FIRST GRADE

<table>
<tr><td>Unit of Study: Unit 1
Addition and Subtraction to 10</td><td># of Weeks: 9 weeks</td></tr>
<tr><td>Essential Question:
How is mathematics used to quantify, compare, represent, and model numbers?
How can mathematics support effective communication?
How are relationships represented mathematically?
How can expressions, equations and inequalities be used to quantify, solve, model, and/or analyze mathematical situations?
How can patterns be used to describe relationships in mathematical situations?</td><td>Real World Problems/ Application in Society:
Create their own story problems (write them or act them out)
Partner talks</td></tr>
<tr><td>Standards/Eligible Content (Skills):
CC.2.2.1.A.2 - Understand and apply properties of operations and the relationship between addition and subtraction.</td><td>Standards Reinforced:
CC.2.1.K.A.1- Know number names and write and recite the count sequence.
CC.2.1.K.A.2- Apply one-to-one correspondence to count the number of objects.
CC.2.1.K.A.3 - Apply the concept of magnitude to compare numbers and quantities.</td></tr>
<tr><td colspan="2">Critical Thinking/Reasoning Skills:
mental math strategies (make a ten)
Analogies (2+3) = (4+____) (model using either an online balance or a balance to demo. Possibly have the students in groups to use a balance together)
There will be a brief discussion about what ‘makes sense’ when adding or subtracting (estimation).
Strategies to draw from to estimate would be
Part, part whole
Number bonds</td></tr>
<tr><td colspan="2">Reading/Writing/Listening/Speaking Skills:</td></tr>
</table>

Read Alouds (The Mission of Addition, Ten Flashing Fireflies, The Doorbell Rang, Subtraction Action, Bear Wants More, Two of Everything by Lily Toy Hong, Mission Addition)
Writing story problems
While listening to a story students could 'draw out' what is happening in the story while they're listening to it. (ex: The Doorbell Rang - students will draw the story of the cookies and them being shared to solve the problem)
Acting out problems
Discussing with partners

Fluency:

- Addition and Subtraction facts to 10
  - Sprints
  - Games
  - 5-Group flash cards
  - Mental math strategy - make ten/compensation for advanced learners

Vocabulary:

(Familiar)

- Part (e.g., "What is the unknown part? 3 + ___ = 8")
- Total and whole (use interchangeably instead of sum; e.g., "What is the total when we add 3 and 5?")
- Label (using letters or words on a math drawing to indicate the referents from the story's context)
- Addition, equal, and subtraction signs
- Equation and number sentence
- Number bond (graphic showing part–part–whole)
- Equal sign (=)
- 5-groups - 2 rows of 5
- Addend
- Difference

(New)

- Count on (count up from one addend to the total)
- Track (use different objects to track the count on from one addend to the total)
- Expression (e.g., 2 + 1 or 5 – 3)
- Addend (one of the numbers being added)
- Doubles (e.g., 3 + 3 or 4 + 4)
- Doubles plus 1 (e.g., 3 + 4 or 4 + 5)

Technology/Manipulatives/Resources:

- Number bonds/Number bond pages
- Addition chart
- Rekenrek
- Counters
- Number path
- 5-Group cards
- Hide Zero cards
- **http://www.coolmath-games.com/0-feed-fribbit-addition/index.html**
- **http://www.abcya.com/addition.htm**
- **https://www.engageny.org/resource/grade-1-mathematics-module-1**
- **https://embarc.online/course/view.php?id=14**
- **http://mathwire.com/index.html**
- **https://happynumbers.com/math/grade1**

Performance Task/Assessment: classroom:)
Students will create a classroom book. The book will be similar to Ten Little Ladybugs by Laura Huliska-Beith. They will create a page in the book for each number from zero to ten showing either an addition or subtraction word problem with drawings.

Bean Game: The teacher will inform the student of the total number of beans before beginning the game. (example: the total will be 8 beans). The teacher will place some beans in each hand. The teacher will show the student the number of beans in hand 1 (example 3 beans in one hand). The student will then have to tell the teacher how many beans are in their other hand (example 5 beans). This can then be placed in centers to be done with a partner.

Cube Trains: Give students 20 blocks (10 of 2 different colors). Allow them to explore with these blocks to find different combinations to make 10. Example: 8 red blocks and 2 blue blocks, 9 red blocks, 1 blue block. This can be recorded as either a number sentence or a drawing where they color in the blocks according to what they found - or it could be a combination of both writing the number sentence and coloring in the blocks.

Grade 1

<table>
<tr><td>Unit Name: Unit 2
Addition and Subtraction to 20</td><td>Duration:
5 Weeks</td></tr>
<tr><td>Essential Questions:
How is mathematics used to quantify, compare, represent, and model numbers?
How can mathematics support effective communication?
How are relationships represented mathematically?
How can expressions, equations and inequalities be used to quantify, solve, model, and/or analyze mathematical situations?
How can recognizing repetition or regularity assist in solving problems more efficiently?</td><td>Real World Problems/Applications:
Shopping (money, personal allowances)
Classroom and/or school store
Budgeting (balancing a checkbook, personal finances, etc.)
Saving their 'classroom/school' money to buy a particular item
Construction
Design or build a new layout for our classroom (desks)</td></tr>
<tr><td>Standards/Eligible Content (Skills):
CC.2.2.1.A.1
Represent and solve problems involving addition and subtraction within 20.</td><td>Standards Reinforced:
CC.2.2.1.A.2 - Understand and apply properties of operations and the relationship between addition and subtraction.</td></tr>
<tr><td colspan="2">Critical Thinking/Reasoning Skills:
mental math strategies (make a ten)
Analogies (14+3) = (8+____) (model using either an online balance or a balance to demo. Possibly have the students in groups to use a balance together)
There will be a brief discussion about what ‘makes sense’ when adding or subtracting (estimation).
Strategies to draw from to estimate would be
Part, part whole
Number bonds</td></tr>
<tr><td colspan="2">Reading/Writing/Listening/Speaking Skills:</td></tr>
</table>

Read Alouds (12 Ways to Get to 11, A Fair Bear Share, 16 Runaway Pumpkins, Ready, Set, Hop!, Using Addition at Home, Using Subtraction at the Park)
Writing story problems
Acting out problems
Discussing with partners

Fluency:

- Addition and Subtraction facts to 10/20
    - Sprints
    - Games
    - 5-Group flash cards

Vocabulary:

New or Recently Introduced Terms

- A ten (a group, or unit, consisting of 10 items)
- Ones (individual units, 10 of which become a ten)

Familiar Terms and Symbols

- 5-groups
- Difference
- Addition, equal, and subtraction signs
- Equation and number sentence
- Count on (count up from one addend to the total)
- Total and whole (use interchangeably instead of sum; e.g., “What is the total when we add 3 and 5?”)
- Addend
- Equal to (equals)
- Number bonds
- Partners to ten
- Subtract
- Teen numbers
- Number path
- Rekenrek

Technology/Manipulatives/Resources:

- Number bonds/Number bond pages

- 5-group formations: 5-groups (and 5-group cards), 5-group rows, 5-group column
- Addition chart
- Rekenrek
- Counters
- Number path
- 5-Group cards
- Hide Zero cards
- **http://www.coolmath-games.com/0-feed-fribbit-addition/index.html**
- **http://www.abcya.com/addition.htm**
- **https://www.engageny.org/resource/grade-1-mathematics-module-1**
- **https://embarc.online/course/view.php?id=14**
- **http://mathwire.com/index.html**
- **https://happynumbers.com/math/grade1**
- https://www.splashmath.com/math-skills/first-grade

Authentic Performance Assessments:

https://www.illustrativemathematics.org/1

- *This link has additional links to several higher order thinking skills to use for addition and subtraction within 20. They can be used as assessments or as application problems for the students.

Musical Chairs – real-life connection for students.

- There are 8 students and only 6 chairs. How many students will not have a chair?
- There are 8 children and some chairs. A child sits in each chair. 2 children don't have a chair. How many chairs are there?
- There are 8 children and 10 chairs. A child sits in each chair. How many empty chairs are there?
- Students choose a total number of objects between 10 and 20. Students break down their total number into 2 or 3 parts using 2 or 3 numbers. Students have now built an equation they can then draw it, write it and read it to a partner and/or to the teacher.

Assessments/quizzes on embarc.online

Grade 1

Unit Name: Unit 3 Ordering and Expressing Length Measurements as Numbers and Telling Time	**Duration:** 4 Weeks
Essential Questions: • Why does “what” we measure influence “how” we measure? • How precise do measurements and calculations need to be? • What makes a tool and/or strategy appropriate for a given task? • How can data be organized and represented to provide insight into the relationship between quantities?	**Real World Problems/Applications:** • Time management skills- (ex, time for dinner, time for school, time to go to work) • Measuring- (ex. Build a model/home, cooking, construction) • Graphing- (ex. Planning a party or a dinner, budgeting)
Standards/Eligible Content (Skills): CC.2.4.1.A.1 Order lengths and measure them both indirectly and by repeating length units. CC.2.4.1.A.2 Tell and write time to the nearest half hour using both analog and digital clocks. CC.2.4.1.A.4 Represent and interpret data using tables/charts	**Standards Reinforced:** CC.2.4.K.A.1 Describe and compare attributes of length, area, weight, and capacity of everyday objects. CC.2.4.K.A.4 Classify objects and count the number of objects in each category.
Critical Thinking/Reasoning Skills: • I need to measure my desk. I measure it with connecting cubes. To double check its measurement I also measure it with pencils. Why did I get 2 different measurements? • What would happen if we didn't have clocks?	

- How could you decide what graph to use?

Reading/Writing/Listening/Speaking Skills:

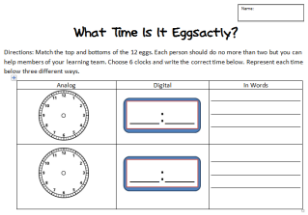
Read Alouds (Inch by Inch, Telling Time, Measuring Penny, The Great Graph Contest,Tally O'Malley)

Math Journals, Read It Write It Solve It

Discussion (turn and talk, group work, partner work, explanations)

Create their own graphing question and complete it within the classroom

Fluency:



The Human Clock Game
Time Bingo
Non-Standard measuring activities
Daily math practice
Math counting or other activity during transitions
Math question of the day

Vocabulary:

New or Recently Introduced Terms

- Centimeter (standard length unit within the metric system)
- Centimeter cube (pictured to the right, also used as a length unit in this module)
- Centimeter ruler (measurement tool using length units of centimeters)
- Data (collected information)
- Endpoint (the end of an object, referenced when aligning for measurement purposes)
- Height (measurement of vertical distance of an object)
- Length unit (measuring the length of an object with equal-sized units)

- Poll (survey)
- Table or graph (organized charts visually representing data)

Familiar Terms and Symbols

- Less than
- Longer than/taller than
- More than
- Shorter than
- Tally marks

Technology/Manipulatives/Resources:

- Great Minds
- Teachers Pay Teachers
- https://www.mathplayground.com/grade_1_games.html
- https://www.scholastic.com/teachers/blog-posts/genia-connell/10-quick-easy-and-fun-ways-practice-time-skills/
- Centimeter cubes
- Centimeter rulers (simply for the purpose of naming the centimeter)
- Non-standard units (toothpicks, small and large paper clips)
- String lengths of about 25 centimeters
- Tally marks

Authentic Performance Assessments:

- Assessments/quizzes on embarc.online
- Student/classroom centered graphing questions (ex. What's your favorite color?, How did you get to school today? The students will be given a post-it to place their response and the post-it will be placed on the board. We will then discuss and organize the data into a graph or a chart.)
- Place students into groups. Give each group a large hula hoop and a set of clock numbers. Also give each group a set of cards with digital times on them or words to tell time (ex. half past 2). Students will (in their groups) set up their clocks using the hula hoop and numbers. Then, students will draw a 'time' card and demonstrate it on the clock (using their bodies as the hour and minute hands). Students will take turns being the 'hands' on the clock.
- Place a variety of objects around the room and have the students use cm cubes to measure each object.

- Use tape to mark 2 different paths from point 'A' to point 'B' (both starting and ending at the same place but have different lengths/paths). Have students measure using string (or any other form of measurement) to determine the shortest/longest path.
- Give students a map that has gridlines. Have students answer questions to determine the quickest or longest way from one place to another. ('A' to 'B')

Grade 1

<table>
<tr><td>Unit Name: Unit 4
Place Value, Comparison, Addition and Subtraction of Numbers to 40</td><td>Duration:
7 Weeks</td></tr>
<tr><td>Essential Questions:
How are relationships represented mathematically?
What does it mean to estimate or analyze numerical quantities?
What makes a tool and/or strategy appropriate for a given task?
How can recognizing repetition or regularity assist in solving problems more efficiently?
How can expressions, equations and inequalities be used to quantify, solve, model, and/or analyze mathematical situations?</td><td>Real World Problems/Applications:
Leads up to the understanding of money concepts. Fluency (making change at a store, counting objects)</td></tr>
<tr><td>Standards/Eligible Content (Skills):
CC.2.1.1.B.1
Extend the counting sequence to read and write numerals to represent objects.
CC.2.1.1.B.2
Use place value concepts to represent amounts of tens and ones and to compare two- digit numbers.
CC.2.2.1.A.2
Understand and apply properties of operations and the relationship between addition and subtraction.</td><td>Standards Reinforced:
CC.2.2.1.A.2
Understand and apply properties of operations and the relationship between addition and subtraction.
CC.2.1.1.B.1
Extend the counting sequence to read and write numerals to represent objects.
CC.2.2.1.A.1
Represent and solve problems involving addition and subtraction within 20.</td></tr>
<tr><td colspan="2">Critical Thinking/Reasoning Skills:
Can you think of another strategy to try?
Could you use objects or pictures to help you solve the problem?</td></tr>
</table>

- Is this answer reasonable? Does it make sense? Why or why not?
- Can anybody explain it a different way?

Reading/Writing/Listening/Speaking Skills:

Read Alouds (The King's Commissioners, Math Fables: Lessons That Count, How Many Bluebirds Flew Away, Out For The Count, One Hundred Ways to Get to 100, The Chicken Problem, A Fair Bear Share- adding with regrouping)
Discuss method for solving, why the solution is right/wrong, etc.
Math journals

Fluency:

- Addition and Subtraction facts to 40
- Sprints
- Games
- Hide Zero cards

Vocabulary:

New or Recently Introduced Terms

- > (greater than)
- < (less than)
- Place value (quantity represented by a digit in a particular place within a number)

Familiar Terms and Symbols

- = (equal)
- Numerals
- Ones
- Tens

Technology/Manipulatives/Resources:

- Arrow notation
- Comparison symbols: >, <, =
- Dime
- Hide Zero cards
- Hundred Chart (chart to 40)

- Number bond
- Penny
- Place value chart
- Quick Ten
- Rekenrek
- Tape diagram

http://www.insidemathematics.org/common-core-resources/mathematical-content-standards/standards-by-grade/1st-grade

https://www.mathplayground.com/grade_1_games.html
https://www.education.com/games/addition/
http://www.sheppardsoftware.com/mathgames/fruitshoot/fruitshoot_addition.htm
https://www.turtlediary.com/games/addition.html

http://www.sheppardsoftware.com/mathgames/fruitshoot/fruitshoot_subtraction.htm

Authentic Performance Assessments:
Assessments/quizzes from Embarc.online

- https://www.illustrativemathematics.org/1

  *This link has additional links to several higher order thinking skills to use for addition and subtraction within 40. They can be used as assessments or as application problems for the students.

Cereal math:

Give each pair of students a small handful of cereal. Have each student count the amount that they have and record it. Ask pairs to eat their cereal and find out how many pieces of cereal they just ate together. Ask them to explain how they got their answer and show their work. Why do you think each group got different totals?

Grade: 1

<table>
<tr><td>Unit Name: Unit 5
Identify, Compose, and Partition Shapes</td><td>Duration:

3 Weeks</td></tr>
<tr><td>Essential Questions:
How can recognizing repetition or regularity assist in solving problems more efficiently?
How are spatial relationships, including shape and dimension, used to draw, construct, model, and represent real situations or solve problems?
How can the application of the attributes of geometric shapes support mathematical reasoning and problem solving?
How can geometric properties and theorems be used to describe, model, and analyze situations?</td><td>Real World Problems/Applications:
Street signs
Stacking objects
Architecture
Sports
Match and name pictures of shapes in the environment to actual shapes</td></tr>
<tr><td>Standards/Eligible Content (Skills):
CC.2.3.1.A.2
Use the understanding of fractions to partition shapes into halves and quarters.
CC.2.3.1.A.1
Compose and distinguish between two- and three-dimensional shapes based on their attributes.</td><td>Standards Reinforced:
CC.2.3.K.A.1
Identify and describe two- and three-dimensional shapes.
CC.2.3.K.A.2
Analyze, compare, create, and compose two- and three-dimensional shapes.</td></tr>
<tr><td colspan="2">Critical Thinking/Reasoning Skills:
Which representation is most helpful to you?
Would a ____ or a ____ make more sense?
Why did you decide to use ____?
What would happen if we used triangles instead of hexagons? Triangles instead of rectangles?</td></tr>
<tr><td colspan="2">Reading/Writing/Listening/Speaking Skills: Read Alouds (The Greedy Triangle, Shape by Shape, Captain Invincible and the Space Shapes,When a Line Bends....A Shape Begins)
Writing-(Prompt for, "The GreedyTriangle", Math Journals)
Speaking/Listening Skills: Play from " The Greedy Triangle"</td></tr>
</table>


IF I COULD BE ANY SHAPE, I WOULD BE A
BECAUSE...


IF I COULD BE ANY SHAPE, I WOULD BE A
BECAUSE...


IF I COULD BE ANY SHAPE, I WOULD BE A
BECAUSE...

Fluency:
Naming of shapes
Games
Tangram activities
Shape vocabulary
Puzzles
Geoboard practice

Vocabulary:

New or Recently Introduced Terms

- Attributes (characteristics of an object such as color or number of sides)
- Composite shapes (shapes composed of two or more shapes)
- Digital clock
- Face (two-dimensional surface of a three-dimensional solid)
- Fourth of (shapes), fourths (1 out of 4 equal parts)
- Half-hour (interval of time lasting 30 minutes)
- Half of, halves (1 out of 2 equal parts)
- Half past (expression for 30 minutes past a given hour)
- Hour (unit for measuring time, equivalent to 60 minutes or 1/24 of a day)
- Hour hand (component on clock tracking hours)
- Minute (unit for measuring time, equivalent to 60 seconds or 1/60 of an hour)
- Minute hand (component on clock tracking minutes)
- O'clock (used to indicate time to a precise hour, with no additional minutes)
- Quarter of (shapes) (1 out of 4 equal parts)

- Three-dimensional shapes
    - Cone

    Rectangular prism

- Two-dimensional shapes:
    - Half-circle
    - Quarter-circle

- Rhombus (flat figure enclosed by four straight sides of the same length wherein two pairs of opposite sides are parallel)
- Trapezoid (a quadrilateral in which at least one pair of opposite sides is parallel

Familiar Terms and Symbol

- Clock
- Circle
- Cube
- Cylinder
- Hexagon (flat figure enclosed by six straight sides)
- Rectangle (flat figure enclosed by four straight sides and four right angles)
- Sphere
- Square (rectangle with four sides of the same length)
- Triangle (flat figure enclosed by three straight sides)

Technology/Manipulatives/Resources:
http://www.insidemathematics.org/common-core-resources/mathematical-content-standards/standards-by-grade/1st-grade

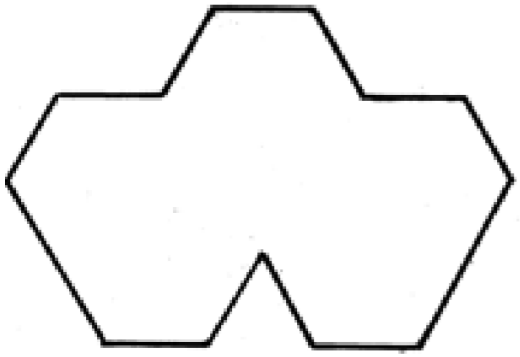
- Pattern blocks
- Geoboards
- Square tiles
- Straws
- Student clocks, preferably with gears that can provide the appropriate hour-hand alignment
- Three-dimensional shape models (commercially produced or commonly found examples) including cube, cone, cylinder, rectangular prism, and sphere

IPads

http://missgiraffesclass.blogspot.com/2015/03/fractions-in-first-grade.html

https://proudtobeprimary.com/geometry-shapes-activities-for-kids/

Authentic Performance Assessments:
Consider the outline of the figure below.



How would you cover up this shape by arranging different blocks to fit into the space without gaps or overlapping your shapes?
If you were to use only one type of block, which block can be used to cover the outline?
Explain how you know for sure.
f you could use more than one type of block, which combination of blocks could be used to cover the outline?
Explain or draw your solutions.
Which pattern block(s) cannot be used at all? Explain why some pattern blocks work and others do not.

Partitioning:
Give each student a ball of playdoh. Provide each student will a rolling pin (or equivalent) to flatten the doh. Give each student a circular shape to cut the doh into a circle (ex cookie cutter, cup, etc.). Have students cut circles into halves and quarters as directed. They can use a popsicle stick to cut their doh. Discuss as you cut the circle into quarters and halves what happens to the number of pieces.

Creation:
Give each student some popsicle sticks. Have them create the named shape using their popsicle sticks.

Grade: 1

<table>
<tr><td>Unit Name: Unit 6
Place Value, Comparison, Addition and Subtraction of numbers to 100.</td><td>Duration:
7 Weeks</td></tr>
<tr><td>Essential Questions:
How is mathematics used to quantify, compare, represent, and model numbers?
How are relationships represented mathematically?
What does it mean to estimate or analyze numerical quantities?
How can recognizing repetition or regularity assist in solving problems more efficiently?
How can expressions, equations and inequalities be used to quantify, solve, model, and/or analyze mathematical situations?</td><td>Real World Problems/Applications:
Shopping (looking at grocery flyers)
Shopping (making change from dollars, etc.)
Giving quotes and discounts to customers
Buying a car
Following recipes</td></tr>
<tr><td>Standards/Eligible Content (Skills):
CC.2.1.1.B.2
Use place value concepts to represent amounts of tens and ones and to compare two digit numbers.
CC.2.1.1.B.3
Use place value concepts and properties of operations to add and subtract within 100.</td><td>Standards Reinforced:
CC.2.2.1.A.1
Represent and solve problems involving addition and subtraction within 20.
CC.2.2.1.A.2
Understand and apply properties of operations and the relationship between addition and subtraction.</td></tr>
<tr><td colspan="2">Critical Thinking/Reasoning Skills:
How many ways can you show the number with base-10 blocks?
What would happen to the number (e.g., the 4) if I moved it here?
What is the difference between 25 tens and 250?</td></tr>
</table>

How is it possible to subtract 60 – 18 when there are no ones to subtract from?
What is the relationship of the places in our number system?

Reading/Writing/Listening/Speaking Skills:
Reading: Read Alouds **(**One is a Snail Ten is a Crab, The Mission of Addition, How Many Bluebirds Flew Away, 100 Hungry Ants)

Writing: Math Journals, While listening to the story students will write 1 math problem they hear within the story and write/solve it on their white-boards.

Listening/Speaking Skills: Answering the critical thinking questions posed during instruction. Partner working/talking.

Fluency:
Core fluency differentiated practice sprints
Flash card review of concepts
Scoot

Vocabulary:

New or Recently Introduced Terms
- Dime
- Nickel
- Penny
- Quarter

Familiar Terms and Symbols
- <, >, = (less than, greater than, equal to)

Technology/Manipulatives/Resources:

Manipulatives:
- 100-bead Rekenrek
- Tape diagram
- Base 10 blocks

- Hide Zero cards (with ones, tens and hundreds places)

Resources:

- Engage NY
- Teachers pay teachers
- Embarc online
- Youtube

Technology:

- Math & Learning Videos 4 Kids-YouTube, Kristin Arwood-YouTube
- https://www.illustrativemathematics.org/1
- http://www.coolmath-games.com/

Authentic Performance Assessments:

Mystery Jar:

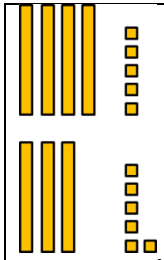
Students work in small groups or with a partner. Each group/pair gets a jar with counting chips inside. Each counting chip will have numbers written on them (ex: 38, 26, 47, 73...). Students will reach in and select 2 chips. Then all students in the group/pair will record the numbers of the chips they chose on their recording sheet. Students will solve the equation. Continue until all spaces on the recording sheet are full, or until the center is over.

Paper/Pencil assessments found on SAS

Math solving/Partner Work:

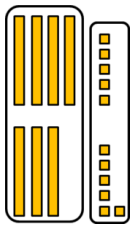
Give students problems similar to the following:

45+36



Have students solve each problem and show their work. Talk to a partner about how they solved the problem to get their answer.

Ex:

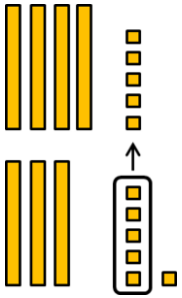


I Counted the tens first, so 10, 20, 30, 40, 50, 60, 70.

Then I counted the ones, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81.

So 45+36=81.

Or



First, I broke 36 into 30+1+5.

Then, I gave 5 from 36 to the 45 to make 50 because 50 is a friendly number.

Next, I added 30+50 to make 80. Last, I added 1 to 80 to get 81.

So 45+36=81.

FIRST GRADE

Unit of Study: Numbers to 20	**# of Weeks:** 2 weeks
Essential Question: How is mathematics used to quantify, compare, represent, and model numbers? How can mathematics support effective communication? What does it mean to estimate or analyze numerical quantities?	**Real World Problems/ Application in Society:** • Playing games • Learning to play instruments • Players on a sports team • Using money • Telling time
Standards/Eligible Content (Skills): CC.2.1.K.A.1- Know number names and write and recite the count sequence. CC.2.1.K.A.2- Apply one-to-one correspondence to count the number of objects. CC.2.1.K.A.3 - Apply the concept of magnitude to compare numbers and quantities.	**Standards Reinforced:** CC.2.1.PREK.A.1 - Know number names and the count sequence**.** CC.2.1.PREK.A.2- Count to tell the number of objects. CC.2.1.PREK.A.3 -Compare numbers.

Critical Thinking/Reasoning Skills:

- **Analyze similarities and differences between number**
  - How is the number 4 different than 8?
    - Number formations
    - Number quantity
- **Building tens frame - and exploring how to analyze and use the tens frame**
  - If I fill in three squares, will I have enough for ten people?
    - How do I make it so that I will have enough?
    - What if I only needed a total of 5, will my tens frame be filled?
- **How do we use numbers to communicate?**
  - Examples: time, how many, age, grade level
- **What is estimating? How do you estimate correctly?**
  - Snacks, school supplies, time

Reading/Writing/Listening/Speaking Skills:

- **Read alouds** - “Pete the Cat and his Four Groovy Buttons”, “Caps for Sale”, “Ten Black Dots”, “1-2-3 Peas”, “One Big Pair of Underwear”
- **Writing** - Use construction paper and fold to create ten squares-in each square the child will write the number, number word, and number of object to match the corresponding number.
- **Speaking** - Counting aloud to twenty from zero and other starting points.
- **Speaking -** Number game (count around the circle to eliminate until only one student left.)
- **Listening** - Teacher counts and students fill in the blank with the missing number.

Fluency:

- Identify, read, write numbers to 20
- Identify which number is larger/smaller using a tens frame
- Order numbers 1-20
- Filling in missing numbers
- Match object quantity with the number

Vocabulary:

- one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty
- exactly the same
- not exactly the same, and the same, but… (ways to analyze objects to match or sort)
- match (group items that are the same or that have the same given attribute)
- sort (group objects according to a particular attribute)
- how many? (with reference to counting quantities or sets)
- hidden partners (embedded numbers)
- counting path (with reference to order of count)
- number story (stories with add to or take from situations)
- zero (understand the meaning of, write, and recognize)
- number sentence (3 = 2 + 1)
- 5-group (😊😊😊😊😊)
- rows and columns (linear configuration types)
- number path
- 1 more (e.g., 4. 1 more is 5.)
- 1 less (e.g., 4. 1 less is 3.)
- ones
- tens

- total
- digit
- tens frame
- Estimate
- Hide zero cards (Engage NY-and free on teachers pay teachers)

Technology/Manipulatives/Resources:

- Counters
- Construction paper
- Rulers for use as a straightedge
- Five dot mat
- Five-frame and ten-frame cards
- Number path
- Left hand mat
- Two hands mat
- 5-group cards
- Rekenrek (Slavonic abacus having beads with a color change at the five)
- Concrete materials in individual bags for counting and sorting (white beans painted red on one side, bags of twigs, dried leaves, dry pasta, pennies, plates, forks, spoons, cups, etc.)
- Commercial concrete materials (linking cubes
- in tens, non-linking cubes, square-inch tiles, etc.)
- Teachers pay teachers
- **http://www.kidport.com/GradeK/Math/NumberSense/MathKNumbers.htm**
- **http://thefirstgradeparade.org/the-naughty-numbers/**

Performance Task/Assessment:

- http://www.pdesas.org/Assessment/Assessment/AssessmentQuestions?profileTagGroupId=-1&assessmentDocumentId=-1&startFresh=true#
- https://embarc.online/course/view.php?id=2
- Formative assessment as needed
- Project-based assessment
    - Gluing small objects in the correct number squares
    - Sorting beans/buttons in an egg carton to match numbers
- Random number recognition, (Build the given numbers, orally recognize numbers and write the given numbers))
- Estimation page (Students are given a handful or baggie of cereal where the students will try and estimate the amount. Write the amount they estimate on one side of a paper or designated placement then students will count their actual number and

record it on the other side. The students will be able to compare their amount with their peers. They will discuss with their partner who has more/less.)