and taking away three or more counters or starting with more than five counters. When playing How Many Now have the students add two counters at a time. (Lesson 2-6) For Lesson 2-7 if the children sort quickly, invite one partner to sort the objects in a new way and have the other partner guess the sorting rule. Children who are ready for more challenging work on ten frames can do a partner acitivity where one child places a number of counters on a ten frame and the second child tells how many counters will on the frame if one counter is removed. For Lesson 2-10 if the children have mastered counting scattered arrangements have them estimate quantities of scattered collections. (Lesson 2-10) If a student is mastering number stories give them more challenging numbers.
Struggling Learners	When playing Top-It with Dot cards have the student place counters on each dot and have them remove the counters while counting to see with one has more dots. Show the children multiple versions of shapes both drawings and real-world examples. If children struggle to calculate how many counters are in the pocket, place the counters on top of the pocket so children can see them as you make changes. Have the students play the game “Mystery Change” to provide extra practice with nonverbal addition and subraction situations.

	If children struggle to determine the next number in a sequence have them use a number line with a dry erase marker to move along the number line to determine what the next number in the sequence should be. For Lesson 2-7 have the children sort based off of an easy attribute such as color. For Lesson 2-10 increase or decrease the number of counters to match children's current skills and needs. If children think that four-sided figures such as rhombuses, kites or trapezoids are rectangles have them use their hands to show how the angles in the shape are different. If students are sturggling with number stories give them problems with small numbers such as changes in 1 or 2.
English Language Learners	When teaching triangles use classroom examples and arm movements to introduce the meanings of curved and straight. Provide practice with identifying numerals 0-10 by name. Have children chorally repeat the names of the numbers as you show individual number cards. Then give children sets of number cards 0-10 and ask them to hold up numbers as you name them. For Lesson 2-6 show a picture of frogs in a pond or act out the scenerio with toys to ensure that the children understand the connection between the counters, the container and the questions being asked. Show children real world examples such as pictures, windows and doors to help them understand the meaning of frame. (Lesson 2-9) Lesson 2-11: Have the children show with their fingers how many sides and vertices a rectangle has to check their understanding. Repeat for triangles and circles.
Special Needs Learners	When playing Top-It with Dot cards have the student place counters on each dot and have them remove the counters while counting to see with one has more dots. Have the students play "Feeding Bears" to make the activity Pocket Problems more concrete. Have the students play the game "Mystery Change" to provide extra practice with nonverbal addition and subraction situations. For Lesson 2-7 encourage the students to regroup the objects by common attributes and remind them that they do not need to fill every section on the mat. For Lesson 2-10 increase or decrease the number of counters to match children's current skills and needs.

Integration of 21st Century Skills
Indicators: 9.1.4.G.1 : Describe how valuable items might be damaged or lost and ways to protect them. * In the teaching of rules and procedures, students will learn the use of resources as tools for mathematics. 9.2.4.A.4 : Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success. * As students develop problem solving skills it will assist them in working through difficult problems and require them to employ the strategies they learned. 9.3.12.AC-DES.2 : Use effective communication skills and strategies (listening, speaking, reading, writing and graphic communications) to work with clients and colleagues.

* In partner talk, small group, and one to one work, students will develop necessary skills to communicate effectively.
9.3.12.ED.1 : Apply communication skills with students, parents and other groups to enhance learning and a commitment to learning.
* In the development of math routines the students will learn how to quantify and express their knowledge.
9.3.12.ED-ADM.1 : Use research-based practices to develop, communicate and enlist support for a vision of success for all learners.
* Everyday Mathematics is a researched based practice to support the learning of mathematics to a variety of students.
9.3.12.ED-ADM.2 : Identify behaviors necessary for developing and sustaining a positive learning culture.
* Students will work in partnerships within the classroom and in small groups as well as within whole group conversations that support a positive learning environment.
9.3.12.ED-PS.1 : Identify strategies, techniques and tools used to determine the needs of diverse learners.
* Resources can be used throughout small group, strategy group, and whole group lessons to support individual student needs.
9.3.12.ED-PS.2 : Implement methods to enhance learner success. * Teaching students where they are ad to identify if they need help will enable success in all learners and at various levels.
9.3.12.ED-PS.3 : Identify resources and support services to meet learners' needs. * Resources and methods can be used in the instruction of students on a one to one or small group basis.

Technology: Use computer games that provide practice with different math skills. Use the digital tools provided at connected.mcgraw-hill.com:
-Student Learning Center
-eToolkit
-Home Connection

Unit Title: Unit 3

Unit Description: Students learn that written numerals are symbols that represent quantities and number words. They compare sets to determine which has more or fewer objects while sorting and graphing pattern blocks. The students focus on identifying and describing objects as longer or shorter. They practice ordering sets and numerals and consolidate their understanding of the successor function.

Unit Duration: 14 Lessons

Desired Results

Standard(s):
Standard(s): 2016 SLS: Mathematics
Kindergarten
Counting & Cardinality
K.CC.A. Know number names and the count sequence.
K.CC.A.1. Count to 100 by ones and by tens.
K.CC.A.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
K.CC.B. Count to tell the number of objects.
K.CC.B.4. Understand the relationship between numbers and quantities; connect counting to cardinality.
K.CC.B.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.B.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 were counted.
K.CC.B.4c. Understand that each successive number name refers to a quantity that is one larger.
K.CC.B.5. Count to answer “how many?” questions about 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.C. Compare numbers.
K.CC.C.6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.
K.CC.C.7. Compare two numbers between 1 and 10 presented as written numerals.
Measurement & Data
K.MD.A. Describe and compare measurable attributes.
K.MD.A.1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
K.MD.A.2. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference.
K.MD.B. Classify objects and count the number of objects in each category.
K.MD.B.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

Mathematical Practice
MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.
MP.1. Make sense of problems and persevere in solving them.

MP.2. Reason abstractly and quantitatively.

MP.3. Construct viable arguments and critique the reasoning of others.

MP.4. Model with mathematics.

MP.5. Use appropriate tools strategically.

MP.6. Attend to precision.

MP.8. Look for and express regularity in repeated reasoning

Indicators:

- I count to know number names and the count sequence.
- I count to tell the number of objects.
- I count to compare numbers.
- I classify objects and count the number of objects into categories to describe and compare them.
- I can determine the number of objects in a set when one object is added.

Understandings:

Students will understand that…

- I can read and write numbers through 10 and represent up to 10 objects with a written numeral.
- I can count a set of 10 objects using the correct count sequence and one-to-one coorespondence.
- I can generalize the cardinal principle and understand that the number of objects isn't impacted by their arrangement or the order in which they were counted.
- I can use the successor function to figure out "one more" without recounting a set of objects.
- I can count arranged and scattered sets of up to 10 objects.
- I can count out a set of up to 10 objects.
- I can compare the number of objects in two groups using the terms more, fewer, and same.

Essential Questions:

- Why do I count?
- How do I describe and compare objects?

Assessment Evidence

Performance Tasks:

Graphing Pattern Blocks

- How can we find out which shape has the most? The least? (K.CC.5, K.CC.6, K.MD.3)

Finding Combinations of Ten

- If I place 10 beans on my ten frame will there be empty spaces? Why or Why not? How many beans do you have altogether? How do you know? (K.CC.4b, K.OA.1, K.OA.3, K.OA.4)

Making Rope Shapes

- What is the same about the ropes in this family? What is different? Is this a triangle? How do you know? How is a circle different from the other shapes? (K.G.2, K.G.4, K.G.5)

Writing Numbers (1 and 2)

- When do people need to write numbers? Why is it important to write clearly? What do the numbers look like? What kinds of lines do you see? (K.CC.3, K.CC.5)

Sorting by Longer and Shorter

- How did you know one ribbon was shorter than the other? (K.MD.1, K.MD.2)

Describing Positions

- Why are position words important? What might happen if you give directions that are unclear? (K.G.1)

Solving the Open Response Problem

- What do you notice about all of these cards? What number do they all show? How can these cards look so different but all show the same number? (K.CC.3, K.CC.4b, K.CC.5, K.CC.6)

Reenaging in the Problem

- What does it mean to show your number in a different way? Why did you show your number in that way? (K.CC.3, K.CC.4b, K.CC.5, K.CC.6)

Making a Human Number Line

- Are the numbers in order? How do you know? How can we check to see if our cards are in the right sequence? (K.CC.2, K.CC.3, K.CC.4a-c, K.CC.5)

Playing Number Card Games

- What are some ways to practice using the number cards?(K.CC.1, K.CC.3, K.CC.4a-c, K.CC.5)

Playing Roll and Record

- How many numbers are on a di? How do you know? Which number have you rolled the least? Have you rolled any number the same number of times? Do you think you are more likely (or less likely) to roll one number than another? (K.CC.3, K.CC.4b, K.CC.5, K.CC.6)

Playing Monster Squeeze

- Why did you guess that number? What would be a good next guess? Why? How did your old guesses help you to make new guesses? (K.CC.3, K.CC.7)

Writing Numbers

- When do people need to write numbers? Why is it important to write clearly? What do the numbers look like? What kinds of lines do you see? (K.CC.2, K.CC.3, K.CC.4b, K.CC.4c, K.CC.5

Benchmarks:

Teacher Observation: Can the student count the number of blocks in each group? Can they compare the the groups to tell you which one has more or fewer blocks? (K.CC.5, K.CC.6, K.MD.3)

Teacher Observation: Can the student count th number of beans in each group and represent and record the combinations on a ten frame? (K.CC.4b, K.OA.3)

Teacher Observation: Can the student name triangles, circles, rectangles and squares in different sizes and orientations and describe the number of sides and verticies? (K.G.2, K.G.4)

Teacher Observation: Can the student write numbers 0-10 and represent each numeral with the correct numbers of items? (K.CC.3, K.CC.5)

Teacher Observation: Can the student compare the lengths of two objects using the terms longer and shorter? (K.MD.2)

Teacher Observation: Can the student use the positional words on, below, above, in, under, up, down correctly? (K.G.1)

Teacher Observation: Can the student recognize that the same number can be shown in different ways? Can they represent an assigned number correctly in more than one way? Can they compare representations and identify those that show the same number? (K.CC.4b, K.CC.6)

Teacher Observation: Can the student recognize the numbers 0-9 and count up to 9 objects using the correct count sequence and one-to-one correspondence? (K.CC.3, K.CC.4a)

Teacher Observation: Can the student understand that each successive numeral represents a quanitity that is one larger than the previous numeral? (K.CC.4c)

Teacher Observation: Use the number card activity to assess student's counting skills and their understanding of counting principles. (K.CC.3, K.CC.4a, K.CC.5)

Teacher Observation: Observe the students playing Roll and Record and notice if the students are able to count or recognize the number of dots on a die correctly, match the dots with a numeral on the Roll and Record Grid and write the numerals (these can be dotted). (K.CC.3, K.CC.4b, K.CC.5)

Learning Plan

Learning Activities:
3-1:Pattern Block Graph: Sorting and Graphing Collections (Activity Card 17)
3-2: Ten Bean Spill: Ten Bean Spill (Activity Card 18)
3-3: Rope Shapes: Shapes on Geoboards (Activity Card 19)
3-4: Number Books: Writing Numbers (1 and 2), Modeling Dough Numbers (Activity Card 20) Tactile Number Writing (Activity Card 21) *lesson can span over two days
3-5: Longer and Shorter?: Shorting by Longer or Shorter (Activity Card 22)
3-6: Obstacle Course Positions
3-7: Day 1: Solving the Open Response Problem
3-7: Day 2: Rengaging in the Open Response Problem: Which Number Doesn't Belong (Activity Card 23)
3-8: Spin a Number: Spin a Number (Activity Card 24)
3-9: Line Up: Making a Human Number Line: Beat the Timer (Activity Card 25)
3-10: Number Card Activities: Playing Number Card Games: Number Card Pileup (Activity Card 26)
3-11: Roll and Record: Roll and Record (Activity Card 27)
3-12: Monster Squeeze: Mini Monster Squeeze (Activity Card 28)
3-13: Numbers on Slates: Dice and Spinner Numbers (Activity Card 29)

Resources: Teacher's Lesson Guide (Volume 1), eToolkit, Math Masters, Minute Math, Math at Home Books, Everyday Math Journal, Games, Tool Kit with Manipulatives, Class Number Line, Class Number Grid

Unit Modifications for Special Population Students	
Advanced Learners	• Give these students more pattern blocks to sort and challenge them to make predictions before sorting and graphing (Lesson 3-1) • Extend the concepts in the lesson by showing the children how to record the number pairs they find as combinations or as additions equations. (Lesson 3-2) • Challenge the students to count the number of objects in the classroom (bookshelves, doors, windows) and record the number on a piece of paper. (Lesson 3-5) • Have the students use connecting cubes to make a train of 8 and 15 and ask them to make a train that is longer than the 8 cube train but shorter than the 15 cube train (Lesson 3-5) • To apply and extend children's understanding of positional concepts have them draw obstacle course maps. (lesson 3-6) • If a child finishes quickly provide them with another recording sheet and have them make more represntations of the same number. (Lesson 3-7) • Children who are ready for a challenge can sequence higher numbers of number cards such as 11-20. (Lesson 3-9) • For Roll and Record have the student roll more times and make tally marks as to the number of times they rolled that number. (Lesson 3-11)
Struggling Learners	• Give these students less pattern blocks to sort (Lesson 3-1) Show the students that they can count on their fingers to count combinations of 10. (Lesson 3-2) • If students struggle to write the numerals, add more dotted numerals for them to trace. (Lesson 3-4) • Have the students that are struggling work with a student who is comfortable with the activity to practice comparing strips. (lesson 3-5) • If a student struggles to create different representations, scaffold the task by suggesting particular types of representations such as a ten frame, a dot pattern or a numeral.They could also be assigned a number lower than 5. (Lesson 3-7) • If children have trouble with one-to-one correspondence for the game Spin a Number have them use Spinner C. (lesson 3-8) • To build confiendece with number sequencing help the children use number cards to order numbers 1-5 or 1-10. Have them count aloud to help them order the numbers. (Lesson 3-9) • For children who struggles to match the dot patterns on dice to numerals help them draw the dot configurations below each number on their Roll and Record Grids. (Lesson 3-11) • Place the correct number of dots under numbers 1-10 on the number line to help the students compare numbers. (lesson 3-12)
English Language Learners	• Have the student pick up the shape and repeat the name after you to reinforce the language. Use show me commands. (Lesson 3-1) • Gesture and use the phrase all together in the same sentence as the word combination to help children connect the terms and ideas. (Lesson 3-2)

	• Use gestures to model the terms straight and curved saying the terms as you race large copies of the numerals. (Lesson 3-4) • Have the students model and act out the positional words (Lesson 3-6) • Introduce the phrase “roll the dice” by modeling the action. (Lesson 3-11) • Use visual cues to illistrate the terms too low, too high and squeeze. Label the left monster too low and the right monster too high. (Lesson 3-12)
Special Needs Learners	• Have students go on shape searches to find different versions of the shapes in different contexts. (Lesson 3-3) • If children struggle to represent numbers with pictures have them use stickers instead. (Lesson 3-4) • Have the students practice positional words with a cup and a bear for a concrete, hands-on activity (Lesson 3-6) • Have the students practice spinning a spinner and reading the numerals on a spinner prior to playing Spin a Number (Lesson 3-8). • For students still learning to recognize their numbers, add stickers or dots in organized rows to the Class Number Cards to they can count the dots to assist them in the activity. (lesson 3-9) • To provide fun, active expirences with counting and reading numbers hold up a number card and have the students say the name of the number. Then have the students do an action that many times. (Lesson 3-10) • For students with fine motor difficulties have them use the Roll and Record sheet with the numbers pre-dotted. (Lesson 3-11) • Create a 0-10 number line on a sentence strip and orient it vertically with 0 at the bottom to help children connect high and low to the correct numbers. (lesson 3-12) • Watch for children who have difficulty with auditory or visual activities. Some children may not be able to process what they are hearing or seeing, Practice in small groups prior to introducing it in a large group. (Lesson 3-13) • For the children with fine motor difficulties or trouble writing their numbers have them hold up a card with the numbers. (Lesson 3-13)

Interdisciplinary Connections

Indicators:

Literacy and Music: Read “Roll Over! A Counting Song” by Merle Peek. Pause as you read or sing to dicuss how many animals are on the floor and how many are in bed. Emphasize that there are always ten animals total. You may also have children act out the story.

Music and Movement: Sing and act out “Teddy Bear Positions” and “Go In and Out of the Circle.”

Blocks: Invite children to make and describe obstacle courses for stuffed animals.

Literacy: Read “When a Line Bends…A Shape Begins” by Rhonda Gowler Greene or Circus Shapes by Stuart J. Murphy. Discuss the different shapes and their attributes.

Read “Where’s My Teddy?” by Jez Alborough and/or “Is a Blue Whale the Biggest Thing There Is?” by Robert E. Wells to promote discussion about relative sizes.

Read and discuss “Pigs at Odds: Fun with Math and Games by Amy Axelrod to explore the fairness of flipping a coin and playing games at a carnival.

Literacy and Art: Read “Go, Away, Big Green Monster!” by Ed Emberley and have the children make monsters with unusual amount of body parts using geometric shapes cut from construction paper.

Music: Sing “Do your Ears Hang Low?” as a fun way to emphasize length.
Lead the children in singing and acting out “Old MacDonald Had a Farm” increasing the number of animals by one for each verse.
Art: Cut out numbers from sandpaper and glue them onto cards or write the numbers in glue than sprinkle with sand. Invite children to use crayons to make rubbings of the sandpaper numbers.
Cooking: Make bread, or modeling dough with children. Have the students count and measure with you and invite them to form numbers with the dough.
Dramatic Play: Put whiteboards/slates in a Dramatic Play Center and enoruage children to use them and incorporate numbers.

Integration of 21st Century Skills

Indicators:
9.1.4.G.1 : Describe how valuable items might be damaged or lost and ways to protect them.
* In the teaching of rules and procedures, students will learn the use of resources as tools for mathematics.
9.2.4.A.4 : Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career
success.
* As students develop problem solving skills it will assist them in working through difficult problems and require them to employ the strategies they learned.
9.3.12.AC-DES.2 : Use effective communication skills and strategies (listening, speaking, reading, writing and graphic
communications) to work with clients and colleagues.
* In partner talk, small group, and one to one work, students will develop necessary skills to communicate effectively.
9.3.12.ED.1 : Apply communication skills with students, parents and other groups to enhance learning and a commitment to learning.
* In the development of math routines the students will learn how to quantify and express their knowledge.
9.3.12.ED-ADM.1 : Use research-based practices to develop, communicate and enlist support for a vision of success for all learners.
* Everyday Mathematics is a researched based practice to support the learning of mathematics to a variety of students.
9.3.12.ED-ADM.2 : Identify behaviors necessary for developing and sustaining a positive learning culture.
* Students will work in partnerships within the classroom and in small groups as well as within whole group conversations that support a positive learning environment.
9.3.12.ED-PS.1 : Identify strategies, techniques and tools used to determine the needs of diverse learners.
* Resources can be used throughout small group, strategy group, and whole group lessons to support individual student needs.
9.3.12.ED-PS.2 : Implement methods to enhance learner success. * Teaching students where they are ad to identify if they need help will enable success in all learners and at various levels.
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Technology: Use computer games that provide practice with different math skills. Use the digital tools provided at connected.mcgraw-hill.com:
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Unit Title: Unit 4

Unit Description:

Throughout the Unit, children will practice more advanced oral counting, including counting on from numbers other than 1 and counting by 10s. The students work flexibly with parts and wholes as they combine and take apart numbers and shapes (composition and decomposition).

Unit Duration:14 lessons

Desired Results

Standard(s):
Standard(s): 2016 SLS: Mathematics
Kindergarten
Counting & Cardinality
K.CC.A. Know number names and the count sequence.
K.CC.A.1. Count to 100 by ones and by tens.
K.CC.A.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
K.CC.B. Count to tell the number of objects.
K.CC.B.4. Understand the relationship between numbers and quantities; connect counting to cardinality.
K.CC.B.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.B.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 were counted.
K.CC.B.4c. Understand that each successive number name refers to a quantity that is one larger.
K.CC.B.5. Count to answer “how many?” questions about 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.C. Compare numbers.
K.CC.C.6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.
K.CC.C.7. Compare two numbers between 1 and 10 presented as written numerals.
Measurement & Data
K.MD.A. Describe and compare measurable attributes.
K.MD.A.1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
K.MD.A.2. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference.
K.MD.B. Classify objects and count the number of objects in each category.
K.MD.B.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

Mathematical Practice
MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.
MP.1. Make sense of problems and persevere in solving them.

MP.2. Reason abstractly and quantitatively.

MP.3. Construct viable arguments and critique the reasoning of others.

MP.4. Model with mathematics.

MP.5. Use appropriate tools strategically.

MP.6. Attend to precision.

MP.8. Look for and express regularity in repeated reasoning

Indicators:

- I count to know number names and the count sequence.
- I count to tell the number of objects.
- I count to compare numbers.
- I classify objects and count the number of objects into categories to describe and compare them.
- I can determine the number of objects in a set when one object is added.

Understandings:

Students will understand that…

- I can orally count by ones from 1 to at least 50.
- I can count by 1s to at least 50 starting from numbers other than 1.
- I can compare numerals between 1 and 10 using resources such as the number line, counting, or modeling with counters.
- I can decompose numbers into pairs in more than one way concretely using objects, fingers, or drawings.
- I can describe the length of objects.
- I can directly compare objects by length.

Essential Questions:

- Why do I count?
- Why do I measure?
- How do I compare and describe objects?

Assessment Evidence

Performance Tasks:

Exploring Attribute Blocks:
- How did I sort the blocks? What was my sorting rule? Why do these blocks belong together? How are they alike? How are they different? How many blocks are in each group? (K.CC.5, K.CC.6, K.MD.1, K.G.2)

Identifying Attributes of Shapes:
- Why can we find the shapes even though we can't see their colors? Does color matter when finding a shape? What attributes are most helpful for finding shapes? (K.G.2, K.G.4)

Graphing Favorite Colors:
- How could we share with others what we learned about our favorite colors? How could we save this information so we could talk about it another day or compare it with another class? (K.CC.5, K.CC.6, K.MD.3)

Exploring Calculators:
- Why would we use a calculator? Why do we clear our calculators each time? (K.CC.3, K.CC.5)

Taking Ten Frame Quick Looks:
- What did you see? How did you see it? What strategy did you use? (K.OA.3, K.OA.4, K.OA.5)

Counting and Moving with Teens:
- What is the same about these numbers? How are they different from numbers 1 through 9? Why do you think they are called teen numbers? (K.CC.1, K.CC.3)

Building Hexagons:
- What are the different ways we can build shapes using pattern blocks? (K.G.1, K.G.2, K.G.6)

Decomposing Numbers:
- How are the stacks the same? How are they different? What did you notice? Do you see any patterns? (K.CC.3, K.CC.5, K.CC.6, K.OA.3)

Introducing the Pan Balance:
- How are the two objects the same? How are they different? Which feels heavier? Which feels lighter? (K.MD.1, K.MD.2)

Comparing Compacities:
- Which container is taller? Which is heavier? What can we say about how much they can hold? (K.MD.1, K.MD.2)

Counting by Tens:
- How can counting by 10s help us figure out how many we have? Why might we want to count by 10s instead of 1s? (K.CC.1, K.CC.2)

Playing Top-It with Number Cards:
- How do you know which number is greater? (K.CC.3, K.CC.7)

Exploring the Number-Grid Poster:
- Why do we use a number-grid? (K.CC.1, K.CC.2, K.CC.3)

Benchmarks:

Teacher Observation: Can the student identify and describe multiple attributes of objects and sort and classify them by those attributes? (K.MD.1, K.MD.3)

Teacher Observation: Can the student name shapes and describe and compare their attributes? (K.G.2, K.G.4)

Teacher Observation: Can the student count the number of squares for each color on the graph and compare the squares in two catergories to identify which color is more and less popular? (K.CC.5, K.CC.6, K.MD.3)

Teacher Observation: Can the student correctly identify, name and enter single-digit numbers on a calculator to represent quanities? (K.CC.3)

Teacher Observation: Can the student indentify the quantities on the ten frames without counting every dot? (K.OA.3)

Teacher Observation: Can the student orally count through 20? (K.CC.1, K.CC.3)

Teacher Observation: Can the student compose a hexagon from other shapes correctly? (K.G.2, K.G.6)

Teacher Observation: Can the student decompose their number in multiple ways and record their decompositions? (K.OA.3)

Teacher Observation: Can the student compare two or more objects weight? (K.MD.1, K.MD.2)

Teacher Observation: Can the student make and describe direct comparisons of length? (K.MD.1, K.MD.2)

Teacher Observation: Can the student count by 10s? (K.CC.1)

Teacher Observations: Can the student identify which number is greater for numbers 0-10 using the number line, counting, or counters? (K.CC.7)

Teacher Observations: Can the student count to at least 50? (K.CC.1, K.CC.2)

Learning Plan

Learning Activities:

4-1: Attribute Blocks (Attribute Collages: Activity Card 30)
4-2: Shapes by Feel (Matching Shapes by Feel: Activity Card 31)
4-3: Favorite Colors Graph
4-4: Meet the Calculator (Quick Looks on Calculators: Activity Card 32)
4-5: Ten Frame Quick Looks
4-6: Moving with Teens
4-7: Day 1-Open Response: Building Hexagons
4-7: Day 2-Re-exploring Open Response (Building Hexagons: Activity Card 33)
4-8: Building Numbers
4-9: Exploring Weight (Ordering Objects by Weight: Activity Card 34, Predicting and Testing Weight: Activity Card 35)
4-10: Exploring Capacity (Estimating Cupfuls: Activity Card 36, Comparing Capacities: Activity Card 37)
4-11- Counting by Tens
4-12: Top-It with Number Cards (Top-It with Number Cards: Activity Card 38)
4-13: Number-Grid Exploration

Resources: Teacher's Lesson Guide (Volume 1), eToolkit, Math Masters, Minute Math, Math at Home Books, Everyday Math Journal, Games, Tool Kit with Manipulatives, Class Number Line, Class Number Grid

Unit Modifications for Special Population Students	
Advanced Learners	• Expand the number of shapes in the Feely box to scaffold the acitivity (4-2) • Have the students work to create and solve problems using the calculators (4-4) • Hold up a number card and have the student find the card that is one more or less than that number (4-6) • Have the students weight more thasn object and compare them (4-9)
Struggling Learners	• Scaffold by suggesting a sorting rule and sorting a few blocks into each group (4-1)

	• Have a number line with dots available for reference when working with the calculator (4-4) • Work in small groups and have them look for and talk about patterns to help them remember (4-5) • Have the students focus on numbers 10-15 (4-6) • Dot the numbers to help the student write them (4-8) • Some children may benefit from have their own laminted Small Number Grid (4-13)
English Language Learners	• Preview the words thick, thin, large and small. (4-1) • Review shape names and terms that describe their attributes (4-2) • Introduce the meaning of favorite and model an example (4-3) • Preview the term quick and model examples (4-5) • Show the student the number card and state the number and have them repeat it. (4-6) • Use connecting cubes to introduce the word combination (4-8) • Introduce the word heavy and light and give examples (4-9) • Preview the meaning of hold and the concept of capacity and provide examples (4-10) • Use geastures, pictures and the number line to reinforce the terms more, less and greater (4-12)
Special Needs Learners	• Scaffold by suggesting a sorting rule and sorting a few blocks into each group (4-1) • Limit the number of shapes in the Feely box to scaffold the acitivity (4-2) • Have the students use cubes to make a concrete verision of a graph (4-3) • Have the students record dots on black ten frames rather than trying to remember them (4-5) • Dot the numbers to help the student write them (4-8) • Some children may benefit from have their own laminted Small Number Grid (4-13)

Interdisciplinary Connections

Indicators:
Literacy: Discuss attributes in “The Button Story” in Frog and Toad are Friends by Arnold Lobel
Read “Caps for Sale” by Esphyr Slobodkina and have the class make a bar graph that shows the number of hates of each color in the story.
Read “Meet the Teens” by Marcie Cooper and have the children count up to the number profiled on each page.
Read and discuss “One Hundred is Family” by Pam Munoz Ryan and review counting by 10s.
Read and discuss “More or Less” by Stuart J. Murphy
Read “How the Stars Fell into the Sky” by Jerrie Oughton and have the children compare the “order in the stars” with the order on the number grid.
Literacy and Art: Do Quick Looks with picture books or pictures of famous artwork. Show a picture for 3-5 seconds. Have the students describe things that noticed in the picture.
Dramatic Play: Place calculators in the Dramatic Play Center to have them practice using it
Science: Have the students cover up their calculators solar cells with their hand and see what happens. See if the students can figure out the connection between light and the apparence of the numbers on their calculators.
Put a pan balance in the Science Center and have children compare the weights of rocks, pine cones or other natural objects and record their findings with drawings.
Music: Sing “If You’re Wearing Red Today” and invite children to suggest one or more attributes to incorporate into the song
Art: Cut sponges into geometric shapes for children to use as stamps. Have them dip the sponge into paint and make patterns, pictures, other shapes.

Literacy and Cooking: Read a book with a recipe and cook the recipe as a class using measuring cups and spoons to compare and discuss the capacity for measures.

Integration of 21st Century Skills

Indicators:
9.1.4.G.1 : Describe how valuable items might be damaged or lost and ways to protect them.
* In the teaching of rules and procedures, students will learn the use of resources as tools for mathematics.
9.2.4.A.4 : Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career
success.
* As students develop problem solving skills it will assist them in working through difficult problems and require them to employ the strategies they learned.
9.3.12.AC-DES.2 : Use effective communication skills and strategies (listening, speaking, reading, writing and graphic
communications) to work with clients and colleagues.
* In partner talk, small group, and one to one work, students will develop necessary skills to communicate effectively.
9.3.12.ED.1 : Apply communication skills with students, parents and other groups to enhance learning and a commitment to learning.
* In the development of math routines the students will learn how to quantify and express their knowledge.
9.3.12.ED-ADM.1 : Use research-based practices to develop, communicate and enlist support for a vision of success for all learners.
* Everyday Mathematics is a researched based practice to support the learning of mathematics to a variety of students.
9.3.12.ED-ADM.2 : Identify behaviors necessary for developing and sustaining a positive learning culture.
* Students will work in partnerships within the classroom and in small groups as well as within whole group conversations that support a positive learning environment.
9.3.12.ED-PS.1 : Identify strategies, techniques and tools used to determine the needs of diverse learners.
* Resources can be used throughout small group, strategy group, and whole group lessons to support individual student needs.
9.3.12.ED-PS.2 : Implement methods to enhance learner success. * Teaching students where they are ad to identify if they need help will enable success in all learners and at various levels.
9.3.12.ED-PS.3 : Identify resources and support services to meet learners' needs. * Resources and methods can be used in the instruction of students on a one to one or small group basis.

Technology: Use computer games that provide practice with different math skills. Use the digital tools provided at connected.mcgraw-hill.com:
-Student Learning Center
-eToolkit
-Home Connection

Unit Title: Unit 5

Unit Description: In this unit the students begin to build an understanding of place value by focusing on the teen numbers (10-19). They explore addition as they find the sums of two dice, determine how many more bear counters are needed to reach 10 and model parts-and-total and change-to-more number stories with counters. The students also learn to represent addition symbolically using the plus and equal symbols. They apply and refine their understanding of 2-dimensional shape catergories by looking for shapes in pictures and in objects in the environment.

Unit Duration: 14 Lessons

Desired Results

Standard(s):

2016 SLS: Mathematics
Kindergarten
Counting & Cardinality
K.CC.A. Know number names and the count sequence.
K.CC.A.1. Count to 100 by ones and by tens.
K.CC.A.2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
K.CC.A.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
K.CC.B. Count to tell the number of objects.
K.CC.B.4. Understand the relationship between numbers and quantities; connect counting to cardinality.
K.CC.B.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.B.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 were counted.
K.CC.B.4c. Understand that each successive number name refers to a quantity that is one larger.
K.CC.B.5. Count to answer “how many?” questions about 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.C. Compare numbers.
K.CC.C.6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.
Operations & Algebraic Thinking
K.OA.A. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.
K.OA.A.1. Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
K.OA.A.2. Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
K.OA.A.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 a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).
K.OA.A.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.A.5. Demonstrate fluency for addition and subtraction within 5.
Number & Operations in Base Ten
K.NBT.A. Work with numbers 11-19 to gain foundations for place value.
K.NBT.A.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.
Measurement & Data

K.MD.A. Describe and compare measurable attributes.
K.MD.A.1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
Mathematical Practice
MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.
MP.1. Make sense of problems and persevere in solving them.
MP.2. Reason abstractly and quantitatively.
MP.3. Construct viable arguments and critique the reasoning of others.

MP.4. Model with mathematics.
MP.6. Attend to precision.
MP.7. Look for and make use of structure.
MP.8. Look for and express regularity in repeated reasoning.

Indicators:

- I count to know number names and the count sequence.
- I count to tell the number of objects.
- I count to compare numbers.
- Addition is putting together and adding to, and subtraction is taking apart and taking from.
- I classify objects and count the number of objects into categories to describe and compare them

Understandings:

Students will understand that…

- I can read and write numbers from 0 to 20 and represent at least 10 objects with a numeral
- I can solve simple number stories and problems involving addition and subtraction using objects, drawings or other strategies.
- I can find the number that makes 10 when added to a given number, using a ten frame for support
- I can compose and decompose numbers 11-19 into tens and ones and some further ones, using a double ten frame for support.
- I can describe objects in the environment using names of 2-dimensional shapes, and understand ,amu ter,s fr relative positions of objects.
- I can model familiar shapes by drawing.

Essential Questions:

- Why do I count?
- How do I add and subtract?
- How do I describe and compare objects?

Assessment Evidence

Performance Tasks:

Celebrating the 100th Day**:**

- How are our 100th day collections the same? How are they different? (K.CC.1, K.CC.5, K.MD.1, K.MD.2)

Playing Roll and Record with Dot Dice:

Solving the Open Response Problem: Seats at the Party

- How can you prove your answer? What strategies did you use? (K.CC.6, K.CC.7, K.OA.1, K.OA.2)

Playing Teens on Double Ten Frames

- Which one is greater than? Less than? Which one is equal to? (K.CC.3, K.CC.5, K.CC.6, K.CC.7, K.NBT.1)

- How many ways are there to roll a certain number? Which number did you roll the most of? (K.CC.3, K.CC.5, K.OA.2, K.OA.3)

Playing Ten Bears on a Bus:
- How can we figure out how many bears of red and yellow must get on the bus to fill all 10 seats? How do you know? (K.CC.5, K.OA.1, K.OA.3, K.OA.4)

Finding and Drawing Shapes:
- What shape do you see? What object does it represent? Where is the shape? (K.G.1, K.G.2, K.G.4, K.G.5)

Looking for Shapes:
- What shapes do you see? Are they all the same size? (K.G.1, K.G.2)

Representing Teen Numbers:
- What number comes next? Do you notice anything about these numbers and how they are the same and different to our other numbers? (K.CC.3, K.CC.5, K.NBT.1)

Introducing the Equal Symbol
- Are the equal? How do we know? Can we use a equal sign? (K.CC.5, K.CC.6, K.OA.3)

Using the Addition Symbol
- What does putting together or adding to mean? (K.OA.1, K.OA.2)

Playing Growing Train
- How many cars do I have now? How do you know? (K.CC.2, K.CC.5, K.OA.1, K.OA.2)

Making Number Scrolls
- What number patterns do you see? What do you notice? (K.CC.1, K.CC.2, K.CC.3)

Combining and Creating Shapes
- Is there more than one way to build a shape? Can you use different shapes to make one big shape? (K.G.1, K.G.2, K.G.4, K.G.6)

Benchmarks:

Teacher Observation:

Can the student count out groups of 10? (K.CC.1, K.CC.5)

Can the student find the total number of dots on two dice and record the sums on their grids with numerals as they play Roll and Record with Dot Dice? (K.CC.3, K.OA.2)

Can the student count out the number of bears to place on the ten frame based on the number cards? (K.CC.5, K.OA.4)

Can the student identify and name circles, triangles, rectangles and squares in the environment? (K.G.1, K.G.2, K.G.5)

Can the student identify 2-dimensional shapes in the environment? (K.G.1, K.G.2)

Can the student recognize and name numbers from 10 through 19? (K.CC.3, K.NBT.1)

Can the student use comparision strategies (groups or numerals) or possible addition or subtraction? (K.CC.6, K.CC.7)

Can the student read numbers 10-20? (K.CC.3, K.CC.5, K.NBT.1)

Can the student create and recognize equal quanitites and representations? (K.CC.6)

Can the student model and solve number stories concretely using counters? (K.OA.1, K.OA.2)

Can the student count out and add the appropriate number of cubes to their trains to represent addition? (K.CC.5, K.OA.1)

Can the student write numbers correctly from 1-20? (K.CC.1, K.CC.2, K.CC.3)

Can the student correctly name triangles, squares and rectangles regardless of their size, proportions or orientation? (K.G.2, K.G.6)

Learning Plan

Learning Activities:

5-1: The 100th Day of School
5-2: Roll and Record with Dot Dice (Roll and Record with Dot Dice: Activity Card 39)
5-3: Ten Bears on a Bus (Ten Bears on a Bus: Activity Card 40)
5-4: Find and Draw Shapes
5-5: Shapes All Around (Matching Shapes by Feel: Activity Card 31)
5-6: Teen Partners (Making Tens and Ones: Activitiy Card 41)
5-7: Open Response: Seats at the Party
5-7: Day 2: Open Response
5-8: Teens on Double Ten Frames (Teens on Double Ten Frames: Activity Card 42)
5-9: The Equal Symbol (=)
5-10: The Addition Symbol (+) (Telling "Adding" Number Stories: Activity Card 43)
5-11: Growing Train (Racing Two Trains: Activity Card 44, Growing Train: Activity Card 45)
5-12: Number Scrolls (Number Scrolling Beyond 100: Activity Card 46)
5-13: Shape Combinations (Shape- Card Puzzles: Activity Card 48)

Resources: Teacher's Lesson Guide (Volume 1), eToolkit, Math Masters, Minute Math, Math at Home Books, Everyday Math Journal, Games, Tool Kit with Manipulatives, Class Number Line, Class Number Grid

Unit Modifications for Special Population Students	
Advanced Learners	• Ask student to find as many ways as possible to make equal groups within their collections (Lesson 5-1) • Have the students make predictions about what combination they think they are going to roll (Lesson 5-2) • Have the students play “Ten Bears on a Bus” without a Ten Frame (Lesson 5-3) • Have students use double ten frames to create as many different representations as they can for the same number. (Lesson 5-8) • Write out addition problems using the + and = sign and have the students solve them (Lesson 5-10) • Students who excel at the game Growing Train should record their turns with number sentences from the beginning of the game (Lesson 5-11)
Struggling Learners	• Students who need support counting a 100 collection can use a Small Number Grid (Lesson 5-1) • To provide additional practice with representing teen numbers have children continue to work with a partner to show a number between 10 and 19 as “10 and some more fingers”. (Lesson 5-6) • Use multiple manipulatives to express different equal sets. Have the students make their own equal sets. (Lesson 5-9) • To help children attend to the act of putting together or adding groups have them use counters to represent the numbers. (Lesson 5-10) • For the game, Growing Train, have the students play the game to 10 instead of 20. (Lesson 5-11) • For students who struggle with making Number Scrolls color or shade alternate rows on the grid to help them keep their place (Lesson 5-12) • To provide more scaffolded practice with combining shapes have students combine pattern blocks to complete pattern block puzzles. (Lesson 5-13)
English Language Learners	• Introduce the word collection and show examples (Lesson 5-1) • Show the students a picture of a bus with seats and use phrases such as ”filled seats” and “empty seats” by modeling with the bears. (Lesson 5-3) • Provide oral language practice for the teen numbers by modeling the name and having the student repeat it (lesson 5-6) • Provide pictures that illustrate greater than, less than and equal to (Lesson 5-8) • Preview the word equal and model different equal amounts. (Lesson 5-9) • Use number cards to have students practice putting the numbers in order (Lesson 5-12) • Introduce the terms rotate and combine before teaching the lesson Shape Combinations (5-13)
Special Needs Learners	• Students may benefit from having a game board designed as a bus with seats for visualization for the game “Ten Bears on a Bus”. (Lesson 5-3) • Have the students practice with the teen numbers by playing different re-enforcment games. • To prepare students to represent larger numbers on double ten frames begin with representing numbers 0-10 on blank ten frames and having them add counters to make the teen number. (Lesson 5-8) • To help children attend to the act of putting together or adding groups have them use counters to represent the numbers. (Lesson 5-10) • For students who struggle to write numbers provide them with dotted numbers for the Modified Number Scroll from the Math Masters (Lesson 5-12)

Interdisciplinary Connections

Indicators:

Art: students can put 100 stickers on paper strips to make 100th day headbands

Have students create "shape scenes" using geometric shapes. Have them combine shapes to create objects in their scenes then draw to complete the details.

Have children use paper strips in two colors to create chains with 10 to 19 links. They should use one color for the first 10 links and a second color to continue the chain. Label each chain with the total number of links and hang them around the classroom.

Writing: students can make a page in the class book titled "When I am 100 years old" or "If I had a 100___"

Literacy: take photos of the shapes the students identify during the shape walk to complie into a book. Have the students write captions for the picture.

Read "Bunny Party" by Rosemary Wells before Lesson 5-7 Day 2 before Re-engaging in the Problem

Read and Discuss "Equal Shmequal" by Virginia L. Kroll

Read and Discuss "Mouse Shapes" by Ellen Stoll Walsh

Read and Discuss "Shape by Shape" by Suse MacDonald

Music and Literacy: Use the addition symbol and children or stuffed animals to act out the verses as you sing "Two Little Chickens".

Art and Literacy: Students can combine and trace pattern blocks to create pattern block creatures and tell a story about them.

Integration of 21st Century Skills

Indicators:

9.1.4.G.1 : Describe how valuable items might be damaged or lost and ways to protect them.

* In the teaching of rules and procedures, students will learn the use of resources as tools for mathematics.

9.2.4.A.4 : Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career
success.

* As students develop problem solving skills it will assist them in working through difficult problems and require them to employ the strategies they learned.

9.3.12.AC-DES.2 : Use effective communication skills and strategies (listening, speaking, reading, writing and graphic
communications) to work with clients and colleagues.

* In partner talk, small group, and one to one work, students will develop necessary skills to communicate effectively.

9.3.12.ED.1 : Apply communication skills with students, parents and other groups to enhance learning and a commitment to learning.

* In the development of math routines the students will learn how to quantify and express their knowledge.

9.3.12.ED-ADM.1 : Use research-based practices to develop, communicate and enlist support for a vision of success for all learners.

* Everyday Mathematics is a researched based practice to support the learning of mathematics to a variety of students.

9.3.12.ED-ADM.2 : Identify behaviors necessary for developing and sustaining a positive learning culture.

* Students will work in partnerships within the classroom and in small groups as well as within whole group conversations that support a positive learning environment.

9.3.12.ED-PS.1 : Identify strategies, techniques and tools used to determine the needs of diverse learners.

* Resources can be used throughout small group, strategy group, and whole group lessons to support individual student needs.

9.3.12.ED-PS.2 : Implement methods to enhance learner success. * Teaching students where they are ad to identify if they need help will enable success in all learners and at various levels.

9.3.12.ED-PS.3 : Identify resources and support services to meet learners' needs. * Resources and methods can be used in the instruction of students on a one to one or small group basis.

Technology: Use computer games that provide practice with different math skills. Use the digital tools provided at connected.mcgraw-hill.com:
-Student Learning Center
-eToolkit
-Home Connection

Unit Title: Unit 6

Unit Description: In this Unit, students are introduced to 3-dimensional shapes and learn to name, analyze, compare and model the shapes. They also continue to compare objects based on measurable attributes such as length, weight, and capacity and are introduced to pan balences to find objects that are equal in weight.

Unit Duration: 14 Lessons

Desired Results

Standard(s):
Kindergarten
Counting & Cardinality
K.CC.A. Know number names and the count sequence.
K.CC.A.1. Count to 100 by ones and by tens.
K.CC.A.2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
K.CC.B. Count to tell the number of objects.
K.CC.B.4. Understand the relationship between numbers and quantities; connect counting to cardinality.
K.CC.B.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.B.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 were counted.
K.CC.B.4c. Understand that each successive number name refers to a quantity that is one larger.
K.CC.B.5. Count to answer “how many?” questions about 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.
Geometry
K.G.A. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).
K.G.A.1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.
K.G.A.2. Correctly name shapes regardless of their orientations or overall size.
K.G.A.3. Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).
K.G.B. Analyze, compare, create, and compose shapes.
K.G.B.4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).
K.G.B.5. Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
K.G.B.6. Compose simple shapes to form larger shapes.

Mathematical Practice
MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.
MP.1. Make sense of problems and persevere in solving them.

MP.2. Reason abstractly and quantitatively.

MP.5. Use appropriate tools strategically.

MP.6. Attend to precision.

MP.7. Look for and make use of structure.

Indicators:

- I count to know number names and the count sequence.
- I count to tell the number of objects.
- I count to compare numbers.
- I describe and compare measurable attributes of shapes to identify and describe them.

Understandings:

Students will understand that…

- I can read and write numbers from at least 0 to 20 and represent sets with numerals.
- I can represent addition and subtraction concretely and verbally.
- I can compare onbjects by length and by weight and describe the difference using terms such as lighter, heavier, shorter and longer.
- I can classify objects into given catergories; count the number of objects in each catergory and sort the catergories by count.
- I can correctly name a variety of 2-dimensional shapes (circles, triangles, rectangles, squares, hexagons, and others) and some 3-dimensional shapes regardless of their orientations or overall size.

Essential Questions:

- Why do I count?
- How do I add and subtract?
- How do I describe and compare objects?

Assessment Evidence

Performance Tasks:

Comparing Body Heights to Objects:

- Which one is longer? How do you know? (K.MD.1, K.MD.2)

Ordering Straws by Length:

- How did you decide which straw was longer? Shorter? Longest? Shortest? (K.MD.1, K.MD.2)

Graphing Types of Pets:

- What does the graph tell us? How do you know? (K.CC.5, K.CC.6, K.MD.3)

Creating a Solid-Shapes Museum

- What do you notice about the shapes of these items? How are they alike? Different? (K.G.1, K.G.2, K.G.3, K.G.4)

Comparing Flat and Solid Shapes

Solving the Open Response Problem: Tall Enough to Ride?

- How do you know if someone is tall enough to ride? Why? (K.MD.1, K.MD.2)

Using the Subraction Symbol:

- How do you know we need to take away something in the number story? What words help us to figure out it is a take away problem? (K.OA.1, K.OA.2)

Playing Disappearing Train:

- What will happen to the length of the train when you play? How do you know? (K.CC.6, K.CC.7, K.OA.1, K.OA.2)

Playing Attribute Spinner:

- What attributes are we looking for? How do you know? (K.MD.1, K.MD.2, K.G.2, K.G.4)

• How are these shapes alike? Different? (K.G.1, K.G.2, K.G.3, K.G.4) Playing "What's My Rule?" Fishing • What sort of fish am I fishing for? What's my fishing rule? (K.CC.5, K.CC.6, K.MD.3)	Playing Hiding Bears: • How many bears are hiding in the cave? (K.CC.5, K.OA.1, K.OA.3, K.OA.4) Playing Growing and Disappearing Train: • What will happen if we roll a plus symbol? What will happen if we roll a minus symbol? How do you know? (K.CC.3, K.CC.6, K.OA.1, K.OA.2) Relating Symbols to Number Stories: • How can you tell if it is a addition or subtraction number story? (K.OA.1, K.OA.2)

Benchmarks: Teacher Observation

Can the student compare the length of two objects and describe the difference using compasrion language? (K.MD.2)

Can the student directly compare at least two objects by length and use the terms longer and shorter correctly? (K.MD.2)

Can the student classify the cards by type of pet, count them and order the number of children with each type of pet? (K.CC.6, K.MD.3)

Can the student describe and compare objects they add to their solid shapes museum? (K.G.2, K.G.4)

Can the student identify shapes as 2 or 3 dimensional? (K.G.3)

Can the student identify and apply sorting rules? (K.MD.3)

Can the student model and solve take-away number stories concretely using counters? (K.OA.1, K.OA.2)

Does the student understand the subtraction symbol and what it means? (K.CC.6, K.CC.7, K.OA.1)

Can the student describe multiple attributes of the blocks? Can they identify attribute blocks correctly using at least three attribute spinners? (K.MD.1)

Can the student find combinations that add to 10 using concrete strategies such as counting on, using their fingers or a ten frame? (K.OA.4)

Can the student use the symbol and numeral dice to correctly modify their trains to represent addition an subtraction? (K.CC.3, K.OA.1)

Can the student represent and solve simple addition and subtraction number stories correctly? (K.OA.1, K.OA.2)

Learning Plan

Learning Activities:

6-1: Body Heights with String (Sorting by Longer or Shorter: Activity Card 22)
6-2: Length Line Up
6-3: Types of Pets Graph
6-4: Solid-Shapes Museum
6-5: Flat and Solid Shapes (Stamping with 3D Shapes: Activity Card 49)
6-6: "What's My Rule" Fishing (Fishing for Attribute Blocks: Activity Card 50)
6-7: Open Response: Tall Enough to Ride?
6-7: Day 2: Open Response (Measuring with Stick-On Notes: Activity Card 51)
6-8: The Subtraction Symbol (Telling Take-Away Number Stories: Activity Card 52)
6-9: Disappearing Train (Disappearing Train: Activity Card 54, Two Disappearing Trains: Activity Card 53)

6-10: Attribute Spinner (Attribute Trains: Activity Card 55, Attribute Spinner: Activity Card 56)
6-11: Hiding Bears (Hiding Bears: Activity Card 57)
6-12: Growing and Disappearing Train (Growing and Disappearing Train: Activity Card 58)
6-13: Number Stories with Symbols (+,- and =) (Number Stories from Number Sentences: Activity Card 59, Making Number Stories: Activity Card 16)

Resources: Resources: Teacher's Lesson Guide (Volume 2), eToolkit, Math Masters, Minute Math, Math at Home Books, Everyday Math Journal, Games, Tool Kit with Manipulatives, Class Number Line, Class Number Grid

Unit Modifications for Special Population Students	
Advanced Learners	• For students who are ready to measure by other methods teach them about measuring with their finger, hand, hand span and arm span. (Lesson 6-1) • Challenge student in Length Line Up by providing more straw pieces or straw pieces that differ in length by less than one inch. (Lesson 6-2) • Students who are more advanced can take their own data for the graph by providing them with the types of pets survey worksheet (Lesson 6-3) • Students can play "Guess My Shape" with a partner or small group (Lesson 6-4) • Add complexity to the game "What's My Rule?" by using two rules simultaneously (Lesson 6-6) • Students who are ready to record their turns as number sentences can during indepdent practice (Lesson 6-9) • Have students write number sentences for their turns for playing Growing and Disappearing Train (Lesson 6-12)
Struggling Learners	• For children who struggle to compare lengths, have them order 3 straws and use straws with length differences that are greater than an inch. (Lesson 6-2) • Play "Stand Up If…" with shapes for extra practice (lesson 6-3) • Simplify the game by using more obvious rules (Lesson 6-6) • For students who have difficulty with larger numbers can play "Disappearing Trains" with just the 1-10 portion of the gameboard (Lesson 6-9) • Provide a Blank Ten Frame for children who need help organizing bears and may benefit from counting empty squares to determine the number of hiding bears. (Lesson 6-11) • If students require more time with concrete addition and subtraction, they can wait to record turns until the next time they play Growing and Disappearing Train. (Lesson 6-12)
English Language Learners	• Model and explain the terms long and tall as they relate to direction of measure (Lesson 6-1) • Model length comparisons (long, longer, longest, short, shorter and shortest using classroom objects) (Lesson 6-2) • Introduce the word pet and specific pet names (dog, Cat, fish) and by showing them pictures of common pets (Lesson 6-3) • Use photographs to previes vocabulary needed about amusement parks and rides. (lesson 6-7) • Show students physical examples or pictures of the objects described in the number stories. (Lesson 6-8) • Preview and practice the term "hiding". (Lesson 6-11) • Use pictures to accompany verbal number stories. (Lesson 6-13)
Special Needs Learners	• Put a horizontal strip of masking tape on the table to use to keep the straws in place. Model how to align the ends of each straw with the top edge of the tape. (Lesson 6-2)

	• Provide extra practice with 2 and 3 dimensional shapes by having the students do Activity Card 49 (Stamping with 3-D Shapes) (Lesson 6-5) • To provide extra practice have the students play “Sorting Collections” and “Fishing for Attribute Blocks” to reinforce using rules to sort and create catergories. (Lesson 6-6) • Have the students act out a few “taking away” situations using their bodies or counters (Lesson 6-8) • If students are not able to work with three attributes at the same time have them start playing with two spinners and add a third when they are ready. (Lesson 6-10) • Practice with students in a whole group playing Growing and Disappearing Train by having the students be the “train”. (Lesson 6-12)

Interdisciplinary Connections

Indicators:
Blocks: Provide string for children to measure and record the heights of their block buildings

Literacy: Read “Tall” by Jez Alborough and discuss whether the chimpanzee’s actual height changes when he is lifted up by the other animals.
Make a class book with the student’s shape stamps and photographs of the objects used to make them. Have them write or dictate captions using geometric terms.
Students can make a Hiding Bears class book and on each page tape a flap to the cave.
Read and discuss “I Love Trains!” by Philemon Sturges or “This Train” by Paul Collicut.
Read “Blueberries for Sal” by Robert McCloskey and discuss when blueberries are being added to or subtracted from Sal and her mother’s buckets.

Literacy and Music: Read and sing “Five Little Ducks” by Raffi and have the students act out the verses.

Snack: Serve carrot or pretzel sticks as a snack and invite children to nibble their sticks to different lengths and then order them from shortest to longest.

Dramatic Play: Give the students $20 in play money and have them play store with items marked as $1, $2 and $3.

Sensory Table: Students can use 10 bears to play Hiding Bears in the sensory table with sand or rice.

Indicators:
9.1.4.G.1 : Describe how valuable items might be damaged or lost and ways to protect them.
* In the teaching of rules and procedures, students will learn the use of resources as tools for mathematics.
9.2.4.A.4 : Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career
success.
* As students develop problem solving skills it will assist them in working through difficult problems and require them to employ the strategies they learned.
9.3.12.AC-DES.2 : Use effective communication skills and strategies (listening, speaking, reading, writing and graphic
communications) to work with clients and colleagues.
* In partner talk, small group, and one to one work, students will develop necessary skills to communicate effectively.
9.3.12.ED.1 : Apply communication skills with students, parents and other groups to enhance learning and a commitment to learning.
* In the development of math routines the students will learn how to quantify and express their knowledge.

9.3.12.ED-ADM.1 : Use research-based practices to develop, communicate and enlist support for a vision of success for all learners.
* Everyday Mathematics is a researched based practice to support the learning of mathematics to a variety of students.
9.3.12.ED-ADM.2 : Identify behaviors necessary for developing and sustaining a positive learning culture.
* Students will work in partnerships within the classroom and in small groups as well as within whole group conversations that support a positive learning environment.
9.3.12.ED-PS.1 : Identify strategies, techniques and tools used to determine the needs of diverse learners.
* Resources can be used throughout small group, strategy group, and whole group lessons to support individual student needs.
9.3.12.ED-PS.2 : Implement methods to enhance learner success. * Teaching students where they are ad to identify if they need help will enable success in all learners and at various levels.
9.3.12.ED-PS.3 : Identify resources and support services to meet learners' needs. * Resources and methods can be used in the instruction of students on a one to one or small group basis.

Technology: Use computer games that provide practice with different math skills. Use the digital tools provided at connected.mcgraw-hill.com:
-Student Learning Center
-eToolkit
-Home Connection

Unit Title: Unit 7

Unit Description: In this unit, students connect their understanding of subtraction and addition to specific strategies such as counting on or back from a starting number and noticing patterns such as the one more and one less patterns for +1 and -1. Students expand their developing number sense to include larger teen numbers and practice estimating the number of objects in sets.

Unit Duration: 14 Lessons

Desired Results

Standard(s):

Kindergarten

Counting & Cardinality

K.CC.A. Know number names and the count sequence.

K.CC.A.1. Count to 100 by ones and by tens.

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

K.CC.B. Count to tell the number of objects.

K.CC.B.4. Understand the relationship between numbers and quantities; connect counting to cardinality.

K.CC.B.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.B.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 were counted.

K.CC.B.4c. Understand that each successive number name refers to a quantity that is one larger.

K.CC.B.5. Count to answer “how many?” questions about 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.

Geometry

K.G.A. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

K.G.A.1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

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

K.G.A.3. Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).

K.G.B. Analyze, compare, create, and compose shapes.

K.G.B.4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).

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

K.G.B.6. Compose simple shapes to form larger shapes.

Mathematical Practice

MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

MP.1. Make sense of problems and persevere in solving them.

MP.2. Reason abstractly and quantitatively.

MP.5. Use appropriate tools strategically.

MP.6. Attend to precision.

MP.7. Look for and make use of structure.

Indicators:

- I count to know number names and the count sequence.
- I count to tell the number of objects.
- I count to compare numbers.
- I describe and compare measurable attributes of shapes to identify and describe them.

Understandings:
Students will understand that…

- I can count as many as 20 things arranged in a line, a rectanglar array, or a circle, or as many as 10 things in a scattered cnfiguration; and count out sets of between 1 and 20 objects.
- I can identify whether the number of objects in one group is greater than, less than or equal to the number of objects in another group.
- I can solve addition and subtraction word problems and add and subtract within 10.
- I can decompose numbers 10 or lower into pairs in more than one way and record each decomposition with a drawing or equation.
- I can identify shapes as two-or three-dimensional.

Essential Questions:

- Why do I count?
- How do I add and subtract?
- How do I describe and compare objects?

Assessment Evidence

Performance Tasks:

Hopping on the Number Line:

- When we add, why do we count hops and not count the starting number? How can the number line help us add and subtract? (K.CC.2, K.OA.1, K.OA.2)

Decomposing Dominoes:

- How many dots are on this domino all together? How are these two dominoes the same? How are they different? (K.CC.3, K.OA.1, K.OA.2, K.OA.3, K.MD.3)

Comparing Teen Collections:

- Which collection has more objects? Which has fewer objects? How do you know? (K.CC.3, K.CC.5, K.CC.6, K.NBT.1)

Playing Solid Shape Match Up:

Rengaging in the Problem:
-How did you make your graph? What did you need? (K.CC.5, K.CC.6, K.MD.3)

Making Estimates:
-Do you think the estimation jar has a greater number of objects than the reference jar or fewer objects? (K.CC.1, K.CC.3, K.CC.5, K.CC.6, K.CC.7)

Exploring Number Combinations:
-How did you know how many beads? (K.CC.5, K.OA.1, K.OA.3)

Creating Number Stories:
-What is unknown in the number story? How do we find it out? (K.OA.1, K.OA.2)

Collecting Objects:
-How do we know how many objects? (K.CC.1, K.CC.2, K.CC.3, K.CC.5)

Playing Dice Addition:

• How is this photo similar to this real object? How is it differenet? (K.G.1, K.G.2, K.G.3, K.G.4) Counting with Calculators: • Why do you think +1 works for counting forward by 1s? (K.CC.1, K.CC.2) Balencing Objects with Clay: • How is weight different from length or height? Can you think of something that is very heavy? Can you think of something that is very light? (K.MD.1, K.MD.2) Solving the Open Response Problem: Representing Survey Data: • What does the graph tell us? How do you know? (K.CC.5, K.CC.6, K.MD.3)	• How did you know what numbers to add? (K.CC.7, K.OA.1, K.OA.2, K.OA.5) Playing Mystery Block: • What rule were you following? How did you decide what question to ask? (K.MD.1, K.MD.3,K.G.2, K.G.4)

Benchmarks: Teacher Observations

Is the student able to interpret the + and – symbols? (K.CC.2, K.OA.1, K.OA.2)

Is the student able to find the total number of dots on the dominoes and match them to the correct numeral? (K.CC.3, K.OA.1, K.OA.2)

Can the student read numbers 10-19, count and count out tha many objects and represent that collection with a numeral? (K.CC.3, K.CC.5, K.NBT.1)

Is the student able to differentiate between 2- and 3-dimensional shapes? (K.G.2, K.G.3, K.G.4)

Can the student count by 1s, 10s and to at least 80? (K.CC.1, K.CC.2)

Can the student correctly use the pan balance to compare the weights of objects and compare them using mathematical language? (K.MD.1, K.MD.2)

Can the student classify, count and compare their survey results? (K.CC.5, K.CC.6, K.MD.3)

Can the student compare the amounts in the reference and estimation jars as greater than, less than or equal to one another? Can they compare their written estimates with the actual number and describe them as much too high, much too low or pretty close? (K.CC.6, K.CC.7)

Can the student find at least four different combinations for their number and record them with a drawing and a number sentence? (K.OA.3)

Can the student represent their number stories with pictures, numbers and symbols? Can the students solve each others number stories? (K.OA.1, K.OA.2)

Can the student count and count out at least 20 objects in a collection without support? (K.CC.5)

Can the student add numbers on a dice and decide which number is greater? (K.CC.7, K.OA.2, K.OA.5)

Can the student decribe an attribute block using multiple attributes (size, thickness, color and shape)? (K.MD.1, K.G.2)

Learning Plan

Learning Activities:
7-1: Number Line Addition and Subtraction
7-2: Domino Addition
7-3: Teen Collections
7-4: Solid Shapes Match Up
7-5: Count and Skips with Calculators
7-6: Pan Balance: Leveling
7-7: Open Response: Representing Survey Data
7-8: Estimation Jar
7-9: Bead Combinations
7-10: Class Number-Story Book
7-11: Class Collection
7-12: Dice Addition
7-13: Mystery Block

Resources: Teacher's Lesson Guide (Volume 2), eToolkit, Math Masters, Minute Math, Math at Home Books, Everyday Math Journal, Games, Tool Kit with Manipulatives, Class Number Line, Class Number Grid

Unit Modifications for Special Population Students

Advanced Learners	• For a more challenging version of the game "Hopping on the Number Line" have the student include numbers 1-6 on the numeral di. (Lesson 7-1) • To challenge students who can easily compare teen number collections, have them determine how many more and how many fewer are in each collection and how many all together if both collections are combined. (Lesson 7-3) • For Exploring Number Combinations use more beads for children who need an advanced activity. (lesson 7-9) • For students who are comfortable modeling one-step number stories can work alone or together to make a book of number stories with more than one step. (Lesson 7-10) • Challenge students who seem ready to group and count the class collection by 5s or 2s by giving them a number grid for them to color the numbers in each counting pattern. (Lesson 7-11) • Students who are read for a more difficult version of "Dice Addition" can play with two standard dot dice. (Lesson 7-12) • Challenge students in the game "Mystery Block" by limiting the number of questions they may ask before guessing the mystery block. (Lesson 7-13)
Struggling Learners	• Watch for children who count the number they start on rather than the number of hopes forward or back. Help them keep track of hops with their fingers. (Lesson 7-1) • If students need support counting out their collections have them mark their number on a Small Number Grid and put one object in each space until they reach the target number. (Lesson 7-3) • Play Simon Says with the parts of the calculator to help them become familiar with the parts and names of the parts of the calculator. (Lesson 7-5) • Provide extra practice by having the students play Balencing Objects with Clay (Activity Card 66) (lesson 7-6)

	• For the Open Response Problem, partner those students who are having a difficult time with graphing their survey data with a student who is an expert in it or pull them into a small group and complete the activity with support. (Lesson 7-7) • To practice quanitiy comparisons have the students compare the number of identical objects in same-size bags and decide based on appearance which bag has more and which has fewer. (Lesson 7-8) • For Exploring Number Combinations use fewer beads for children who need a modified activity. (lesson 7-9) • If students struggle with writing a number story give them the number frame of _____+_____=_____. (Lesson 7-10) • Scaffold the game "Dice Addition" by providing counters to model the addition problems for students who are not ready. (Lesson 7-12) • Scaffold the game "Mystery Block" by providing an illustrated word bank for students who have trouble remembering the different attributes. (Lesson 7-13)
English Language Learners	• Introduce the singular and plural terms dice and di. Say them with numbers so children hear and practice saying 1 di but two or more dice.(Lesson 7-1) • Introduce the term domino and show them a domino and have them repeat the term. (Lesson 7-2) • Use unequal sets of objects to demonstrate comparison terms such as more, greater, fewer and less. (lesson 7-3) • Gesture while describing 3-dimensional objects to help students understand terms such as round, vertices, faces and sides. (Lesson 7-4) • Play Simon Says with the parts of the calculator to help them become familiar with the parts and names of the parts of the calculator. (Lesson 7-5) • Model and review the terms heavier, lighter and the same weight. (Lesson 7-6) • Contrast terms such as wild guess and smart guess to introduce the term estimation. Have them practice using the terms. (Lesson 7-8) • Introduce the word loop by showing that is it something that goes around. Invite students to make loops with their hands. (Lesson 7-9) • Introduce and model the term mystery before lesson 7-13.
Special Needs Learners	• Have the students play Quick Look with the cards to help the students recognize and work with dot patterns. (Lesson 7-2) • To provide additional practice with composing and decomposing numbers have the students play Teen Number Stacks (Activity Card 63) (Lesson 7-3) • Students may struggle to grasp that images of objects can be 2-dimensional even though the items they represent are 3-dimensional. Provide additional practice with this skill. (Lesson 7-4) • Play Simon Says with the parts of the calculator to help them become familiar with the parts and names of the parts of the calculator. (Lesson 7-5) • For the Open Response Problem, partner those students who are having a difficult time with graphing their survey data with a student who is an expert in it or pull them into a small group and complete the activity with support. (Lesson 7-7) • If students struggle to make up a number story, help them to think about contexts where things can be joined, taken apart, or changed. They may find it easier to write a number model first then to think of a story that goes along with that. (Lesson 7-10)

Interdisciplinary Connections

Indicators:
Outdoors: Have the students play hopscotch and have them predict where they will land and count hops between numbers. Remind them that the number they start on is not part of the count.
Take the students to the seesaw on the playground and have them practice and compare weights on the seesaw.
Movement: Have children choose a teen number and do two types of excersises to total that number.
Blocks and Movement: Have children estimate the number of blocks they use in their block buildings and then count the blocks while diassmbiling to check their estimates.
Blocks: Have the students record how many of each type of block they use in a building as well as they total number of blocks they used.
Literacy: Read “Cubes, Cones, Cylinders and Spheres” by Tana Hoban and ask the students to name the objects in the photographs using 3-dimensional shape names.
Read “Just a Little Bit” by Ann Tompert and discuss how the seesaw the animals ride is similar to the pan balance.
Read “The Best Vacation Ever” by Stuart J. Murphy and discuss how the family uses surverys and graphs to decide where to take a family vacation.
Read “12 Ways to Get to 11” by Eve Merriam and discuss number stories on every page and model them with objects and number sentences.
Read “Animals on Board” by Stuart J. Murphy and provide the students with white boards for the students to write the number sentences that model the situations in the book.
Play “Mystery Name” and display the students names and silently choose one to be the mystery name. Have the students ask yes or no questions to remove names accordingly to figure it out. (Lesson 7-13)
Music: Sing “Ten in the Bed” or “Five Green and Speckled Frogs” and model how children can use calculators to subtract 1 for each verse.
Art: Cut or have students cut flower petals from different colored paper and have them use the petals to create a garden in which each flower has the same number of petals. Have them record a number sentence for their flowers.
Science: Encourage students to collect and track recyclable materials. Students can explore reasons to recycle, the process of recycling and the uses of recycled material.

Integration of 21st Century Skills

Indicators: Indicators:
9.1.4.G.1 : Describe how valuable items might be damaged or lost and ways to protect them.
* In the teaching of rules and procedures, students will learn the use of resources as tools for mathematics.
9.2.4.A.4 : Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career
success.
* As students develop problem solving skills it will assist them in working through difficult problems and require them to employ the strategies they learned.
9.3.12.AC-DES.2 : Use effective communication skills and strategies (listening, speaking, reading, writing and graphic
communications) to work with clients and colleagues.
* In partner talk, small group, and one to one work, students will develop necessary skills to communicate effectively.
9.3.12.ED.1 : Apply communication skills with students, parents and other groups to enhance learning and a commitment to learning.
* In the development of math routines the students will learn how to quantify and express their knowledge.
9.3.12.ED-ADM.1 : Use research-based practices to develop, communicate and enlist support for a vision of success for all learners.
* Everyday Mathematics is a researched based practice to support the learning of mathematics to a variety of students.
9.3.12.ED-ADM.2 : Identify behaviors necessary for developing and sustaining a positive learning culture.

* Students will work in partnerships within the classroom and in small groups as well as within whole group conversations that support a positive learning environment.
9.3.12.ED-PS.1 : Identify strategies, techniques and tools used to determine the needs of diverse learners. * Resources can be used throughout small group, strategy group, and whole group lessons to support individual student needs.
9.3.12.ED-PS.2 : Implement methods to enhance learner success. * Teaching students where they are ad to identify if they need help will enable success in all learners and at various levels.
9.3.12.ED-PS.3 : Identify resources and support services to meet learners' needs. * Resources and methods can be used in the instruction of students on a one to one or small group basis.

Technology: Use computer games that provide practice with different math skills. Use the digital tools provided at connected.mcgraw-hill.com:
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-Home Connection

Unit Title: Unit 8

Unit Description: In this Unit, students find as many different ways to as they can to write number sentences and to show their solutions. They manipulate 10-bead strings, race cars on a 10-square track, and construct a name posters for 10. In this Unit, the students have opporutnites to notice and describe the properties of 3-dimensional shapes, how they differ from one another and how many 3-dimensional shapes have 2-dimensional faces. The students also build on their conceptional understanding of addition and subtraction to begin to develop fluency with adding and subtracting numbers within 5.

Unit Duration: 14 Lessons

Desired Results

Standard(s):

Kindergarten

Counting & Cardinality

K.CC.A. Know number names and the count sequence.

K.CC.A.1. Count to 100 by ones and by tens.

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

K.CC.B. Count to tell the number of objects.

K.CC.B.4. Understand the relationship between numbers and quantities; connect counting to cardinality.

K.CC.B.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.B.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 were counted.

K.CC.B.4c. Understand that each successive number name refers to a quantity that is one larger.

K.CC.B.5. Count to answer “how many?” questions about 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.

Geometry

K.G.A. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

K.G.A.1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

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

K.G.A.3. Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).

K.G.B. Analyze, compare, create, and compose shapes.

K.G.B.4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).

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

K.G.B.6. Compose simple shapes to form larger shapes.

Mathematical Practice

MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

MP.1. Make sense of problems and persevere in solving them.

MP.2. Reason abstractly and quantitatively.

MP.5. Use appropriate tools strategically.

MP.6. Attend to precision.

MP.7. Look for and make use of structure.

Indicators:

- I count to know number names and the count sequence.
- I count to tell the number of objects.
- I count to compare numbers.
- I describe and compare measurable attributes of shapes to identify and describe them.

Understandings:

Students will understand that…

- I can count to at least 100 by 1s and 10s.
- I can count forward by 1s to at least 100 starting from numbers other than 1.
- I can find number pairs that add to 10 and record them with drawings or equations.
- I can compose, decompose and understand numbers 11-19 as ten ones and some further ones, and record with a drawing or equation.
- I can analyze and compare 2- and 3-dimensional shapes in different sizes and orientations using informal descriptive language.
- I can model shapes in the world by building shapes from components and drawing shapes.

Essential Questions:

- Why do I count?
- How do I add and subtract?
- How do I describe and compare objects?

Assessment Evidence

Performance Tasks:

Identifying Solid Shapes:

- What shape is this face? How do you know you have the correct shape? (K.G.1, K.G.2, K.G.4)

Modeling Shapes:

- When I trace the around the sides of my structure, what shape do I make? How do you know? (K.G.2, K.G.3, K.G.4, K.G.5, K.G.6)

Counting to Measure Time:

- Why did we get different numbers? How do the numbers and units tell which was slower or faster? (K.CC.1, K.CC.7, K.MD.2)

Counting on from Higher Numbers:

- What can help us count accurately? (K.CC.1, K.CC.2)

Playing Dice Subraction:

Playing Car Race:

- If you want to move this car to 10 how many spaces will you need to move it? How many spaces did you move all together on that turn? Is that the number you rolled? (K.OA.3, K.OA.4)

Solving Number Stories with Calculators:

- When might we use a calculator instead of another tool such as counters or drawing? (K.OA.1, K.OA.2)

Ordering Numbers:

- Which number is the smallest? Which comes next? Next after that? Which number is the largest? (K.CC.2, K.CC.3, K.CC.7)

Playing Addition Top-It:

- What could you do if you do not know the total in your head? (K.CC.7, K.OA.1, K.OA.2, K.OA.5)

Using Function Machines:

• How is subtracting numbers different from adding them? (K.CC.7, K.OA.1, K.OA.2, K.OA.5) Bundling Craft Sticks: • Do we still have the same number of sticks altogether? How do you know? (K.CC.3, K.CC.5, K.NBT.1) Solving the Open Response Problem: Birds on Wires • What is another way to solve this problem? How do you know? (K.OA.1, K.OA.2, K.OA.3, K.OA.4) Rengaging in the Problem: Can all of these solutions work? How do you know?(K.OA.1, K.OA.2, K.OA.3, K.OA.4)	• How do you know what rule it is? (K.OA.1, K.OA.2, K.OA.5) Making Name Collection Posters: • How can you show your number on a ten frame? How many different names do you have for your number? Can you think of any more? (K.OA.1, K.OA.2, K.OA.3, K.NBT.1)

Benchmarks: Teacher Observations

Can the student name basic 3-dimensional shapes and describe them using at least two attributes when looking at them? Can they identify at least one similiarity and one difference between two different 3-dimensional shapes? (K.G.2, K.G.4)

Can the student model basic 2-dimensional shapes with toothpicks and marshmellows? (K.G.2, K.G.5)

Can the student compare their counts to tell which movements take more time and which take less? (K.CC.7, K.MD.2)

Can the student count by 1s and 10s to at least 100 and count on by 1s from different starting numbers within the range? (K.CC.1, K.CC.2)

Can the student subtract the numbers on the dice and decide which number is the smaller difference? (K.CC.7, K.OA.2, K.OA.5)

Can the student count and represent between 11 and 19 sticks as a bundle of 10 sticks and some more single sticks to understand the representation? (K.CC.5, K.NBT.1)

Can the student find and record several different combinations of ten? (K.OA.3, K.OA.4)

Can the student split a roll between two counters and figure out the number of spaces remaining to get to 10? (K.OA.3, K.OA.4)

Can the student use a calculator to represent and solve simple and unknown number stories involing addition and subration and make sense of their results by solving using another method? (K.OA.1, K.OA.2)

Can the student compare two numbers between 0 and 10 when written as numerals and justify their answers? (K.CC.7)

Can the student fluently add within 5 and use strategies to add larger numbers? (K.CC.7, K.OA.2, K.OA.5)

Can the student understand that the same rule can be applied to different numbers and be abe to determine outputs for + and – 0 and -1 and -2 rules? (K.OA.2)

Can the student represent and make connections among equivilant names for numbers up to 20 using manipulatives, drawings and expressions that reflect different grouping or decompositions? (K.OA.1, K.OA.3)

Learning Plan

Learning Activities:
8-1: Solid Shapes by Feel (3-dimensional Shapes by Feel: Acitivyt Card 71)
8-2: Marshmellow and Toothpick Shapes (Making Shapes: Activity Card 72)
8-3: Counting to Measure Time
8-4: Interrupted Counting
8-5: Dice Subtraction (Dice Subtraction: Activity Card 73)
8-6: Craft-Stick Bundles (Craft-Stick Numbers: Activity Card 74)
8-7: Open Response: Birds on Wires (Birds on Wires: Activity Card 75)
8-8: Car Race (Bead Combinations: Activity Card 68, Car Race: Activity Card 76)
8-9: Number Stories with Calculators
8-10: Nonconsecutive Numbers
8-11: Addition Top-It (Addition Top-It: Activity Card 77)
8-12: Function Machines (Function Machines: Activity Card 78)
8-13: Name-Collection Posters (Domino Name Collections: Activity Card 79)

Resources: Teacher's Lesson Guide (Volume 2), eToolkit, Math Masters, Minute Math, Math at Home Books, Everyday Math Journal, Games, Tool Kit with Manipulatives, Class Number Line, Class Number Grid

Unit Modifications for Special Population Students

Advanced Learners	• Put more shapes in the Feely Box with more difficult attributes (Lesson 8-1) • Students who are comfortable measuring with consitant counts can compare measuring time with faster and slower counts. (Lesson 8-3) • Provide starting and stopping numbers in ranges that are suited to the needs of the students. (Lesson 8-4) • For a challenge have the students count backwards from different starting numbers (Lesson 8-4) • Students who are ready for a challenge while playing "Dice Subtraction" can play with polyhedral dice to practice subtraction with larger numbers. (lesson 8-5) • Provide larger number of craft sticks (between 20-100) for students who ae ready (Lesson 8-6) • Provide a challenge with the game Car Race by having them play using the 4-track gameboard. (lesson 8-8) • Use index cards to create decks of cards that go beyond 20 for those students who need a challenge (Lesson 8-10) • Challenge students who readily add small numbers by including larger numbers in the Addition Top-It Deck. They may also play by drawing three cards and adding them. (Lesson 8-11)
Struggling Learners	• Limit the amount and kinds of shapes in the Feely Box. (Lesson 8-1) • Provide the students with extra practice modeling and describing shapes by having them play "Making Shapes: Activity Card 72) • Provide starting and stopping numbers in ranges that are suited to the needs of the students. (Lesson 8-4) • If a student struggles to count on from high numbers whiper a few of the numbers leading up the the starting number to give them a "running start" (Lesson 8-4)

	• Scaffold the game “Dice Subtraction” by providing counters to model the subratction problems for students who are not ready (Lesson 8-5) • Provide less craft sticks for those students who are struggling (Lesson 8-6) • Provide counters or other manipulatives to students who need to see the problem conretely. (Lesson 8-7) • Simply the game Car Race by having them play using the 2-track gameboard. (lesson 8-8) • For the ordering numbers game provide only the 1-10 cards until they are ready (Lesson 8-10) • Suggest counting on fingers or provide counters for children who need to model addition concretely (Lesson 8-11)
English Language Learners	• Review shape names and attributes in a small group setting. (Lesson 8-1) • Scaffold students descriptions of shapes by displaying an illustrated list of 2- and 3-dimensional shape names and parts. (Lesson 8-2) • Use visuals or role play to help children think about a short time versus a long time. (Lesson 8-3) • Model the action of interrupting with the student so the student grasp that they are being asked to stop and then continue with their counts. (lesson 8-4) • Preview and introduce the terms bundle, make a bundle and make a group. (lesson 8-6) • Preview and introduce the terms whole, parts, break. cut and split. (Lesson 8-8) • Preview and introduce the terms larger, largest, smaller and smallest and provide examples. (Lesson 8-10)
Special Needs Learners	• If students struggle to make shapes have them copy each step as you (or a classmate) model it. (Lesson 8-2) • Provide the students with extra practice modeling and describing shapes by having them play “Making Shapes: Activity Card 72) • Provide starting and stopping numbers in ranges that are suited to the needs of the students. (Lesson 8-4) • Scaffold the game “Dice Subtraction” by providing counters to model the subratction problems for students who are not ready (Lesson 8-5) • Provide less craft sticks for those students who are struggling (Lesson 8-6) • Provide counters or other manipulatives to students who need to see the problem conretely. (Lesson 8-7) • Simply the game Car Race by having them play using the 2-track gameboard. (lesson 8-8) • For the ordering numbers game provide only the 1-10 cards until they are ready (Lesson 8-10) • Suggest counting on fingers or provide counters for children who need to model addition concretely (Lesson 8-11)

Interdisciplinary Connections

Indicators:

Science: Students can use shapes from the Feely Box to conduct experiments about how shapes move. Encoruage the students to make predictions and to record their feelings.

Literacy: Take photographs of student’s marshmellow and toothpick creations to put into a class book. Have them write or dictate captions for the shapes in the photographs.

Use your Stop and Go sign or hand signals to direct children to stop and start at different letters as they say the alphabet.

Read “What’s the difference? An Endangered Animal Subtraction Story” by Suzanne Slade and have the student share their strategies for solving the subtraction problems.
Use the photos in the book “More, Fewer, Less” by Tana Hoban as a source for number stories that students can solve using calculators or other tools.
Literacy and Science: Read “The Tortoise and the Hare” and discuss why tortoise won the race. Have the students think about how they might measure each animals race time.
Literacy and Social Studies: Read and discuss “This is the Way We Go to School” by Edith Baer and talk about which ways are faster and which are slower.
Music: To provide expirence with counting on, have students choral cunt by 1s and by 10s to a rhymic pattern or to a tune of a familiar song. Encourage them to describe patterns they hear in the rhythms, songs and counting sequence.

Integration of 21st Century Skills

Indicators: Indicators:
9.1.4.G.1 : Describe how valuable items might be damaged or lost and ways to protect them.
* In the teaching of rules and procedures, students will learn the use of resources as tools for mathematics.
9.2.4.A.4 : Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career
success.
* As students develop problem solving skills it will assist them in working through difficult problems and require them to employ the strategies they learned.
9.3.12.AC-DES.2 : Use effective communication skills and strategies (listening, speaking, reading, writing and graphic
communications) to work with clients and colleagues.
* In partner talk, small group, and one to one work, students will develop necessary skills to communicate effectively.
9.3.12.ED.1 : Apply communication skills with students, parents and other groups to enhance learning and a commitment to learning.
* In the development of math routines the students will learn how to quantify and express their knowledge.
9.3.12.ED-ADM.1 : Use research-based practices to develop, communicate and enlist support for a vision of success for all learners.
* Everyday Mathematics is a researched based practice to support the learning of mathematics to a variety of students.
9.3.12.ED-ADM.2 : Identify behaviors necessary for developing and sustaining a positive learning culture.
* Students will work in partnerships within the classroom and in small groups as well as within whole group conversations that support a positive learning environment.
9.3.12.ED-PS.1 : Identify strategies, techniques and tools used to determine the needs of diverse learners.
* Resources can be used throughout small group, strategy group, and whole group lessons to support individual student needs.
9.3.12.ED-PS.2 : Implement methods to enhance learner success. * Teaching students where they are ad to identify if they need help will enable success in all learners and at various levels.
9.3.12.ED-PS.3 : Identify resources and support services to meet learners’ needs. * Resources and methods can be used in the instruction of students on a one to one or small group basis.

Technology: Use computer games that provide practice with different math skills. Use the digital tools provided at connected.mcgraw-hill.com:
-Student Learning Center
-eToolkit
-Home Connection

Unit Title: Unit 9

Unit Description: In this Unit, students use shape and positional language and develop spatial thinking and awareness through various activities. As students use positional terms (in front, behind, above) in real-world contexts they are supported in seeing their environment spatially and developing spatial reasoning skills. They refine their ability to describe multiple measurable attributes of a single object and to compare objects among various dimensions. The students perform an anaysis of backpack sizes by measuring and describing the height, width, area, weight and capacity of their own backpacks.

Unit Duration: 14 Lessons

Desired Results

Standard(s):

Kindergarten

Counting & Cardinality

K.CC.A. Know number names and the count sequence.

K.CC.A.1. Count to 100 by ones and by tens.

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

K.CC.B. Count to tell the number of objects.

K.CC.B.4. Understand the relationship between numbers and quantities; connect counting to cardinality.

K.CC.B.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.B.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 were counted.

K.CC.B.4c. Understand that each successive number name refers to a quantity that is one larger.

K.CC.B.5. Count to answer “how many?” questions about 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.

Geometry

K.G.A. Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).

K.G.A.1. Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

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

K.G.A.3. Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).

K.G.B. Analyze, compare, create, and compose shapes.

K.G.B.4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).

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

K.G.B.6. Compose simple shapes to form larger shapes.

Mathematical Practice

MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

MP.1. Make sense of problems and persevere in solving them.

MP.2. Reason abstractly and quantitatively.

MP.5. Use appropriate tools strategically.

MP.6. Attend to precision.

MP.7. Look for and make use of structure.

Indicators:

- I count to know number names and the count sequence.
- I count to tell the number of objects.
- I count to compare numbers.
- I describe and compare measurable attributes of shapes to identify and describe them.

Understandings:

Students will understand that…

- I can compare two numbers between 1 and at least 10 presented as written numerals.
- I can represent addition and subtraction concretely, verbally and symbolically (with expressions and equations).
- I can fluently add and subtract within 5.
- I can describe measurable attributes of objects and describe several measurable attributes of a single object.
- I can describe objects in the environment using shape names, and describe the relative positions of these objects.
- I can correctly name basic 2- and 3-dimensional shapes regardless of their orientations or size.

Essential Questions:

- Why do I count?
- How do I add and subtract?
- How do I describe and compare objects?

Assessment Evidence

Performance Tasks:

Playing Make My Design:

- Do you know exactly where to put the object from my directions? Why not? (K.G.1, K.G.2, K.G.6)

Playing Subtraction Top-It:

- What helps you remember the difference? What can you do if you do not know the difference in your head? (K.CC.7, K.OA.1, K.OA.2, K.OA.5)

Playing "What's My Rule?" :

- Did the number in get larger or smaller? Do you think the function machine adds or subtracts? What do you think the rule is? (K.OA.1, K.OA.2, K.OA.5)

Measuring and Comparing Backpacks:

Weighing Objects:

- Do you think the new object will weigh more or fewer pennies than the marker? Why? (K.CC.6, K.MD.1, K.MD.2)

Measuring in Seconds:

- Can you think of any tools that measure time with steady counts? (K.CC.7, K.MD.1, K/MD.2)

Working with Doubles:

- What do you know about the double ten frame? (K.OA.1, K.OA.2, K.OA.5)

Playing Fishing for Ten:

- How do you know if your pair equal 10? (K.OA.1, K.OA.2, K.OA.3, K.OA.4)

Preparing for a Math Celebration:

- What should we make to demonstrate what we have learned in math this year? (K.CC.1-2, K.CC.5-6, K.OA.2, K.MD.1-3, K.G.1-2, K.G.5-6)

- Which backpack is larger? Why do you think so? (K.CC.7, K.MD.1, K.MD.2)

Measuring and Comparing Backpacks:
- Which backpack is heavier? Why do you think so? (K.CC.7, K.MD.1, K.MD.2)

Playing Roll and Record with Numeral Dice:
- How did you find your total? Is there a faster way to the numbers? (K.OA.1, K.OA.2, K.OA.3, K.OA.5)

Solving the Open Response Problem: Making Classroom Maps:
- How could we show what the classroom looks like on a piece of paper? What should we put on it? (K.G.1, K.G.5)

Having a Math Celebration:
- What did we learn this year? What was your favorite activity? (K.CC.1-2, K.CC.5-6, K.OA.2, K.MD.1-3, K.G.1-2, K.G.5-6)

Benchmarks: Teacher Observations

Can the student appropriately use precise shape and positional language to describe their pattern block designs? (K.G.1, K.G.2)

Can the student fluently subtract within 5 and use strategies to find other differences within 10? (K.CC.7, K.OA.2, K.OA.5)

Can the student apply simple addition and subtraction rules to complete an in/out number pair? (K.OA.2)

Can the student describe multiple attributes of their backpacks and accurately compare their heights and widths? (K.MD.1, K.MD.2)

Can the student describe multiple attributes of their backpacks and accurately compare their weight and capacity? (K.MD.1, K.MD.2)

Can the student record dice-roll combinations as addition expressions on their Roll and Record grids? Are they able to find sums within 5 accurately and efficiently? (K.OA.1, K.OA.2, K.OA.3, K.OA.5)

Can the student draw shapes to represent different parts of the classroom and consider relative positions as they place the shapes on the maps? (K.G.1, K.G.5)

Can the student understand weight as a dimension of size? (K.MD.1, K.MD.2)

Can the student describe and compare the durations of two events in seconds? (K.CC.7, K.MD.1)

Can the student represent doubles concretely with counters on a double ten frame in writing as equations, and recognize the connection between the different representations? (K.OA.1)

Learning Plan

Learning Activities:
9-1: Make My Design (Make My Design: Activity Card 80)
9-2: Subtraction Top-It (Dice Subtraction: Activity Card 73, Subtraction Top-It:Activity Card 81)
9-3: "What's My Rule?" with Numbers (Function Machines: Activity Card 78)
9-4: Backpack Math: Height, Width and Area (Measuring with Stick-On Notes: Activity Card 51, Make my Design: Activity Card 80, Measuring with Connecting Cubes: Activity Card 82)
9-5: Backpack Math: Weight and Capacity
9-6: Roll and Record with Numeral Dice (Roll and Record with Dot Dice: Activity Card 39, Roll and Record with Numeral Dice: Activity Card 83)
9-7: Open Response: Making Classroom Maps (Using Treasure Maps: Activity Card 84)
9-8: Uniform Weights on a Pan Balance (Weighing Snack Food: Activity Card 85)
9-9: Measuring Time in Seconds
9-10: Doubles on Double Ten Frames
9-11: Fishing for Ten (Fishing for Ten: Activity card 86)

9-12: Math Celebration Preperations
9-13: Math Celebration

Resources: Teacher's Lesson Guide (Volume 2), eToolkit, Math Masters, Minute Math, Math at Home Books, Everyday Math Journal, Games, Tool Kit with Manipulatives, Class Number Line, Class Number Grid

Unit Modifications for Special Population Students	
Advanced Learners	• To make Make My Design more challenging have students create designs using more blocks and onr or two different shapes. (Lesson 9-1) • Challenge students by having them use rules they identify to determine missing in numbers when given the out numbers (Lesson 9-3) • For a challnge have the try to scale their classroom map and think about the size of the object comparatively (Lesson 9-7) • If students readily make pairs of ten during “Fishing for Ten” challenge them to find combinations of three addends to make ten. (Lesson 9-11)
Struggling Learners	• To Simplify Make My Design use only three or four blocks and only one of each shape (Lesson 9-1) • Suggest using counters, fingers or a small number line for students who need to model subtraction concretely (Lesson 9-2) • For students who struggle to identify rules model the rule conretely. (Lesson 9-3) • Students who need support playing Roll and Record with Numeral Dice can use a number line or number grid. (Lesson 9-6) • Scaffold the game “Fishing for Ten” by providing students with counters and ten frames to help them determine which number to ask for. (Lesson 9-11)
English Language Learners	• Preview and teach students gestures to help with learning positional words (Lesson 9-1) • Allow the students to use their fingers or numeral cards to show the rules for different function machines. (lesson 9-3) • Model and explain the compartive forms of narrow and wide, and wider. (Lesson 9-4) • Model and explain the compartive forms of heavy and light, and heavier. (Lesson 9-5) • Demonstrate the meaning of approximate by contrasting it with the meaning of exact and about. (Lesson 9-8) • Pre-teach the word doubles using objects and pictures. (Lesson 9-10)
Special Needs Learners	• To Simplify Make My Design use only three or four blocks and only one of each shape (Lesson 9-1) • Suggest using counters, fingers or a small number line for students who need to model subtraction concretely (Lesson 9-2) • Students who need support playing Roll and Record with Numeral Dice can use a number line or number grid. (Lesson 9-6) • If students struggle to draw shapes to represent parts of the classroom give them pre-cut shapes to glue to their maps. (lesson 9-7) • Provide ample opportunity for practing using Double Ten Frames (Lesson 9-10) • Scaffold the game “Fishing for Ten” by providing students with counters and ten frames to help them determine which number to ask for. (Lesson 9-11)

Interdisciplinary Connections
Indicators: **Movement:** Pose subtraction problems for students to answer with movements **Art:** Have the students make accordian style books using a picture rule and have the other students try to guess the rule. **Science:** Provide measuring cups and spoons of different sizes and have the students compare how much material (water, sand) can fit into each.

Provide different timers for children to explore and use such as stopwatches, sand timers, kitechn timers and clocks. Have the students compare how each measure time and discuss their uses.
Literacy: Read “Ten Little Fish” by Audrey Wood and empahzie the number pairs that add to ten and how they change each time another fish leaves.

Integration of 21st Century Skills

Indicators: Indicators:
9.1.4.G.1 : Describe how valuable items might be damaged or lost and ways to protect them.
* In the teaching of rules and procedures, students will learn the use of resources as tools for mathematics.
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* Students will work in partnerships within the classroom and in small groups as well as within whole group conversations that support a positive learning environment.
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Technology: Use computer games that provide practice with different math skills. Use the digital tools provided at connected.mcgraw-hill.com:
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-eToolkit
-Home Connection